

FOREST DISCUSSION IN FINLAND – DO WE SEE BEYOND THE PINE TREE?

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ABSTRACT

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Title Public forest discussion in Finland – Do we see beyond the pine tree?	
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<p>Abstract</p> <p>This research examines the public forest discussion in Maaseudun Tulevaisuus and Helsingin Sanomat newspapers taken place during 2019-2020. This research aims to identify discourses emerging from the discussion, to reveal the hegemony and scrutinize the interconnections between the discourses. In addition, on the grounds of the previous research, the trajectory of the forest-based sector and rural development potential are discussed.</p> <p>The public forest discussion emphasized the considerations and opinions on the most adequate forest management methods and their environmental sustainability and economic benefits. Two coalitions were identified from the discussion: hegemonic <i>Resistance to change</i> coalition and <i>Change chasers</i> coalition. <i>Resistance to change</i> coalition supports the current prevailing forest practices and forest policy and appreciates forest's economic value. The coalition consists of two discourses: <i>Forester discourse</i> and <i>Bioeconomy discourse</i>. The distinctive objectives of the <i>Forester</i> and <i>Bioeconomy discourses</i> are creating dissonance within the <i>Resistance to change</i> coalition and the forest regime. The subordinate <i>Change chasers</i> coalition involves three discourses: <i>Sustainable production discourse</i>, <i>Recreation discourse</i> and <i>Conservationist discourse</i>. <i>Sustainable production discourse</i> supports wood production with continuous cover silviculture, whereas the <i>Conservationist discourse</i> does not give forests economic value but advocates the nature conservation. <i>Recreation discourse</i> gives emphasis on the forest's recreational utilization and its business potential. Altogether, the <i>Change chasers</i> coalition appreciates the forests environmental values more than the material economic utilization and thus criticizes the hegemony and the intensive forest management practices.</p>	
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<p>Tämä tutkimus käsittelee julkista metsäkeskustelua Maaseudun Tulevaisuuden sekä Helsingin sanomien mielipidekirjoituspalstoilla vuosien 2019 ja 2020 aikana. Tutkimuksen tarkoituksena on erottaa keskustelusta diskursseja, tunnistaa vallitseva hegemonia sekä tutkia diskurssien välisiä suhteita. Lisäksi, tutkimustulosten perusteella työ pohtii ja ottaa kantaa metsäteollisuuden sekä maaseudun kehitykseen.</p> <p>Metsäkeskustelussa korostui etenkin mielipiteet metsänhoitomenetelmistä ja näiden ekologisuudesta sekä taloudellisista hyödyistä. Tutkimuksessa tunnistettiin kaksi diskurssi-koalitiota: muutoksen vastustajat (<i>Resistance to change</i>) sekä muutoksen ajajat (<i>Change chasers</i>). Muutoksen vastustajat tukevat vallitsevia metsätalouden käytäntöjä sekä metsäpolitiikkaa. Koalitio muodostuu kahdesta diskurssista, jotka ovat metsänomistajadiskurssi (<i>Forester discourse</i>) ja biotalousdiskurssi (<i>Bioeconomy discourse</i>). Näiden diskurssien eriävät tavoitteet luovat kuilua koalition sisälle ja näin myös regiimin. Muutoksen ajajat koalitio koostuu kolmesta diskurssista: kestävän tuotannon diskurssi (<i>Sustainable production discourse</i>), virkistysdiskurssi (<i>Recreation discourse</i>) sekä luonnonsuojelijadiskurssi (<i>Conservationist discourse</i>). Kestävän tuotannon diskurssissa kannatetaan puun tuotantoa jatkuvan kasvatuksen menetelmällä, kun taas luonnonsuojelijadiskurssi ei anna metsälle taloudellista arvoa, vaan puhuu luonnonsuojelun puolesta. Virkistysdiskurssi painottaa metsien virkistyskäyttöä ja tämän liiketoimintamahdollisuuksia. Muutoksen ajajat koalitio painottaa metsien ympäristöarvoja ylitse taloudellisen hyödyn, ja siksi kritisoi hegemoniaa sekä haluaa tuoda muutosta vallitseviin metsänhoitotapoihin.</p>	
Asiasanat diskurssi, koalitio, metsäsektori, biotalous	
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1 INTRODUCTION

The Finnish forests pose a great symbolic value due to being in the center of constituting national identity. Practically, the forests have an important role in delivering multiple functions such as producing timber, upholding a great share of Finland's biodiversity, and forming recreationally and culturally important space (Primmer et al., 2016). When measured by the proportional share of forest land, Finland is the most forested country in comparison to other European countries, as in Finland 75% of the land area is forested and accounts for 10% Europe's forest area (Lier et al., 2019).

The forest industry has been dominating the national economy and in 2019, forest-based products accounted a fifth of exports (Confederation of Finnish Industries, 2020). Due to the immense economic contribution, ensuring the availability of forest resources for industrial use and maximizing the forest growth have been the key principles for national forest policy (Kotilainen & Rytteri, 2011). Growing population, global warming, depletion of resources and a biodiversity crisis are identified as global challenges influencing the Finnish forest policy. However, especially in 2010s, these ecological sustainability issues appear to have received a position as a secondary goal in the policy making (Kröger & Raitio, 2017). Hence, this sustainability pathway rather mirrors the past development of the forestry industry when the main goal was to enable large-scale production. Hereby, the continuance of the forest industry is sustained rather than the ecological sustainability of the Finnish forests.

Conflict between environmental and production oriented views on forest use and management are common in nations with a long history of forestry, such as Finland (Berninger et al., 2009). This confrontation often derives from the forest industry's negative impacts on the biodiversity of forests, but adapting to climate change and increasing carbon sink in forests are also in conflict with the current forestry practices and increasing forest usage (Kleinschmit et al., 2014; Primmer et al., 2016). On the other hand, in comparison to fossil resources, forest-based businesses consider their operations sustainable as wood is considered as a renewable natural resource (Näyhä, 2019).

This research draws attention to the contesting forces from the public forest discussion and hence, hegemonic and subordinate discourses are identified with an application of a critical discourse analysis (CDA). According to Fairclough (1985), discourses represent social life and social actors positioned differently representing life as different discourses. Generally, a discourse analysis examines how the language constructs reality in different social practices. However, a critical research primarily concentrates on how social power, dominance and inequality are exercised and reproduced in a social and political context through text or talk (Van Dijk, 1993). The forest discourses have been a subject for several studies (Takala, 2019, 2020; Mustalahti, 2018; Kröger and Raitio, 2017; De Jong et al, 2017). For instance, according to a critical discourse analysis by Takala et al., (2019), hegemonic discourses such as *utilitarian wood production discourse*, *recrea-*

tion discourse, non-timber forest products discourse, and subordinate pro-nature discourse were identified. On the grounds of previous research, similar discourses can be expected to emerge which do not act as a key principle for the analysis. Moreover, in this research, the interconnections of the discourses are assessed by identifying general themes associating discourses and their actors. Based on this, the discourses can be divided into coalitions. The coalitions bring together actors by sharing a same storyline albeit the objectives of the actors are different (Hajer, 1996).

The research is a part of a research project “The role of the rural areas as a part of future’s sustainable society” (Maaseudun paikka tulevaisuuden kestävässä yhteiskunnassa, MAKE) funded by the Ministry of Agriculture and Forestry of Finland. MAKE-project aims to examine the future after a fossil-based economy and identify barriers that may prevent the rural areas of Finland from remaining vital, and define solutions to abolish these barriers. A part of the project is to identify manifestations of a post-carbon society through media analysis, and this study contributes to this research task of the project. Consequently, for this research, MAKE-project acts as a great motivator and inspiration to explore potential forestry related barriers of rural development likewise the potentials for rural areas to evolve with respect to sustainability. Based on these, prospective trajectory of Finnish forest-based sector is assessed.

1.1 Research aim and research questions

The forest discussion involves several opinions on forests and utilization of forests. Behind these distinctive opinions, there are actors from different groups with different interests and objectives related to forest utilization. In the public discussion, the actors are barely equal as the level of power varies from actor to actor. The power can be determined by their visibility, but also by the ways the topics are addressed. The aim of this research is to examine the emerging discourses and also to reveal the power relations between the actors. Thereafter, the hegemonic and subordinate discourses are identified. Moreover, the interconnections of the actors are explored and divided into discourse coalitions. Lastly, a discussion is extended to reflect how discourses and the power they hold are associated with the industry’s sustainability transition.

Thereafter, the research questions for this research are:

1. What are the discourses upholding the forest discussion?

The purpose of this research question is to identify the central discourses amongst the forest discourses that construct realities and truths different from each other. Moreover, reflection to previous knowledge is given to accentuate the similarities and potential changes that may have taken place in the forest discussion.

2. What kinds of discourse coalitions can be identified?

Here, the intention is to reveal the interconnections between the discourses by identifying the main actors upholding the discourse. By doing this, the examination of the power relations may take place and the discursal powers can be more closely scrutinized.

3. How different discursal powers and coalitions can be associated with the sustainability transition in the forest-based sector?

The objective of this research question is to provide a discussion on how the discourses may have the power to influence the trajectory of the sustainability transition of the forest sector. Moreover, consideration is given on the implications of different forest use on the rural development.

2 FINNISH FOREST BASED SECTOR

In this section, the forest regime and its essence are introduced. In order to achieve this, the main historical developments and forest regimes governing laws and strategies are outlined. Further, this section will also consider the main characteristics of the forest-based sector, entailing the economic contribution and the actors within the sector. The challenges and the prospects of the forest-based sector, bioeconomy, and sustainability issues and solutions concerning biodiversity loss and carbon sequestration are also addressed in this section. Lastly, in the end of the section an introduction to previous research on forest discourses will be given.

2.1 Historical developments

Finland has a long history in forestry. The history of molding Finnish forests began 4000 years ago for agricultural purposes with slash and burn-agriculture, and from the 1800's, the forests were used for tar, board and paper production. By the end of the 1900s, 50-75% of forests were already handled with the slash and burn (National Resources Institute Finland, 2012). In 19th century, the destruction of forests was illegal. At the time, basting was considered to debase the quality of the forests and decrease the growth when the genetically best trees were cut and the weakest trees were left in the forest. Due to its similarities to continuous cover silviculture, the method was technically made illegal in 1948. Because of this the forest research focused on the periodic cover silviculture and increasing the growing potential, instead of continuous cover silviculture that would have enabled differently structured and aged forest's growth (Rytteri & Leskinen, 2012). However, in a 1990's, biodiversity aspects were given emphasis on global agreements and thus impacted of the forest legislation in Finland. In 1997, new forest law came into effect and made different forest management practices legal (Korhonen et al., 2020). Hence, continuous cover silviculture was now made acceptable forest management method. From the beginning of the last century, the forests have been utilized for industrial purposes. As a result of the long history of forest utilization, completely untouchable forests can hardly be found in Finland, only very small areas in Lapland and eastern Finland (Natural Resources Institute Finland, 2019a).

Throughout history, the forest policy regimes have experiencing changes. Typically, in the transition literature, the concept of regime can be described as the patterns and development of the socio-technical systems that are cognitive routines, regulations, interlinkages between technologies and lifestyles, sunk investments and path-dependencies that are related to machine investments, infrastructure and competencies (Geels & Schot, 2007). Kotilainen & Rytteri (2011) identified three distinctive policy regimes since the 19th century. Firstly, they

identified the German forestry model aiming at a sustained yield. During the 20th century, the second regime started from the establishment of the national forest sector with an emphasis on industrial forestry and economic independence. The third regime began building from 1980's due to influence of non-governmental organizations and international forest businesses reformed the power relations, and more attention was given to biodiversity, forest certifications and global investments. Even if environmental matters were embarked during the third regime and today, the industrial use of forest has always guided the forest policies throughout the history of forestry in Finland (Kotilainen & Rytteri, 2011).

2.2 The current forest regime in Finland

In Finland the forest use is guided by the forest legislation that aims to enable economically, ecologically and socially sustainable forest management and utilization ensuring profitable economic use of forests while preserving the forest's biological biodiversity (Forest Act, 1996/1093). Moreover, the forest use and prospected development of bioeconomy is mainly guided by the government strategies: National Forest Strategy and Finnish Bioeconomy Strategy. The National Forest Strategy 2015-2025 aims at creating a competitive operational environment for forest-based businesses, renewing the forest sector and enforcing bioeconomy while respecting the sustainable use of forest resources (Ministry of Agriculture and Forestry of Finland, 2019). The National forest strategy is interconnected to other strategies concerning the forests and forest use in Finland as implementing the Finnish Bioeconomy Strategy is attached to achieving the objectives of the National Forest Strategy. The main aim of the Finnish Bioeconomy Strategy is to support the transition to renewable natural resources in order to reduce the dependence on fossil fuels (Ministry of Agriculture and Forestry of Finland, 2019; Ministry of Economy and Employment of Finland, 2014). However, the core of the strategy lies on the economic development. Finnish Bioeconomy Strategy is a government strategy determined to be a strategy for economic growth with an initial aim to increase and intensify usage forest-based materials. According to the Finnish Bioeconomy Strategy, one way to foster economic growth and provide employment in Finland is to establish high refinement rate production lines of wood-based products (Ministry of Economy and Employment of Finland, 2014).

2.2.1 Main characteristics of the forest regime

During the 20th century, periodic cover silviculture was gradually introduced as a method for forest management (Finnish Forest Association, 2021). The periodic cover silviculture indicates that forests are managed in cycles called rotation periods which length is normally 60-80 years in Finland. The rotation period ends in a regeneration felling, which means the felling of all or nearly all trees in a

forest. In Finland, the clear cut is the most commonly used regeneration felling method (Natural Resources Institute Finland, 2019b). Periodic cover silviculture enables maximal wood production and constantly growing harvesting profits, thus has received its place as the most used forest management method.

According to the Finnish Forest Industries (2020), the forest-based sector is one of the Finland's greatest exporter and employer. Of all the exports, forest-based products account 19.2% of the total exports of which value was 12.5 billion euros in 2019. The most exported forest-based product in 2019 was paper, followed by cardboard and pulp, again followed by sawn timber. The greatest share of exports was distributed to Europe, accounting 62% of the exports. Of all the exports, 21% ended up to the Asian markets. Directly, forest based sector employs 41 700 people, but the indirect employment impacts are even greater as 74 000 people's employment is dependent on the forest-based sector (EY, 2020). According to the EY report, including the direct and indirect tax revenue of the forest based sector in 2019, the total tax revenue was 2.7 billion euros. Moreover, in 2016-2018, the forest-based sector invested 1.1 billion euros a year. However, when the indirect investments within the sector are included, the investments reached 2.4 billion euros.

Typically, Finnish forests are owned by individuals and families but government and companies also own forests (Lier et al., 2019). Several operators have an impact on the forest policies in Finland. The public operators are the Ministry of Agriculture and Forestry of Finland (Maa- ja Metsätalousministeriö), Finnish Forest Centre (Metsäkeskus), Natural Resources Institute Finland (Luonnonvarakeskus LUKE), National Land Survey of Finland (Maanmittauslaitos), Centre for the Economic Development Transport and Environment (Elinkeino-, liikenne-, ja ympäristökeskus ELY), and Metsähallitus. Private operators are the forest businesses such as Stora Enso, UPM, Metsä Group. There are also organizations providing expertise, such as Tapio Oy, and guardians for the forest-based organizations, such as Central Union of Agricultural Producers and Forest Owners (Maa- ja metsätaloustuottajain keskusliitto) and unions of forest management (Metsänhoitoyhdistys) (Finnish Forest Centre, 2021a).

2.2.2 Challenges and future prospects

Throughout the decades, harvesting has been in constant increase. Despite this, also the growing stock has been incremented and is bigger than the drain. During 2014-2018, the average drain of growing stock was near 86 million cubic meters. In addition, the energy use of wood has been increasing (Findicator, 2020) and along with paper and wood products, nowadays wood is also utilized for production of fabrics, medicine, chemicals, functional provisions, animal feed, plastic, cosmetics, intelligent packaging, and traffic fuels (Ministry of Agriculture and Forestry of Finland, 2021). Based on the recent development and the National Forest Strategy, the harvesting is expected to increase as government also aims at increasing loggings on government owned forests (Ministry of Forestry and Agriculture of Finland, 2015).

Recently, the forest industry has particularly invested in pulp and paperboard capacity. For instance, Metsä Group announced of investing 1.6 billion euros on new bio product plant investment in Kemi that will be the biggest investment made in forest-based sector in Finland (Metsä Fibre, 2021). Further, a sustained felling potential is estimated to increase, and therefore the forest industry's role in contributing to bioeconomy and economy is expected to be prominent (Lier et al., 2019). However, the prognosis for economic development has taken a setback due to the corona pandemic. Nevertheless, the great economic stimulus packages issued, the world trade and production volumes are likely to decrease to even larger extent. The impacts of the pandemic will also reach the forest-based businesses. Based on a PTT prognosis on forest-based industry, the exports of timber products has been in decline due to the uncertain economic situation caused by the pandemic. Moreover, longer lasting decline in paper demand has forced businesses to shut down production capacity (Valonen et al., 2020). For instance, this became a reality for a pulpwood production unit in Kaipola, Jämsä. As this trend is expected to continue next year, the forest-based businesses have shifted production capacity to paperboard production of which demand has been increasing due to growth in online shopping (Valonen et al., 2020). Based on the prognosis, it was expected that the value of the exported forest-based products will decrease by 16% in 2020 from previous year. On the contrary, the value for the exported forest-based products is expected to rise by 3% in 2021 (Valonen et al., 2020).

2.2.3 Bioeconomy

According to a definition by European Commission (2018), bioeconomy means using renewable resources from land and sea, such as crops, forests, fish, animals and micro-organism for food, material and energy production. The initial aim of the bioeconomy is to support the EU to advance the progress towards circular, low-carbon economy while the industrial base in the EU is modernized and improved in a way that new value chains and environmentally friendly and cost-effective industrial processes are created while pursuing biodiversity and environmental protection. Commonly bioeconomy represents a transition from fossil-based society to a bio-based society that uses renewable biomass in products and energy (Vainio, Ovaska & Varho, 2019).

Despite the concept is not dependable on the industry, it strongly appeals to forest-based sector as it includes all the industrial activities that use forest biomass in general (Wolfslehner et al., 2016). Moreover, the European forests and forest-based sector have a key role in a bioeconomy by providing wood and non-wood material, bioenergy and a richness of regulating and cultural ecosystem services. For a successful forest-based bioeconomy, guaranteeing sustainable development is essential. Therefore, the forest-based sector is important to be horizontally and vertically integrated in order to cover the value chain of all the forest products and services, and making sustainable development its fundament (Wolfslehner et al., 2016). To meet the global climate targets and resource efficient

use of biomass, bioeconomy strategies throughout the Europe have begun to consider the concept of circular bioeconomy (CBE). In a recent study, Stegmann, Londo & Junginger (2020, p.11) define the concept to focus on “the sustainable and resource efficient valorization of biomass in integrated production chains while making use of residues and wastes, and optimizing the value of biomass over time via cascading steps”.

Many forest-based actors have addressed the cascading use of forest-based biomass in achieving higher refinement rate (Näyhä, 2019). However, the share of value added by the forest-based sector has been very stable throughout the 2010s (Lier et al., 2019). According to a PTT report, the increase in wood utilization will consider products with lower added value. Therefore, the wood use increases proportionally more than the subsequent value added and output (Hietala & Huovari, 2017). Since the growth in added value has been very moderate throughout the decade, the forest-based sector and bioeconomy has been under criticism for not delivering the pledged economic impacts. For instance, in the book “Metsä Meidän Jälkeemme” (Forest after us), Ränä (2019) criticizes the bioeconomy by stating that bioeconomy has failed in adding value to the bio-based products and in creating employment in Finland since the new products may not come with notably higher value, or if they do, it may require a remarkable increase in production volumes.

2.3 Sustainability issues within the forest regime

Forests provide various services from ecosystem services to bioeconomy services. Nevertheless, these services do not always endorse one another’s positive evolution despite many of them are justified by advancing bioeconomy and as follows protecting nature and mitigating the climate change. Before going into the sustainability issues, it is necessary to define the ecosystem services and other types of forest-based services.

2.3.1 Forest-based services

Forests are an important source of ecosystem services. An ecosystem service can be defined as the benefits that people obtain from ecosystems (Millenium Ecosystem Assessment, 2005). Ecosystem services are divided into four categories: provisioning services such as berries and mushrooms, regulating services such as carbon sequestration and erosion prevention, cultural services such as recreation and aesthetic enjoyment, and supporting services such as photosynthesis and nutrient cycling (Vihervaara et al., 2010; Haines-Young & Potschin, 2013). The supporting services provide essential materials and functions that are required for availability of other types of ecosystem services (Vihervaara et al., 2010).

For forest-based services, Hetemäki and Hänninen (2013) and Näyhä, Pelli & Hetemäki (2014; 2015) have defined three categories of which the first one includes services with a direct relation to forests such as recreation, hunting and berry and mushroom picking, and services the forest produce such as carbon sequestration and soil and water services. The second category involves forestry related services such as forest management, forest inventory, advisory services, administration, governance, R&D and education. The third category includes industry related services that have a link to the manufacturing of forest-based products such as production processes, logistics, marketing, design. The category also includes the supply and customer industries for example machinery, energy, chemicals and engineering.

2.3.2 Biodiversity

In the latest biodiversity report by the United Nations (2020), it was discovered that all nations have failed in tackling the underlying causes for biodiversity loss. According to WWF report (2020), during the last 40 years, the number of wild plants and animals have decreased by 60% because of human activities. Moreover, according to the final assessment of Finnish Biodiversity Strategy 2012-2020, the knowledge and structural frames for securing the biodiversity are formed however, the implemented procedures have not been effective enough to halt the biodiversity loss. On the contrary, when measured with the number of endangered species, the decline has even deepened, and forests and traditional landscapes are the habitats of most of the endangered species (Auvinen et al., 2020). According to Hyvärinen et al., (2019), primarily the forestry practices taken in Finland have caused endangerment of 27.5% of all endangered species, indicating 733 species in total. The reasons for an increase in near threatened species are similar to endangered species, hence, the main reason for the downturn are the forestry practices. Moreover, also Ollikainen (2014) noted that the effects of forest-based activities on biodiversity and climate change are not assessed sufficiently.

Currently strictly conserved forest area in Finland accounts for 9% of total forest area, while the total area of protected forests and forests under restricted use is 12% of all forests (Lier et al., 2019). Environmental organizations have been demanding for higher conservation rate in Finland. For instance, WWF's intention in Finland is to increase the forest conservation areas to 17% of the all forest areas in order to ensure the biodiversity of forest habitats (WWF, 2018). In addition, the dead wood poses a significant role in ensuring the biodiversity in forests as nearly one third of forest species are dependent on the deadwood. According to the 2019 Red List of Finnish Species, the changes in the forest environments and decrease of deadwood and old forests has enforced the endangerment of forest species. Moreover, harvesting forest biomass for energy use may decrease the amount of dead wood and thus expedite the growing endangerment in forests (Hyvärinen et al., 2019). Damaging biodiversity can decrease the quality of biomass, the ecosystems adaptation to changing climate, but also it may result in losing significant genetic natural resources (European Commission, 2012).

2.3.3 Carbon sequestration

Aside upholding biodiversity, forests and forest growth play an important role in climate change mitigation due to the carbon storage and carbon sequestration potential. According to a new research by Harris et al., (2021), the world's forests sequestered about twice as much carbon dioxide than what they emitted in 2001-2019. Thereafter, the forests role on a global scale is indispensable in the climate change mitigation. For the last decade, the average net sink of Finnish forests has been approximately 32 million CO₂ equivalent tonnes (Lier et al., 2019). Lately, 50% of Finland's total emissions has been covered with forests, however, only when the emissions and removals of forestry and land use have been excluded (Lier et al., 2019).

The urgency of the matter has also influenced the forest management practices in Finland. Pursuing constantly growing carbon sink is in line with the objectives of forest industry, as it enables active forest management to foster the growth, which instead allows the forests to be cut at younger age. Moreover, the utilization of wood to substitute greenhouse gas intensive materials and fossil fuels may also have positive climate impacts (Leskinen et al., 2018). However, researchers and environmental organizations have pointed out the issue on carbon debt concerning intensive usage of forest biomass. Researchers and environmental organizations have contested the potential contribution of forest bioenergy in climate change mitigation due to temporal displacement between CO₂ emissions when forest biomass is used for energy purposes and subsequent sequestration of carbon in new biomass. Furthermore, the ecosystem's carbon dynamics experience disturbance when natural decay of dead biomass is used for energy (Schulze et al., 2012). These demonstrate the ways in which the carbon debt is currently obtained.

2.3.4 Solutions to sustainability issues

The EU emphasizes that securing biodiversity and environmental protection should be objectives for any bioeconomy plan (European Commission, 2012). These are also pivotal objectives for national strategy, as the Finnish Bioeconomy Strategy also addresses the environmental concerns and accordingly the climate change can be mitigated by reducing the dependence on fossil energy by a transition to renewable energy sources for which Finland has expertise and industrial foundation (Ministry of Economy and Employment of Finland, 2014). According to the Finnish Bioeconomy Strategy, Finland could provide sustainable and global solutions for climate change and depletion of natural resources (Ministry of Economy and Employment of Finland, 2014). Moreover, the strategy aims to improve the state of ecosystems in order to maintain the forest ecosystems capability to provide ecosystem services, such as carbon sequestration. Adding to that, government led Forest Biodiversity Programme for Southern Finland (METSO-

programme) is significant in accomplishing the objectives of the National Forest Strategy but also in terms of maintaining biodiversity. METSO programme is based on a voluntary forest protection by landowners aiming to stop the biodiversity loss of forest habitats and species (Ministry of the Environment & Ministry of the Agriculture and Forestry of Finland, 2015).

Regardless the concerns on biodiversity loss, according to the Finnish Bioeconomy strategy, the utilization of the forest could be increased, however, in a sustainable manner. This can be achieved with the increased application of the nature management practices in forests, but also with the development of the environment and forest regulations and certifications (Ministry of Economy and Employment of Finland, 2014). In Finland, the most common certifications are PEFC (Programme for the Endorsement of Forest Certification) and FSC (Forest Stewardship Council) (Finnish Forest Centre, 2021b). Forest certification is a voluntary process where the certifier assesses the quality of forest management and production against standards determined by the certification organization (FAO, 2020). Forest certification provides consumers' information that the wood product is sustainably sourced, but also supports ecosystem management practices while contributes to broader discussion on forest resource management and conservation (Hall, 2020).

2.4 Discursive contents about the direction of future developments

Discourses in the forest discussion may provide important information on what are the general topics that forest discussion is upholding. More importantly, the discourses may provide valuable information on the current regime and how and what discourses are intertwined with the regime. As late as the 1990's the social scientists began to take closer looks at discourse theory and analysis in forest sciences (Leipold, 2014). Discourses in a forest sector have been examined in several studies, however, with different views to approach the topic, often descriptive ones. Despite this, CDA has been underused in forest sciences thus this field of research has been lacking critical perspective (Leipold, 2014). However, several studies have identified discourses from forest discussions.

De Jong et al., (2017) examined research papers reflecting changes in societal demands on forests and forest landscapes, changes in the number of constituencies competing for forest ecosystem services, and how these changes are affecting the forest governance on different levels. The focus in the research was to examine how the changes in the global discourses can influence the forest management and forest conservation of which have their impacts on livelihoods. The study found that each of the forest development discourses have connections with major societal and environmental issues, but also with higher level meta- and macro-discourses. Thus, it is evident that global trends and demands influence the national forest governance. The study also found that the more influential the discourse is, the more likely it is to be expressed in institutional arrangements and

regulatory frameworks, thereby indicates the linkage between the ascendancy of the discourse and the power in the regime.

The regime has a tight grip on the bioeconomy and its development. According to Holmgren, D'Amato & Giurca (2020), the greatest expectation on the development are based on corporate interests and forest industrial renewal, while the government role is rather a supporting than restricting. Furthermore, their analysis on research articles found that social-scientific research has had so far little impact on transforming the bioeconomy policies and sectors involved. Instead, a great deal of the research conducted on forest-based bioeconomy tends to reproduce the bioeconomy imaginary conveyed in EU and national bioeconomy strategies and policies that prioritize economic growth and competitiveness over sustainability. Similar findings were also demonstrated in a national context in Finland as research by Kröger & Raitio (2017) found that the Finnish forest policy and its implementation are more productivist than deliberative, also overrunning the environmental and social goals despite the multi-objectivity of the forest policy. The Finnish forest policy seems to follow a "more of everything" pathway yet appears to be adherent to the global "bioeconomy productivism" discourse. It seems evident that by the effect of the *Bioeconomy discourse*, the forest governance and the whole regime have been transformed. Pülzl et al. (2014) noted that even a dominant industrialized forest discourses have been reframed by the impact of the *Bioeconomy discourse*. Moreover, the authors concluded that the *Bioeconomy discourse* have not overwhelmed the discourses, rather assisted in reframing the content of discourses in accordance to the demands of the *Bioeconomy discourse*.

This view is supported by a Finnish policy review by Takala et al., (2019), which found that the hegemonic *wood production* discourse and the present paradigm of multi-objective forestry have managed to create an illusion that sustainability issues in forestry are managed and in control. However, a subordinate *pro nature* discourse has expanded its presence in the society, which forces the hegemony to adjust and acknowledge different truths on forest to remain its prominence. In a parallel study examining discursal powers in print media, Takala et al., (2020) concluded that discourses within several levels and with several actors have an influence on the forest policy and use. However, hegemony aims to silence the counteracting narrations for instance with de-politicization indicating the contradicting means the hegemony aims to use their power and sustain the current conditions in the forest regime. This was also pointed out by Peltomaa, Hilden & Huttunen (2020), who noted that emphasizing the status quo could be seen as a strategic choice to support the interests of the most conservative actors, which however may indicate a dead end for the sustainable development of the forest-based sector and forest policy in Finland (Takala et al., 2020).

3 THEORETICAL AND METHODOLOGICAL FOUNDATIONS OF THE STUDY

In this section, the theoretical and methodological underpinnings relevant for this study are justified. Thereby, the ontological and epistemological stances, discourse analysis, discourses and discourse coalitions, critical discourse analysis (CDA) and researcher contextualization and researcher position are defined. Finally, in the end of this section, the design, method for data collection and the process of data analysis conducted in this research are described and clarified.

3.1 Ontology and epistemology

Ontology concerns the existence of relationships between people, society and the world, and focuses on the question: What is there in the world? Based on the ontological assumptions, this research follows a subjective view of ontology, constructionism. Constructionism assumes that based on social interactions, social actors can produce social reality, also indicating that the understanding of social reality can be reconstructed through social interaction (Eriksson & Kovalainen, 2008). This subjectivist view can be considered as an output of social cognitive processes and thus, only one reality may exist. Moreover, based on the subjective view, reality is always about interpretations of groups or individuals (Blaikie, 1993, 94).

Ontology and epistemology are often closely related since the claims of both stances are usually discussed jointly. In the research, epistemology refers to a question: What is knowledge and what are the sources and limits of knowledge (Eriksson & Kovalainen, 2008). Generally, epistemology defines how knowledge can be produced and argued for but in scientific research, it provides a definition and a structure to what kind of knowledge is available and what are the limits of the knowledge (Eriksson & Kovalainen, 2008). Since this research follows subjectivism, the corresponding epistemological position is interpretivism.

Among other philosophical positions, interpretivism focuses on how individuals or groups understand and interpret social events and scenes (Alvesson & Willmott, 2003). Based on the qualitative nature of this research the interpretation will have an integral part in the analysis when the human interaction in public forest discussion is concerned. Moreover, interpretive and constructivist researchers agree that language and shared meanings as social constructions are the only way to get access to shared meanings and individually constructed reality (Eriksson & Kovalainen, 2008). Further, social constructionism aims to understand how some objective features including industries, organizations and technologies, for instance, are constituted by subjective meanings of individuals and intersubjective processes such as discourses (Eriksson & Kovalainen, 2008). Epistemological choices of the research provide a basis for ways how we come to

know the world, whereas the methodological choices provide more of a practical ground for the research and describes how the research issue can be studied. An appropriate methodology for this research has been selected in accordance with these philosophical stances and are introduced in the following.

3.1.1 Discourse analysis as methodology

Discourse analysis is one approach to social constructionism, which can be considered as an umbrella term for theories on culture and society (Collin, 1997). A language does not only describe the world as it is, but it also gives meanings while it organizes and constructs, renews and alters the social reality that we are living in. When language is in use, we are giving it a meaning, in other words, we construct the subjects that are the topics of speaking or writing (Jokinen, Juhila & Suoninen, 2016). The aim of the discourse analysis is to examine how the language constructs social reality in different social practices. In this research, the social constructionism provides a frame for an interpretation, whilst discourse analysis provides a tool to interpret and understand the linguistic processes in which the social reality is constructed (Jokinen, Juhila & Suoninen, 2016). Discourse analysis focuses on cultural meanings attached to people, artefacts, events and experiences, and therefore discourse analysis is not a study for linguistic language but rather focuses on the social action mediated through the language (Kovalainen & Eriksson, 2008). In a discourse analysis, the idea is to work with what has been said or written and to explore patterns in and across the statements in order to identify the social consequences of different discursive representations of reality (Jørgensen & Phillips, 2002).

3.1.2 Discourses and discourse coalitions

According to Faircloughs (2003) view, discourses are ways of representing the world including its different processes, relations and structures of material world, the mental world of thoughts, feelings, beliefs and the social world. Discourses can also be defined as an interactional activity, a meaning-making social activity that takes place within context and between agents who have goals within this activity (Tanskanen et al., 2010). Different discourses are varying from each other by their different perspectives of world and they are in association with relations people have to the world. These, however, are dependent on their position, indicating their social and personal identities and their social relationships with other people (Fairclough, 2003). Nevertheless, the relations between discourses are hardly neutral, since amongst them there is a constant competition of which one of them gets most power and who has the power to determine the truth (Pietikäinen & Mäntynen, 2019).

Discourses define what and how and with which authorization the phenomenon, people and matters can, must and is advisable to discuss about or say

nothing at all. Discourses aim at organizing and institutionalize their own definitions and truths, and thereby the discourses are intrinsically parts of our habits and abilities to know and have an effect (Pietikäinen & Mäntynen, 2019). Discourses can complement or compete with one another while one can have a dominance over others. People may use discourses as means to cooperate, compete, separate or dominate each other, but also seeking to transform the ways, they are in a relation with each other (Fairclough, 2003). Between the different discourses, there exist networks, which form social order, the order of discourse (Fairclough, 1992). In order to ensure the position in this certain order, a discourse tries to banish other discourses by confining other definitions and ways to understand the matter. By this, the discourse aims at making itself a new norm to which other discourses need to conform to (Pietikäinen & Mäntynen, 2019).

The current discursive condition is a result of different political alliances and the prevalent combat amongst them. The actors that form the discursive conditions and uphold the discourses are discourse coalitions (Hajer, 1996). Certain storylines lead to the origin of discourse coalitions, in which a common interest draws together different actors. According to Hajer (1996), a storyline is a generative narrative, which enables actors to employ different discursive categories in order to give a meaning to specific physical or social phenomena. Pivotal in storylines are the subjective positions, implying that a person can be placed or can place itself into an existing storyline. Discourse coalitions may include actors from the science community, politics, economy, societal movements and media. To defend the storyline, discourses can be used as argumentative weapons in a rivalry between the different storylines. Besides that this research aims to uncover the current discourses, also coalitions will be identified. Coalitions are identified by seeking converging themes and similarities that would connect discourses to certain coalitions. Identifying the discourse coalitions allows exploring the interconnections between the actors of different groups. This is because coalitions may bring together different actors by sharing the same storyline, even though they do not share the same objectives (Hajer, 1996).

3.1.3 Critical discourse analysis

For a critical research like this, the aim is to analyze the power relationships in society to formulate normative perspectives from which a critique of the discovered relations can be given also considering the possibilities for a social change (Jørgensen & Phillips, 2002). Critical discourse analysis (CDA) can be used to assess issues of social powers such as elites, institutions and groups that may result in social inequality such as political, class, cultural, racial, gender or ethnic inequality (van Dijk, 1995). Therefore, the CDA considers the ways that social and political domination are reproduced in texts and in spoken language. Moreover, CDA aims to uncover the forms and ways of power relations and ideologies (Fairclough, 1992). Adopting critical discourse analysis means aiming to demonstrate such naturalizations, and more generally, to make clear social determinations and effects of discourse which are characteristically opaque to participants

(Fairclough, 1985). In a critical research, the aspiration is to support and contribute for those that experience such domination and inequality (van Dijk, 1993). How the CDA analysis was carried out in this research will be further described when the analysis process is scrutinized in the end of this section.

3.1.4 Discourse contextualization and researcher position

The initial idea of a discourse analysis is that written or spoken language is social activity. As language is used, we are creating a social reality, but also the social reality provokes to use language and has its impact on the way the language is used. Whilst examining the data, understanding the context in which the language is used, is substantive. Comprehending the greater entirety in which the language is only creating a small bit of the reality is essential when it is contextualized through the existing reality (Jokinen, Juhila & Suoninen, 2016).

In a discourse analysis, the interactivity of the data is considered as a contextualizing matter. Generally, paying regard to the context indicates that the action under analysis is scrutinized with a specific time and place in which the interpretations are intended to put into a perspective (Jokinen, Juhila & Suoninen, 2016; Pietikäinen & Mäntynen, 2019). The course of the interaction is in essence in generating the meaning. Interactive context can be considered as the qualifications of the interaction that are integral for the interpretation. This indicates that whether the conversations are the source of the data, those need to be analyzed with respect to the course of the conversation. Hence, the definition of the conversation, contentions and the relationships between the participants are not individual accomplishment, rather are built upon each other (Jokinen, Juhila & Suoninen, 2016).

Context allows analyzing, interpreting and explaining the language use. Thereafter, besides the language, the situation where the language is used is considered in the analysis. In order to examine the context, it needs to be theorized, investigated and delineated (Pietikäinen & Mäntynen, 2019). In this research, the essential context is local, the forest discussion, which contains a combat of varying opinions of different actors on forest use and the desired future development of it. The local context defines the linguistics, social dimensions and roles of the participants in the conversation. It is also necessary to take notice of the societal world's operational environment and the general ambiance, in which the environmental matters have received higher emphasis, which may have its impacts on the forest related discussion. Therefore, the local, likewise the macro context are relevant to consider. Understanding the actors and their potential motives and society around us allows intertwining these contexts together from societal macro context to micro context between the individuals and the communication that takes place between them (Pietikäinen & Mäntynen, 2019).

As the results are context bound interpretations, the role of the researcher is emphasized because it is the researchers responsibility to justify the interpretations as scientific manner as possible (Jokinen, Juhila & Suoninen, 2016). Nevertheless, according to Juhila (2016) a researcher position in this sort of research

may be an advocate or conversationalist. As an advocate, the researcher aims to advance an issue or accomplish a certain goal. An advocate observes and analyses the data in a goal-oriented manner aiming to indicate the existence of power relationships. Thus, the interpretations are hardly neutral, as the researcher investigates critically whether the social reality can be constructed in an alternative way (Juhila, 2016). A conversationalist can be a part of discussion and exchange opinions in a public arena. The focus is on the public and the results of the research are exchanged as a part of the conversation. Conversationalist can be critical however; the criticality is not based on presumptions but has its grounds on linguistic analysis and can be ideological or concentrate on constructing a fact (Juhila, 2016).

This research is conducted from an advocate positioning since based on the research questions it is assumed that different discourses and different power relationships will be identified and that storylines will be found based on which coalitions can be formed. It is also necessary to acknowledge that the background of the researcher diminishes the neutrality since education in Corporate Environmental Management may have influenced the researcher perspectives on sustainability and forest related matters. Recognizing the researcher position is necessary during this research in order to maintain an objective and analytical stance and to pay attention to the possible researcher impact on the research results.

3.2 Research design

This research follows a qualitative method. Qualitative method is crucial in examining *why* something happens, which gives the research its explanatory characteristics. In the analysis, special attention will be given to understanding the ways *how* language connects to social, cultural and political structures. Therefore, following the ontological and epistemological premises, the data analysis will be in accordance with the philosophical positions thus the data analysis will be conducted with qualitative coding following the critical discourse analysis (CDA). The data analysis of the collected data will follow an inductive approach, which indicates that general statements and claims will be drawn from specific cases and in other words, the process starts from the empirical data and proceeds to theoretical results (Eriksson & Kovalainen, 2008). Moreover, inductive approach also enables to establish patterns or themes of people under the study (Creswell 2009, p.37). In the following, the collection of data and data analysis process of this research are explained.

3.2.1 Data collection

Following the philosophical stances and qualitative nature of the research, data and evidence of different discourses on forest discussion were collected from letters to the editor-section of two newspapers. The first paper is Helsingin Sanomat,

HS which is nationwide read newspaper, however, being most popular in the metropolitan area. The second newspaper is Maaseudun Tulevaisuus, MT, which is mostly targeted to the people living in rural areas and people from the field of agriculture and forestry. HS has 672 000 readers (Sanoma, 2019) and MT 420 000 readers (Maaseudun Tulevaisuus, 2019), both including the printed-paper and digital readers. HS is published by Sanoma Group, which is a media company originated in Finland, whereas MT is published by the Central Union of Agricultural Producers and Forest Owners (MTK). The newspapers are different from each other, which enables more comprehensive examination and description of the phenomenon. The difference of the newspapers also allows to explore whether the phenomena emerges stronger in either of the papers.

Helsingin Sanomat is published every day of the week and Maaseudun Tulevaisuus three times a week. The letters to the editor writings were chosen for the analysis from the period of 1.9.2019-31.8.2020. Altogether, 161 writings were selected for the analysis. These writings were selected based on their content and relevance to the forest discussion. The studied period provided an appropriate sample of evidence to explore the current discourses on forest related matters. The letters to the editors were found from online database of national library of Finland's digital collections including different magazines and newspapers. The database allowed browsing suitable writings, and do the preliminary sampling. Based on that, a list of suitable writings was made. However, the newspapers' own websites were the essential source of the data. At this point, the actual sampling was made in accordance to the research questions and irrelevant writings were excluded.

According to Jokinen, Juhila & Suoninen, (2016), data can be considered affluent if it includes varying viewpoints, different components that can be identified as parts of different discourses. Moreover, whether the data involves interaction, it may supplement the analysis making it even more fruitful. As letters to the editors often form a conversation type of interaction, they provided an interesting data source for this research, especially due to the chosen research method.

3.2.2 Performing critical discourse analysis

In this section, the analysis process is introduced. As a method, critical discourse analysis and its phases are covered and adapted to this research. Challenges and thoughts that arose through the analysis process are presented. Threefoldness characterizes discourse analysis as a method with its three aims: explanation, interpretation and criticism. Here, the focus remains on what a person can do with the language and how language is used (Pynnönen, 2013). The analysis began with observing the linguistic factors of the text, then proceeding to critical interpretations.

In the first phase of the critical discourse analysis, attention was given to the linguistics, content and structure. The way language is used, may reveal subordination or domination (Jokinen, Juhila & Suoninen, 1999, p.245), and due to the objective of this research to unveil these positions the language usage was

observed. As the textual factors are given attention to, the context remains on micro and local level. This indicates that single writings are analyzed in order to comprehend how local domination structures are visible and arise from the written text. Micro-level analysis allows observing the rhetoric strategies that produces, permits and legitimates the power relationships (Phillips & Hardy, 2002). The analysis began with glancing the writings one by one sorting out certain words, phrases, metaphors and sentences. Firstly, the aim was being as neutral with the content as possible, and just comprehend what the forest discussion is about. The aim was also to assort the linguistic resources and how the language was used to elucidate one's point. Codes were created with the help of Atlas data analysis software, that also enabled collecting the interesting and significant linguistic features used in writings. As proceeding with coding, it became more evident that some codes and parlanges and were more repetitive. These different codes were assigned into categories, which revealed what is said about the phenomenon and in which manner the phenomenon is discussed. These categories formed the basis for discourses.

On the second phase of the analysis, the interpretation is emphasized, and the aim is to understand the text and discourses more in-depth. The center of the understanding is now on the meanings that the text and its context possess. The data is placed on a local, intertextual and societal context and the meanings are reflected to the data and returned from the data to the context (Pynnönen, 2013). The analysis focuses on the heterogeneity of the discursive field and its constraining factors, which allows exploring the hegemonic discourses. Here, the interest is on cultural self-evidences, referencing to discourses that have shaped into natural and unquestionable truths that occupy living space from other discourses (Jokinen, Juhila & Suoninen, 2016). Because something may be considered as self-evident, identifying them from the data was challenging. Nevertheless, as the analysis proceeded, the most repetitive codes and themes enabled identifying the hegemonic discourse. This interpretive phase enables an establishment of representations about what the phenomenon is constituted of through the text and discourses. The interpretations are influenced by the previous knowledge and understanding on forest discussion. On the grounds of the previous knowledge, similar or distinctive discourses were sought.

The third phase of the critical analysis aims to criticize the representations generated in the previous phase and these are framed based on the power and influence. This is essential in particular when the interpretive phase reveals that some presentations appear as dominating and imply that other alternative representations are infeasible. The previous stage aimed at expressing the dominating representations that would be considered as normal. On this stage, instead, the focus is on stressing more silent representations and pursuing a social change with a manner that highlights the criticality and emancipation. The analysis is put on a societal, historical and political context. In the critical analysis, the macro context is regulative and made visible in a discourse. Here, the analysis on power relationships becomes more precise when the examination is located on internal power relationships. Thereafter, the analysis aims revealing what is said or done within the discourse, what are the relationships between the actors inside the

discourse, and to what kinds of subject positions people may be positioned or will be positioned to (Jokinen, Juhila & Suoninen, 2016).

Storylines enable different actors upholding the discourse conditions to alliance, and form discourse coalitions. These coalitions are created based on common interest of the actors, albeit different goals (Hajer, 1996). Identifying discourse coalitions began with searching a storyline that would associate the identified discourses. In other words, the converging themes and other similar components were sought amongst the discourses. While performing the discourse analysis, the coalition division happened very spontaneously due to strong dichotomy of the writings. Moreover, as letter to editors-writings enables interaction, usually these two coalitions were against each other's. The results of the analysis are further explained in detail in the following section.

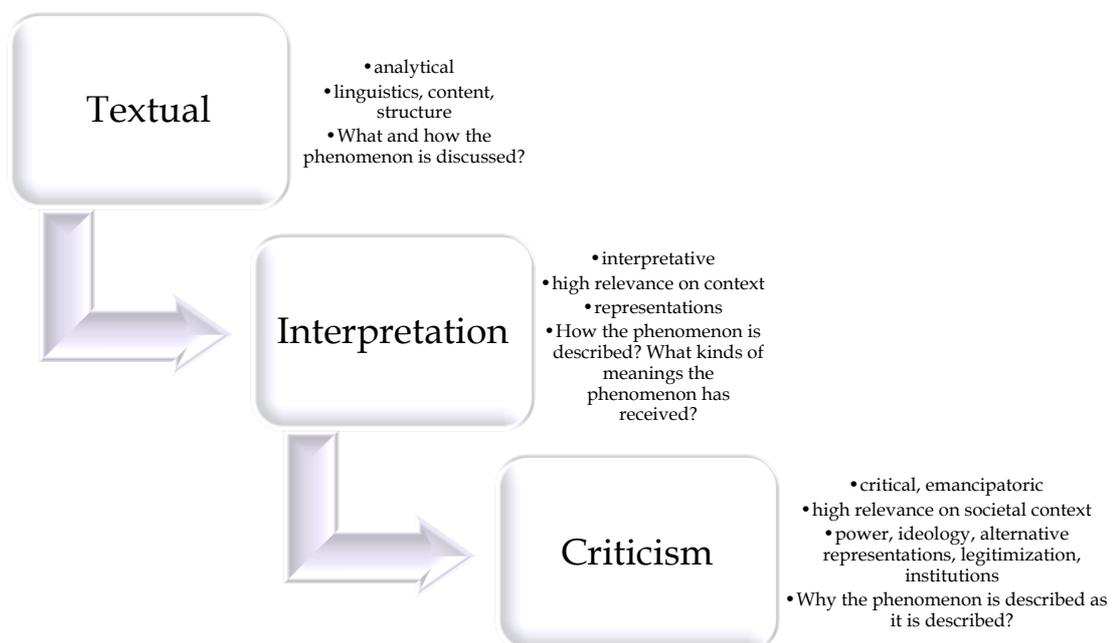


Figure 1 Three-phase process of critical discourse analysis (Adapted from Pynnönen, 2013)

4 RESULTS & DISCUSSION

In this section, the results of the critical discourse analysis are presented. Discourse analysis heavily relies on the interpretation of the researcher, and therefore some of the letters to the editors-writings will be cited and thus the outcome of the analysis will be more inclusively justified. Furthermore, to provide a discussion, the results will also be reflected to previous research on forest discourses.

The hegemonic storyline supports the traditional and current forest management practices with an emphasis on economic understanding. Out of the 161 articles, 98 (61%) supported this storyline. The storyline was prevalent in both newspapers and dominated the discursive space. The competing storyline advocated strongly the ecological standpoint with an aspiration to bring change to the current forest management either with different forest management practices or nature conservation. The storyline appeared subordinate in both newspapers. In total, 63 (39%) writings supported this storyline. Based on the main message of the storylines, the coalitions were named as *Resistance to change*, and *Change chasers*. The division of the discourses in the examined newspapers are demonstrated in the Table 1 in which the red colour indicates the *Resistance to change* coalition and the green colour indicates the *Change chasers* coalition. The division into the discourse groups was not very straightforward as the hybrid nature of the writings complicated interpretation. However, close examination of the writing allowed identifying the main message. As a result of my analysis, five discourses were identified in which the forest discussion is shaped into different kinds of truths. The discourses carry names that explicate the cores of each discourse; thus, the discourses are *Forester discourse*, *Bioeconomy discourse*, *Sustainable production discourse*, *Recreation discourse*, and *Conservationist discourse*. Table 2 depicts and summarizes the main characteristics and actors of each discourse, but also their objectives on forests, and visions for rural development. In the results, direct quotations from the writings are used. These are marked as (M.H. HS 22), indicating the initials (surname and first name) followed by the newspaper the writing is published and the number of the newspaper.

Discourse	HS	MT	Total
Forester discourse	14	36	50
Bioeconomy discourse	20	28	48
Sustainable production discourse	8	18	26
Conservationist discourse	13	13	26
Recreation discourse	7	4	11

Table 1 Division of discourses in the examined newspapers.

Coalition	Resistance to change coalition Hegemonic	Change chasers coalition Subordinate
Storyline	Advocating current forest management practices Valuation of forests as a source of bio-based raw material	Dissatisfaction towards current forest management practices Promoting environmental values of forests

Discourse	Forester discourse	Bioeconomy discourse	Sustainable production discourse	Conservationist discourse	Recreation discourse
Discourse's characteristic features	Traditional forest management practices, gaining personal wealth through forestry	Supports intensive forestry practices, large scale production, multi-objective use of forests	Supports continuous cover silviculture and focuses on forests' environmental values	Supports forest conservation, focuses on forests' environmental values instead of economic value	Recreational use, economic value from forest-based services
Actors and their main objectives	Forest owners, organizations supporting forest owners' interests (e.g. MTK) Objective is to gain personal wealth through forest practices	Forest companies, governing and administrative parties, organizations supporting the development of the industry (e.g. UPM, Stora Enso, Metsä Group, Metsäteollisuus ry) politicians Objective is to enable the development of the industry	Citizens, forest owners Objective is to promote environmentally less harmful forest management practices	Citizens, nature conservationists Objective is to increase forest conservation	Citizens, entrepreneurs Objective is to preserve opportunities for recreation and related service-based businesses
Visions for rural development	Wood production enabling forest owners gain wealth	Intensified wood resource use and related timber production through investments/innovations in production facilities, positive impact on employment	Continuous cover forestry, recreational use	Forest conservation programs	Recreation and nature tourism, hiking, fishing, berry and mushroom picking

Table 2 Coalitions and discourses simplified.

4.1 Resistance to change coalition

The *Resistance to change* coalition is closely connected to the current forest regime. Along the regime, the *Resistance to change* coalition has formed and developed throughout the history of the forestry in Finland and yet the traditional attitudes and stances on forest management and forest use are still prevailing. That is why the attitudes that have prevailed in 20th century supporting the periodic cover silviculture are still very strong in the forest discussion, and they are clearly manifested in the hegemonic *Resistance to change* coalition's storyline. Discourses sharing the storyline are *Forester discourse* (HS 14, MT 36) and *Bioeconomy discourse* (HS 20, MT 28) (See table 1). Due to the strong presence in forest discussion and forest regime, the coalition thus can be considered as hegemonic.

The storyline represents the current forest political ambiance denoting in particular to continuous economic growth. The storyline implies that there are no alternative ways to proceed with forest management as the economic leverage is too strong and thus, the wood production needs to be enabled for the well-being of national and local economies (J.C-J. MT 116). Most importantly, the coalition gives high appreciation to the economic value of forest and therefore aims to maximized forest growth in order to enable the regeneration felling to relatively young forests. This was enabled in 2014 when the regeneration felling restrictions on forest age and size were removed from the forest act (Koistinen, Matila & Lahti, 2017). The regeneration felling enables the forest owner for bigger nonrecurring profits and forest organizations greater volumes of wood on a singular logging in comparison to selective cutting. Due to this, the economic well-being is mainly seen to be achieved through a production of wood fiber products (S.T. HS 114)

In this coalition, the storyline relies on active forest management with a priority to foster the traditional forest management practices such as soil preparation, regeneration felling, and tending of seedling stand and thinning and so on (N.P. HS 48; M.M. MT 113). Due to the political position and historical standing, the coalition is very confident about the superiority of the traditional forest management practices.

It comes across that the sustainability arguments are used to defend the opportunity to economically benefit from the forests. Hence, the main stance towards sustainability is based on active forest management practices: well managed and treated forests grow fast and thus absorbs carbon more than poorly or non-managed forests such as conserved old forests. Therefore, in the name of climate change mitigation, it is rather recommended forests to be well managed for a higher carbon absorption (H.A HS 44). Despite this, the overall view is that the climate change should be tackled on a global scale, and thus the coalition uses relativizing to put things into a right perspective and to point out that Finland's possibility to impact on the climate change is vanishing small in a global scale (T.J. MT 80). Regardless this view, the coalition relies heavily on the carbon sequestration of the trees which creates slight incoherence within the storyline.

Moreover, the well-managed forests are also considered as advancing biodiversity, as the periodic cover silviculture ensures a livable environment for different species thriving in different aged forests. However, the storyline accentuates the carbon absorption and pleads to the global climate change and therefore, often the biodiversity is left with less attention.

On the grounds of these points, the coalition aims to advance the bioeconomy and the transition to bio-based economy from the fossil-based economy. The coalition sees great possibilities in high refinement products that could replace products with a fossil-based origin (J.L. MT 49). With these environmental justifications, the coalition aims to justify and thus intensify the forest use.

4.1.1 Forester discourse

Altogether, 50 writings supported the *Forester discourse*. *Forester discourse* is interested in the economic value of forests and particularly the economic benefits of the forest owners. In the discourse, the livelihood that the forests enable for Finnish forest owners is one main objective of the discourse. Therefore, core actors in this discourse are the forest owners, but also those who promote their interests, such as politicians, certain organizations and researchers. Thereby, the main concern for the actors is to enable the earnings through forests. However, the changes to the current practices may indicate losses in the forest owner's income, rights to handle one's property, or impacts on certain organizations operations and thus lesser influence and authority.

In the *Forester discourse*, it is regarded that the traditional and good old ways of managing forests are the key to one's economic success. The long history of Finnish forestry is cherished and even the cultural importance highlighted. Often the writers referred the high quality of forestry and expertise of the forest owners: "*Forests have been managed correctly and now the results can be seen. It is not anyone else's loss; instead it demonstrates the high quality of Finnish forest know-how*" (M.N. MT 58). In addition, the traditional forest practices are reasoned to advance the environmental objectives such as carbon sequestration and biodiversity. The current practices are even seen natural, or even better than natural: "*The current forest management practices with its clear cuts is more sophisticated form of nature's own will*" (K.H. HS 191).

On the contrary, the *Forester discourse* sees the other forest management methods, especially continuous cover silviculture, threatening: "*The legislation now enables this so called continuous-cover silviculture, meaning that only the biggest and preferred trees are cut down and the rest of the trees are left to grow. A group of noisy audience and some experts even defend this practice and state it to be suitable as a mainstream forest management practice*" (E.R. MT 21). It appears that the intentions here was not only to justify the superiority of the current forest management practices, but also to depress the competing storyline with the means of underrating and contempt. This however is characteristic for an ascendant coalition attempting to defend their storyline and dominance in the discursive space. Moreover, in comparison to continuous cover silviculture, periodic cover silviculture is active forest management including several phases and tasks that ensure the rapid growth

of the trees. Due to this, some forest owners consider forestry as their hobby and a way to refresh oneself (L.J. MT 150). Nevertheless, inside the *Forester discourse*, continuous cover silviculture has gained a small foothold, which has caused minor internal conflicts and confusion. For example, one may say that: *“All the negative impacts of continuous silviculture should be brought under the public eye, especially the impacts on the profits and forest owner’s income. It is not reasonable that a forestry practice that radically reduces the forest growth and the income of forest owners can ever be recommended”* (C-J. J. MT 130). Whereas the other may say that: *“If combined in an appropriate way, continuous silviculture and forest cultivation can create more well-being, income, biodiversity and recreation possibilities than neither of the methods alone”* (A.K. MT 11). The latter opinion remains rather marginal. However, these kinds of minor noises may provide information of the future development of the *Forester discourse*.

Forestry is seen as an important way to develop the rural areas in Finland as it enables people in rural areas to gain wealth. Moreover, the energy usage of forests has gained interest in this discourse due to its possibilities for additional income for forest owners but also its positive economic benefits to local economies (L.J. & R.T. MT 65). However, nowadays a great number of forest owners do not live near their forests. Moreover, the forests ownership has become more centralized due to increased fund ownership. Because of the changes in the forest ownerships, the rural development and wellbeing of local economies could decelerate. *“In the future, most of the forest owners live elsewhere than where their forests are or even abroad due to increase in holdings of different funds. The forest ownership of funds will be ten times greater in few years. The municipal benefits that could be accomplished from bioeconomy are decaying as the timber sales money are directed elsewhere”* (M.T. HS 50).

Forest owners often describe forests as property and possessions, to which the forest owners have all rights to do what best fits to their objectives. Furthermore, the discourse gives an emphasis on this entitlement and feels threatened by possible reductions and diminishments on forest owners’ rights to their own property. Because of this, also EU and its possibility to influence the forest use, such as with demands of higher forest conservation, is seen undesirable: *“If EU continues to intervene to our forest legislation even with its little finger, the Britain’s way is the only option – which is to resign from it”* (R.S. MT 54). Moreover, the rise of environmental movement in public discussion and decision-making threatens the whole *Resistance to change coalition*. *“The initial goal for the carbon sink preachers is to tamper the forest legislation in a certain way that it enables the private forest ownership to become a subject to control by the environmental administration”* (T.J. MT 23). It was also noticeable that when the conservationists or actors supporting opposite opinions are considered, the tone of forester’s speaking was often is very negative, even blasphemous: *“I recommend him and all the other members of The Finnish Association for Nature Conservation to visit the Moomin world in Naantali, there are still plenty of them left!”* (M.K. MT 80). Moreover, some forestry practitioners take the opposing opinions and criticism as personal insults: *“The enlightened people approach you and tell you how the old trees are slayed as bandit criminals and put into a pulp digester. In the best forest management country, only thing they see is forest fields*

and raped forests" (J.H. MT 28). Typically, one supporting opinion on environmental protection caused an outbreak of opinions defending the traditional ways. This, however, demonstrates the ways in which the hegemony may try to suffocate the counteracting opinions and show the distinctive opinions their place, which is as far from the hegemony as possible.

4.1.2 Bioeconomy discourse

The hegemonic *Bioeconomy discourse* is especially interested in forests as a source of biomaterial to be used for industrial purposes and to advance bioeconomy. The discourse aims at increasing and even maximizing the production volumes for economic reasons. In the writings, the economic position of the forest industry is brought up in several occasions to highlight the role and significance of the economic power the forest industry has. For example, phrases such as "*the economic backbone*" and "*the economic corner stone*" are used (V-P.J. HS 274; C-J.J. MT 116). Furthermore, the historical development of the industry and its endeavors in rebuilding Finnish economy after the wars is often addressed to emphasize the excellence and superiority of the forest industry, and to amplify the hegemonic positioning in the forest discussion. Hence, the discourse highlights the macro-economic themes and the necessity to transition to the bioeconomy emphasizing the forest utilization as a source of renewable energy and materials. The main actors operating and upholding the *Bioeconomy discourse* are the forest organizations and organizations supporting the development of the industry, but also the decision makers in the government, such as members of a parliament.

The *Bioeconomy discourse* is supporting the current forest management practices as these allow for bigger amounts of wood to be cut with lesser efforts, by using the clear cuts, which therefore enables greater nonrecurring economic gains for organizations and the government but also for the forest owner. When this is enabled, Finland appears more tempting option for other organizations and investments. For instance, in February 2021, Metsä Group received environmental permits for the planned bio-product plant in Kemi and thus the construction work may begin. As the production volumes will increase, simultaneously the Finnish wood supply need to increase, or the wood will be brought from abroad. Thereby, great changes to the current harvesting practices are not desired. However, whether the changes to the forest policy are made, it may cause great problems for the forestry. For instance, this could mean smaller forest utilization rate, which has impact on the wood supply and thus could complicate the business activity in Finland, which instead would have its impacts on the development of the industry and the national economy by decreasing the interest to invest in Finland. For example: "*The investments of forest industry are the key players in the equation of mitigating climate change, employment rate and economic equilibrium. The investments employ people particularly in areas of dispersed settlements, enable exports that are needed for national economy and renew the industry by producing climate*

friendly products with less emission" (K.N. & J.H. HS 319). Thereby, enabling a suitable business environment for forestry to operate, invest and employ is also seen as a solution to support local economies and to develop the rural areas.

In the *Bioeconomy discourse*, the sustainable forest use relies on the forest certifications (J.V. MT 9). When the sustainable use of forest resources is guaranteed through certifications, it supports the discourse's main environmental argument which is to enable the transition from fossil-based economy to bioeconomy with the usage of forest-based biomaterials. This allows the hegemony to justify their actions in today's world: products that have been produced with fossil-based materials will now be produced with biomaterials, which in general is considered as a sustainable option in comparison to fossil-based materials (J.L. MT 49). This is especially argued with a production of high refined products that have potential to replace fossil-based products for instance in automobile industry and aviation (K.S. HS 10). The sustainability of bioeconomy also stems from an idea of renewable resource utilization as an energy source. The *Bioeconomy discourse* aims to increase the energy use of wood-based biomass given the emissions the energy production creates through burning. For instance: "*The best climate benefit can be achieved through active and sustainable forest management. Although the carbon sink would temporarily decrease, nationwide the carbon storages and the growing carbon stock will increase. Simultaneously, the non-renewable raw-materials and energy are replaced with renewable ones*" (E.K. MT 141). Moreover, in the discourse, the wood use for energy production is considered as a solution to replace fossil energy sources, but also as a solution to support rural development. "*The energy wood acquired near the woodchip facility increases the positive impacts on local economies*" (T.L & T.T. HS 111). The energy use of wood is also argued to increase energy independency and preparation for the times of crisis (J.L. & R.T. MT 65).

4.2 Change chasers coalition

In the forest discussion, the *Change chasers* coalition is the underdog, the submissive storyline with 63 number of writings supporting this storyline. Discourses that share the storyline of *Change chasers* are *Sustainable production discourse* (HS 8, MT 18), *Conservationist discourse* (HS 13, MT 13) and *Recreation discourse* (HS 7, MT 4). However, the coalition's positioning in the discursive field has strengthened and has more powerful support behind it and therefore is making its way closer to the hegemony, being more plausible competitor for resistant to change coalition. Even though the coalition has powerful support among the public and political field, the storyline within the coalition is not as coterminous as it was for the resistant to change coalition. In this coalition, the similar storyline will be shared between the *Sustainable production discourse*, *Recreation discourse* and *Conservationist discourse*.

The coalition is aiming to pursue a change in the current forest management and use practices because they are seen unsustainable. Nevertheless, credit

is given to continuous silviculture as it is seen to enable the environmental sustainability by advancing the biodiversity and carbon sequestration in the forestry forests. The environmental protection is built-in into the storyline and has its place in the increased forest conservation but also through continuous cover silviculture that is seen being more close to natural forest management practices; *“When the environmental conservation is considered, the continuous cover silviculture is superior to periodic cover silviculture... For nature tourism, reindeer herding, refreshment and human health and wellbeing, the continuous cover silviculture is the best option”* (E.L., Y.N. & O.L. MT 109).

Above all, the discourses share the environmental values, and with different emphasis each discourse points out the necessity to ensure the vitality and biodiversity of the forests for its species but also for the human. The greatest challenge that the coalition aims at answering is the biodiversity loss that coalition perceives to be achieved with the resumption of current forest practices, and therefore the storyline distinctly differentiates from the resistant to change coalition’s storyline. Additionally, the coalition points out the importance of service-based utilization of forests, which mostly refers of recreational business opportunities.

4.2.1 Sustainable production discourse

Environmentally *Sustainable production discourse* refers to the sustainable forest utilization with continuous-cover silviculture method. In the discourse, the forest conservation is agreed to be achieved through increased conservation rates and more environmentally sustainable method for forestry in comparison to current and more intensive practices. Moreover, the discourse pleads for the continuous cover silviculture and the economic gains it could provide through logs and recreation. In the *Sustainable production discourse*, the main actors upholding the discourse are researchers, politicians, forest owners.

Sustainable production discourse believes in the continuous cover silviculture-method due to its versatile environmental impacts: *“Covered forests have better microclimate, the humidity for the roots is preserved, and the mushroom and berries grow better. Habitat for game and smaller animals is also preserved. There will be less wind damage, and the carbon sequestration improves. The forest also looks more authentic”* (H.K MT 46). Moreover, the carbon sequestration is considered to be achieved when soil preparation and clear cuts are avoided, and when the forest remain continuously covered: *“Since the forest biomass remains high, the forest is a permanent carbon sink”* (V-M.K. HS 352). In the discourse, it appears to be understood that forest utilization cannot be stopped in Finland due to its significance for Finland’s economy and constantly increasing demand for forest-based products. Preventing and complicating the production in Finland would drive the forestry practitioners to other countries where production would be cheaper and forestry practices more unsustainable. Therefore, the discourse is driving change to the magnitude and form of the forestry and forest use in Finland with emphasizing the timber building of logs and their possibilities to act as a carbon sink (K.I. HS 48).

The *Sustainable production discourse* argues that through continuous cover silviculture, the economic gains would be even greater when the periodic cover silviculture is considered. This can be achieved by the continuous cover silviculture's main principle selectively cutting the biggest trees while leaving the rest of the forest to grow. The discourse argues for log production, as it enables greater economic incomes for the forest owners: "As continuous cover silviculture primarily utilizes timber, it is the most profitable from the forest owner's perspective as the stumpage price would be doubled" (E.L. & I.A. HS 188). This argument stems from a fact that the compensation of logs is three times higher in comparison to pulp wood (Natural Resources Institute Finland, 2020). However, due to the lower cutting volumes, nonrecurring profits remain lower than in selective cuts than in clear cuts (Natural Resources Institute Finland, 2016). Nevertheless, in a continuous cover silviculture the forest management expenses remain low and there is no need to wait for decades to carry out another logging. Therefore, the continuous cover silviculture may enable competitive or even greater cross profits over the periodic cover silviculture. However, in the long run, the quality of forests may decrease and thereby could have its influence on the forest income. Nevertheless, in comparison to bioeconomy and *Forester discourse*, the *Sustainable production discourse* gives worth to quality over quantity.

However, along with the economic value of the forests, many forest owners have begun considering the nature- landscape and recreational values (P.L., P.V. & M.S. HS 114). In the discourse, the recreation comes across as a secondary objective. Nevertheless, utilizing different ecosystem services are seen as preferable regarding the rural development but also the economic development: "The nature tourism has a great potential also in post-corona economic reconstruction" (H.H. MT 99).

4.2.2 Recreation discourse

The *Recreation discourse* does not focus on the forest management practices or forestry in general. Instead, the central point in the discourse are the other ecosystem services the forests may provide such as recreational use including hiking and other outdoor activities, fishing, and picking berries and mushroom. According to the Millennium Ecosystem Assessment (2005) ecosystem services are human benefits obtained from the ecosystems. Based on the CICES (Common International Classification of Ecosystem Services) classification, the ecosystem services can be divided into provisioning services, regulating and maintenance services and cultural services (Haines-Young & Potschin, 2013). The core actors of this discourse are citizens and entrepreneurs in nature tourism.

The discourse criticizes the forestry to some extent due to the detrimental impact on biodiversity and landscape. This is because it is seen that biodiverse forests are the most delightful and relaxing than the periodic cover silviculture forests. The discourse feels threatened by the *Bioeconomy discourse* and *Forester discourse* because of preparation of the forestland that has a devastating effect on the favorable berry and mushroom lands. For example, it is not considered as a pleasant surprise, rather horrifying, when the summer cottage stands alone in the

clean-felled land after the clear cut and the land is turned upside-down (M.H. HS 184; A.L. HS 188).

Even though, the discourse hardly stresses the economic use of forests, an economic value of mushroom and berries, and nature tourism are acknowledged. For instance, entrepreneurs in nature tourism demonstrated their concern on the current forest management practices as reforestation of old fields and overpowering of culturally valuable heritage landscapes were seen to hamper the tourism-based businesses in dispersed settlement areas (E-I.H. HS 59; M-R.H. HS 164). Instead of money-making business, berry and mushroom picking are rather seen as refreshing activities taking place in nature. Therefore, the continuous cover silviculture is seen preferable option due to its lower impacts on the biodiversity, which also enables the human satisfaction through recreational activities provided by the forests (E.L. HS 275). This storyline associates the *Recreation discourse* and *Sustainable production discourse* and therefore both can be seen belonging to *Change chasers* coalition. Ensuring the continuance of the recreational services are stressed in the discourse due to their importance to human.

The impacts of covid-19 have been quite moderate for other discourses throughout the period chosen for the research. However, the virus did receive most attention in the *Recreation discourse*, as the global situation caused the possibilities to travel to be restricted. This, however, facilitated the Finns to reconsider their options and go out in the nature. Hence, the outdoor activities experienced discernible appreciation, and as one writer noted: “Now, during these exceptional times, the forests are a true asset for mental wellbeing for the people living in the metropolitan area” (M.K. HS 124).

4.2.3 Conservationist discourse

The *Conservationist discourse* aims to raise conversation on environmental protection. The discourse does not express their support to any kinds of forest management method, as it sees that the most desirable forest is the one that is not managed by a human, but instead shaped through natural events and means. The actors of the discourse are conservationists and individuals with high environmental values.

As nowadays it seems to be a norm rather than an exception, all the discourses have a strong environmental agenda and point out their environmental viewpoints. The distinction between other discourses in the *Change chasers* coalitions is that this *Conservationist discourse* do not give any economic value to the forests, whereas the *Recreation discourse* and *Sustainable production discourse* did with the continuous silviculture and recreational opportunities. Even though all these three discourses support increased protection, for the *Conservationist discourse* it is the only truth to be sought after nationally but also on a global scale. The environmental protection discourse gives emphasis also on other than forest ecosystems. The discourse sees that the forestry influences waterways and thus to the aquatic ecosystems. M.T., P-L.L. & P.L. HS 327; L.F. & A.L. HS 329). One

writer explained the environmental conservation in the following way: “*Conservationists aim to conserve the entire biosphere, not just only their own backyard and the nature nearby*” (M.H. MT 81). Whereas the *Recreation discourse* emphasizes the cultural ecosystem services, the *Conservationist discourse* gives importance to the supporting and regulating services. Thereafter, all the different species and natural elements are seen valuable and the protection of endangered species from disappearing completely is one major goals of the discourse.

The discourse criticizes the hegemony and the way forests are nowadays seen as a material source and a fountain of wealth, and how the relationship with the forest has its basis on material needs (A.K. HS 50). Moreover, more than other discourses, the *Conservationist discourse* highlights how human has diverged from the nature and the nature relationships is seen to be diminutive or even nonexistent nowadays. “*Finnish nature relationship has suffered a great deal as our society is based on an economic system in which the nature is seen as a source of profit and a resource free to utilize or a nuisance. Back in the days it was shameful to clear cut one’s forest and instead the forest’s vitality was embraced*” (M.H. MT 81).

5 DISCUSSION

In the Finnish forest discussion, the *Resistance to change* coalition has maintained its hegemonic position. The rise of the environmental movement in forest discussion seems ever strengthening and obtruding the environmental agenda into other discourses. Consequently, the external demands on environment and sustainability have also forced to the regime and the *Resistance to change* coalition to act in accordance with these requirements and to incorporate the environmental values into the discourse. The varying objectives of the *Forester discourse* and the *Bioeconomy discourse* have created contradictions within the coalition and the forest regime. In this section, the dissonance and the empowerment of *Change chasers* coalition are discussed in detail.

5.1 Growing conflict within the resistance to change coalition

Signs of incipient dissonance in the *Resistance to change* coalition have begun to emerge in the forest discussion. The dissonance is not merely due to the distinctive objectives of the *Forester discourse* and *Bioeconomy discourse*, but it appears as a foundation for other conflicts. The two discourses within the *Resistance to change* coalition do not only share the same storyline, but they also support and enforce one another. Without one, there would not be the second one either. However, the greatest difference come down to the operators and their objectives.

The *Forester* is a discourse for smaller actors in the industry led by personal goals. For many forest owners their economic income achieved through forests is highly dependent on the forest business. However, a study by Karppinen, Hänninen & Horne (2020) showed that besides income, for many forest owners the forests are providing financial security. Which, on the other hand, may indicate that many consider forests as a last resort for instable economic times, and hence the forest owners may not be actively seeking for economic utilization of their forests. Forest owners want to get economically worthwhile compensation of their forests, and on the other hand, forest organizations do not want to offer excessive stumpage prices to make their own business more profitable. This has built a division between these two discourses. "*Great deal of the production is unprofitable, because the wood production inputs are greater than the stumpage prices. Three main actors in the forest business determine the prices for the trees. The forest owners and their guardians have been waiting a change to this situation. It has been expected that through the increase in refining capacity, the markups would increase, or the economic fluctuation would ease the distress of forest producers. So far, none of this has happened*" (S.E. MT 151). Nevertheless, whether, the forest owners would not sell their forest because of lower prices, the forest organization have the power and authority to get the wood elsewhere, from another country with fewer expenses. It is necessary to acknowledge that the big forest companies do not only operate in Finland, for instance, UPM is now constructing a new pulp plant in Uruguay

(UPM, 2020). The companies have options to operate globally. For the forest owner with their small wood lots, the options are limited. The *Bioeconomy discourse* is a homogeneous group with power and authority steered by ministries and forestry sector, the interests of which are heavily focused on economic growth (Mustalahti, 2018). Globally but also in Finland this economic political elite is a dominant player, and Korvela (2012) argues that they network and operate independently regardless the public opinion. Considering this, the *Forester discourse* does not possess remarkable power in relation to the *Bioeconomy discourse*.

Furthermore, it appears that the dissatisfaction is not only related to the stumpage prices. For instance, landowners with small forest areas have been trying to sell wood but have not succeeded: “*There is not much left for me to say but the harvesting leaves a lot to be desired. The harvesting machinery has developed too big to harvest only greater volumes. The medium size equipment is completely missing. Not all wood lots can be accessed with overly big machinery and not all small forest roads can be covered with asphalt*” (A.K. MT 112). Considering this, the forest owners may get an impression that the forest companies may try to communicate passively that only wider scale loggings are welcome. Consequently, not all the forest owners get to benefit from the additional income the forestry may provide as not all of them have large forests to be harvested. Adding to this, one forest owner expressed their disappointment on one company’s procedures during the bargaining process (J.L. MT 75). In the discourse, some forest owners possibly feel that they are not desired business partners in the eyes of the forest companies and that they are displaced from making business. This, however, could cause even greater discontent towards the forest companies and perhaps drive forest owners to make undesirable sales that enable pulpwood supply to meet the needs of the pulp industry. To receive its acceptance, this bioeconomy has often been politically justified to support the rural development. Even when the refinement of the wood is decreasing and yet the loggings are constantly increasing and pressing down the stumpage prices in order to maintain the profitability of the business (Säynäjäkangas & Kellokumpu, 2020). Thereafter, the development achieved through bioeconomy would enable the forest companies to develop and become more profitable, whereas the forest owners are the surrogate victims that must take what they are given.

Moreover, the discontent towards the forest companies and their practices could lead forest owners to search for different buyer for their wood lots. According to the National Land Survey of Finland (2020), the forest ownership of funds has been increasing and the funds have begun to buy even smaller sized forests. The involvement of the funds could increase the demand for wood lots, which could have a positive impact on their prices. When the forest ownership of funds increases, it respectively decreases the private ownership of forests. This could even enforce the centralization of forest ownership.

In addition, also the forest certifications have received critique among the forest owners. In Finland, already 90% of the forests have the PEFC certification (PEFC, 2019). However, nowadays forest organizations tend to purchase certified

wood in order to increase their sales as the demand for certified products. Especially the demand for FSC certified wood is in increase and therefore the forest companies pay more for FSC certified wood than PEFC certified wood (Karpinen, 2019). The absence of the environmental NGOs decreases the credibility of the PEFC certification, and now the forest industry has introduced the FSC-system to timber sales to the privately owned forests that has the support of several environmental NGOs such as WWF Finland and Greenpeace (FSC, 2021). Hence, the competition between these two certifications appears taken a turn in favor of the FSC. However, because of the spread of the FSC certification, the forest owners have shown dissatisfaction towards the forest industry, as many of them do not want to certify their forests due to stricter requirements, which associates to the right to manage their forests in the way they see it desirable. One writer expressed his irritation as follows: *“The Finnish forest industry has chosen their side. It has abandoned the forest owners and now snuggles up with environmental organizations. Part of that was forcing the forest owners to join the FSC certification. As a response the environmental organizations with their networks are preventing the building of new bioproduct plants coming outside of the Finnish Forest Industries”* (K.P. MT 73). Nevertheless, the existence of the certifications may strengthen the general opinion and understanding the forestry in Finland: it must be sustainable when only certified wood is used for production.

In order to succeed in the bioeconomy transition, the wood supply in Finland need to be guaranteed. To achieve this, the *Bioeconomy discourse* cannot let loose of the *Forester discourse* as their role as a wood supplier is significant. Therefore, the actors in the *Bioeconomy discourse* may praise the high-quality forest management of the forest owners, to make it seem like they are in the same team and that they are supporting forest owners in their efforts. Referring to our current minister of forestry and agriculture, for instance: *“Instead of critique, the forest owners deserve great thanks. The forests have been well managed and when the management practices are improved even more, the growth will increase from the current state”* (J.L. MT 3). However, the *Bioeconomy discourse* usually emerges with peace, explaining comprehensively and rationally how the current ways are justified while assuring the readers to believe that environmental aspects are considered in the current forest management and forest use, without compromising the economic gains: *“Forests are our most important natural resource and the wood is our super-raw material. The forest industry has a key role when the world detaches from the products made of fossil-based raw materials. Hence, the position of the forest industry even strengthens as a constructor and a protector of Finnish wellbeing”* (T.J. HS 347). With these kinds of recitations, the *Bioeconomy discourse* often aims to pacify the discussion and to ensure that there is no need to question the prevailing actions, while it amplifies its standing as a hegemony. Furthermore, researchers have stated that seeing bioeconomy as a solution to climate change and environmental issues has reinforced the presence of production-orientated stance in the policy-making in Finland (Kröger & Raitio, 2017; Mustalahti, 2018). Because of this production orientation, the environmental and social goals are often seen as secondary goals in the decision making (Kröger and Raitio, 2017).

5.2 The rise of environmentalism

Regardless of the environmental and recreational values being even more visible in public discussion and in the decision making, they do not act as a driver. This is because the political discussion is often driven over by the hegemonic *Resistance to change* coalition pursuing bioeconomy and production oriented policymaking. According to a discourse analysis by Takala et al., (2019), the discourse promoting environmental values, called *pro-nature discourse*, increased their prominence in between the 1990's and the 2010's. As a continuation of the previous developments, possibly the environmental aspects will improve their visibility even more in the decision making.

Nevertheless, the ongoing dissonance in the *Resistance to change* coalition is an opportunity for *Change chasers* coalition to increase its prominence in the forest discussion. Perpetually more and more forest owners support the continuous cover silviculture method in their forest management practices. However, due to changing situations and broadening views on forest management, more support is given to *Change chasers* coalition and their certain storylines albeit in many cases the forest owner can also be seen to support the competing *Resistance to change* coalition. Nevertheless, it cannot be ignored that the environmentalism is getting more popular, even among the forest owners: "I have been a forest owner. I am not that anymore. I donated my primeval forests to Finnish Natural Heritage Foundation" (J.T. MT 144). Despite this being only one example, it cannot be ignored, as there might be forest owners or ex forest owners with similar mindsets, especially when the environmental trend is constantly increasing and also the forest conservation has been increase in recent years (Natural Resources Institute Finland, 2019a).

Considering this and the increasing popularity of conserving forests independently or under METSO-program, it may give a glimpse on what is yet to come in the future: potentially, forest conservation programs will become even more popular amongst the forest owners, meaning that the forest organizations need to start offering higher prices for forest owners. This would create a fair competition to the markets and push the forest companies to provide more competitive prices for the forest owners. Furthermore, it was also demanded that METSO-program or similar type program would be established to Northern Finland, as it now applies only in Southern-Finland (P.K. MT 143). This has been triggered by the fact that there is no such a program, but also due to increasing loggings taking place in Northern Finland's old forests and a government plan to increase the loggings in government owned forests in Northern Finland (Ministry of Forestry and Agriculture of Finland, 2015). In Northern Finland, this trajectory frustrates the development of tourism business. The loggings would deteriorate the local entrepreneurship, as the old forests are especially important for the reindeer herding and nature tourism. Moreover, the forests' regeneration is slow in comparison to southern forests (Hyppönen, 2002). Instead of supporting the development of tourism business that could have long-term economic and environmental benefits, the government rather pursues short-term economic

gains that would devastate the unique and biodiverse nature and possibilities for other types of business besides forestry, and yet enlarging the economic role of forest-based businesses in Finland.

6 CONCLUSIONS

This master's thesis focused on the public forest discussion in Finland with a main intention to identify discourses and discourse coalitions amongst the letters to the editor-writings. Five discourses and two discourse coalitions were identified from the discussion. Hegemonic discourse coalition *Resistance to change* consists of *Forester discourse* and *Bioeconomy discourse*. The other coalition *Change chasers* involves *Sustainable production discourse*, *Conservationist discourse* and *Recreation discourse*.

The results revealed information on the discourses and their main characteristics. However, based on these characteristics, the internal and intertwining dynamics can be analysed which have and possibly will influence the formation of the storylines of the discourses and the coalitions. Nevertheless, one of the most fascinating finding of the research is the dissonance revolving inside the *Resistance to change* coalition between the *Forester discourse* and *Bioeconomy discourse*. This hegemonic coalition has strong linkages to the current forest regime in Finland and on the outside regime appears balanced. This balance, however, is mainly based on the dynamics of the current structures and procedures but also the current and "normal" periodic cover silviculture and active forest management. The hegemonic coalition will continue to strive this "normal" to be the only possible, but also economically and ecologically the most appropriate and approved method for forest management.

Inside the *Resistance to change* coalition, there is silent discontent that weakens the regime from the inside. The growing centralization of power on the forest industry and the dissatisfaction of forest owners on current operating models are increasing the dissonance within the coalition. In addition to that, the hegemony is challenged by the *Change chasers* coalition and particularly the *Sustainable production discourse* is increasing its visibility in forest discussion with alternative forest management methods and sustainability demands. Gradually this has forced the regime to reform and reconsider their procedures and thinking to pay more attention to the sustainability issues within the forest industry. However, the simultaneous rise and fuss around the bioeconomy has provoked irritation and growing counteraction towards the current development. The dissonance inside the *Resistance to change* coalition and the strong presence of the *Change chasers* coalition can however, create space for new kinds of encounters that grow roots for something totally unexpected and new emergence in the forest discursive field, which would be interesting to further investigate in the future research.

6.1 Limitations

The research was conducted in an attempt to reflect the current forest discursive field in Finland as reliably as possible. However, it is necessary to acknowledge

that the due to the researcher position, pure objectivity could not been accomplished. Moreover, based on previous literature and the possible researcher bias, the researcher had presumptions on the potential discourses, which might have had an effect on the results of this research. Due to the data analysis method, critical discourse analysis, the results are strongly dependent on researcher interpretation and hence has its impacts on the research outcomes. Another limitation affiliates with the data. The research was conducted mostly during exceptional times of global pandemic and therefore the data may not reflect on the normal circumstances even though the pandemic was not the main topic of the discussion, rather a side note.

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APPENDIX 1 Letters to the editor**Helsingin Sanomat**

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