



## **Sustainable change agency in an indigenous community**

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## ABSTRACT

Lappeenranta–Lahti University of Technology LUT

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Global economic development has led to sustainability challenges, particularly evident in the adverse effects of climate change on vulnerable communities worldwide. In response to this urgent global crisis, there is a pressing need for diverse approaches to studying sustainability transitions for effective mitigation and adaptation strategies. This thesis explores the influence of traditional beliefs and heritage on sustainability agency formation in the Sakha Republic. By integrating indigenous knowledge into sustainability science and addressing the limited research on sustainability activism in Yakutsk, the paper examines environmental activism and individual agency formation within the Sakha community. Interviews with nine environmental activists from Yakutsk highlight their personal motivation for sustainable development and how they have influenced their community through activism. Traditional Sakha beliefs, centred around respect for nature, have significantly shaped respondents' perception of sustainability and driven their agency formation. The interviewees have good insight on the situation concerning major environmental and social issues in their republic, which have been described as: (1) lack of transparent economic development with sustainability in its core, (2) risks coming from permafrost thaw due to climate change, (3) low quality of life, (4) excessive exploitation of natural resources, (5) lack of influence on governmental decision-making, (6) bad air quality in summers and forest fires, and, finally, (7) political situation in the country.

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Globaali talouskehitys on johtanut kestäväen kehityksen haasteisiin, jotka ilmenevät ilmastomuutoksen haitallisina vaikutuksina haavoittuville yhteisöille maailmanlaajuisesti. Tämän maailmanlaajuisen kriisin vuoksi tarvitaan kipeästi erilaisia lähestymistapoja kestävyden muutoksen tutkimiseen, tehokkaiden lieventämis- ja sopeutumisstrategioiden aikaansaamiseksi. Tämä opinnäytetyö tutkii perinteisten uskomusten ja perinnön vaikutusta kestäväen toimijuuden muodostumiseen Sakhan tasavallassa. Integroimalla alkuperäiskansojen tietämys kestäväen kehityksen tieteseen ja käsittelemällä Jakutskin kestäväen kehityksen aktivismin tutkimusta, diplomityössä tarkastellaan ympäristöaktivismia ja kestäväen kehitystä Saha-yhteisössä. Yhdeksän jakutskilaisen ympäristöaktivistin haastattelut korostavat heidän henkilökohtaista motivaatiotaan kestäväen kehitykseen ja sitä, kuinka he ovat vaikuttaneet yhteisöönsä aktivismin kautta. Perinteiset Sakha-uskomukset, jotka keskittyvät luonnon kunnioittamiseen, ovat merkittävästi muokanneet vastaajien käsitystä kestävästä kehityksestä ja ohjanneet heidän toimintaansa. Haastateltavilla on hyvä käsitys alueensa tärkeimpien ympäristö- ja sosiaaliaspektien ongelmista, joita ovat läpinäkyvän talouskehityksen puute, ikiroudun sulaminen ilmastomuutoksen seurauksena, heikentynyt elämänlaatu, luonnonvarojen liiallinen hyödyntäminen, kykenemättömyys vaikuttaa maan hallituksen toimintaan, huono ilmanlaatu kesäisin, sekä poliittinen tilanne Venäjällä.

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# 1 Introduction

“The tightly coupled relationship of northern local communities and their environment provide an opportunity to better understand climate change and its effects, support adaptation and limit unintended consequences.” (IPCC, 2019)

The current state of global economic development is not sustainable and has brought great sustainability challenges for humanity, including climate change that has already been affecting the most vulnerable communities around the world. “Our house is on fire”, as said by Greta Thunberg, and we need to find better, creative solutions for system transitions globally for more sustainable lives for us and future generations. In the face of global warming, for developing better mitigation and adaptation strategies, it is crucial to add diversity to our body of knowledge on sustainability transitions by investigating system transitions and narratives in places, where climate change has already been affecting the local communities. The focus of this paper is on environmental activists and their individual agency formation, as well as sustainable development and definitions of sustainability in the context of indigenous Sakha community, where climate change is affecting permafrost.

In recent years, interest in sustainability transitions studies has grown, however, in the past, research primarily focused on governance, technology, and policy, neglecting the role of agents as social beings and the comprehensive analysis of agency (Koistinen *et al.*, 2020). This paper adds to the limited body of research on individual sustainability agency by investigating the effects of traditional indigenous beliefs and mixed historical heritage on agency formation of environmental activist living under an autocracy, as well as describing the socio-technical landscape, in which these actors operate.

Yakutia, located in the North of Siberia, is experiencing the effects of climate change, particularly due to thawing permafrost. Scientists from various disciplines are studying the geological and social aspects of these changes, including the adaptation of local communities and the role of traditional knowledge (Czerniawska, Chlachula, 2020; Varlamov, Skachkov & Skryabin, 2020; Gorokhov, Fedorov, 2018; Filippova, 2020; Fondahl, Wilson, 2017; Hiyama, Takakura, 2018; Solovyeva, Kuklina, 2020; Crate, Fedorov, 2013). The IPCC emphasizes the importance of incorporating indigenous knowledge into climate change mitigation and adaptation strategies (IPCC, 2019). The Sakha people in Yakutia have a long

history of living in harmony with nature, and their experiences in coping with environmental crises can provide valuable insights for global resilience strategies. However, traditional ways of living are diminishing among younger generations due to socio-economic factors and historical influences. This research usually ignores the urban area of Yakutia, i.e., its capital, focusing more on rural areas, where the population is usually more sensitive to changes in the natural environment and is more fragile due to poverty and outmigration of the younger population to bigger places, commonly to Yakutsk. The focus of this paper, however, will lie in Yakutsk, hence with its comparatively more vibrant and active economy and cultural diversity due to it being a capital of the Sakha Republic, it is considered to be an interesting case for investigating the role of individuals in the city's and region's sustainable system transition and how they define sustainable development. Hence, this paper will concentrate on how the traditional (rural, indigenous belief-based) mixes with the modern (global and more western; urban) in people who are driving sustainable changes in Yakutsk.

Previous research on environmental activism in Sakha Republic is very limited. Solovyeva's 2018 paper explores social and ecological activism in Yakutia and discusses two waves of activism, the two occurring from the early 1980s to 2013. The paper highlights how Yakutia's environmental movements were politically charged, driven by the region's fight for autonomy and respect for its natural resources (Solovyeva, 2018). This paper, however, will focus on Sakha sustainability activism of a wide variety represented by actors from different fields, not concentrating on specific campaigns.

This paper focusses on Sakha environmental activists' individual agency, their opinions on what sustainability is in their local context, how do they see the current situation in Yakutsk, how things could change, and what should be done for that change to be sustainable. To explore the cultural specificity of Yakutsk, the topic of traditional beliefs is being discussed, together with the Soviet past of Sakha people, and how things are under the current political regime in Russia. Specifically, this research paper aims to investigate following questions:

1. How did the sustainability agency form in Sakha environmental activists?
2. How did the history and traditions influence their agency?
3. What is sustainable development in the context of Yakutsk?

To answer these research questions, the paper will first collect the existing knowledge in chapter 2: on the topics of agency formation (chapter 2.1), sustainability definitions, environmental activism, and sustainability challenges in Yakutia (chapter 2.2). Then, in the chapter 3, the approach of this research will be described, including the renditions of the case study and the interviewing method used for the empirical research. The fourth chapter will consist of the results of the interviews, divided into three parts – individual sustainability agency formation, sustainability in Yakutsk, and effect of the historical past and traditions on the agency. Discussion of the results and conclusions of the study will be presented in chapter 5 together with limitations and suggestions for future research. Finally, the summary of the thesis will be given in chapter 6.

## 2 Literature review

This chapter will provide insight on the existing research on the topics of individual change agency (chapter 2.1), indigenous knowledge and traditional beliefs of Sakha (chapter 2.2), environmental activism in Sakha Republic (chapter 2.3).

### 2.1 Individual change agency

This chapter will discuss research in the area of sustainable change agency, examining how individual agency is defined within the field of sustainability science and sustainability transition studies using the multi-level perspective (MLP). Sustainability science places emphasis on the interconnected dynamics between nature and society, considering the reciprocal relationship where societal changes affect the environment and environmental changes impact society, while its key objectives involve understanding the fundamental interaction between nature and society, steering these interactions towards sustainable transition, and cultivating the social learning required to successfully navigate the transition towards sustainability (Clark and Dickinson, 2003; Kates *et al.*, 2001).



Sustainability transitions research, employing the multi-level perspective, analyses changes in societal subsystems and explores long-term, macro processes of radical change (Geels, 2011; Geels *et al.*, 2002). It considers socio-technical systems, consisting of multiple actors, institutions, and practices, and aims to understand and facilitate the transition towards more sustainable versions of systems. Sustainability transition research aims to explore the emergence of niche innovations and their impact on existing technologies and systems that are often unsustainable and seeks to understand how these innovations challenge, replace, transform, and ultimately reconfigure the prevailing unsustainable practices (Geels, 2011, Koistinen *et al.*, 2020). The multi-level perspective (MLP) framework gives a perspective for understanding sociotechnical transitions, based on the dynamics with them, emphasizing the co-evolution of various elements and the role played by actors (Geels, 2011; Verbong and Geels, 2010). Scholars have effectively utilized the MLP framework to analyse historical transitions in different contexts (Markard, Raven, and Truffer, 2012).

The multi-level perspective analyses sustainability transitions across three levels: niche, socio-technical regime, and exogenous socio-technical landscape. Transitions occur when these levels align and interact. Niche innovations gain momentum, landscape changes pressure the regime, and destabilization of the regime creates opportunities for niche innovations to transform the system. The goal is to challenge and replace the existing unsustainable system with emerging sustainability innovations. (Geels, 2002; Geels, 2010; Geels and Schot, 2007 cited in Koistinen *et al.*, 2020)

The sociological dimension of the MLP gives a more comprehensive exploration of actors within sociology and their relevance to sustainability transitions (Koistinen *et al.*, 2019; Grin, Rotmans, and Schot, 2011; King, 2008; Wiek *et al.*, 2012). In recent years, scholars have identified a gap in transition literature and the multi-level perspective regarding individual actors (Smith *et al.*, 2005; Genus and Coles, 2008; Fuenfschilling and Truffer, 2014; Koistinen *et al.*, 2020). Despite increasing interest in actors within the transition literature, the psychosocial processes of individuals remain largely understudied (Upham *et al.*, 2018; Koistinen *et al.*, 2020). The focus tends to be on reproduction rules rather than the emergence of new regimes, and the static view of human behaviour limits understanding of its complexities. The psychosocial processes of individuals are rarely explored in transition literature, and there is a perceived disconnect from disciplines that study behavioural change. Koistinen *et al.* (2019) argue that understanding the psychosocial processes of individuals

can contribute to enabling sustainability transitions, addressing a research gap, as noted by other scholars (Upham *et al.*, 2018; Rauschmayer *et al.*, 2011; Whitmarsh, 2012).

In the transition literature, there has been an emergency of sociological studies that emphasise the role of subjective human experience (Stedman, 2016). Koistinen *et al.* (2020) have investigated agency formation, applying narrative methodology to identify the meaningful events in the actors' life courses that had resulted in their intentional sustainability actions. In continuation of this direction of research, this thesis investigates personal narratives of agents that lead to formation of their sustainable change agency.

A widely accepted perspective on "agency" is that it refers to an individual's capacity to take action: it can be understood as the potential of individuals to exert various forms of power in a causal exchange, enabling them to independently pursue goals (Frohlich *et al.*, 2001). In structuration theory, Giddens (1979) defines agency as "a continuous flow of conduct". Generally, agency is considered to involve having power, the ability to engage in purposeful action, and the capacity to act (Stones, 2005; Sherwin, 2009; Tourish, 2014), emphasizing human agency. In this thesis, agents are perceived as active individuals who construct social behaviour, which is embedded in the structure and contributes to that structure's continuation or change (Cockerham *et al.*, 1997), and that change is generated because of the purposive, reasoning behaviour of agents (Giddens, 1979).

## 2.2 Indigenous knowledge and traditional beliefs of Sakha

The categorization of indigenous peoples in Russia deviates from the classification used in other parts of the world. In 1925, the Soviet classification system identified "Small-Numbered peoples" as those engaged in hunting, gathering, and reindeer herding, with populations not exceeding 50,000. However, this category excluded "Large-Numbered" peoples such as the Komi, Yakut (Sakha), Chuvash, Bashkir, and Buriat, even though they are considered Indigenous Peoples by international standards. The term "indigenous" as defined in Article 1 of the International Labor Organization's "Convention Concerning Indigenous and Tribal Peoples in Independent Countries" (ILO No. 169): "People who are regarded as indigenous on account of their descent from the populations which inhabited the country, or a geographical region to which the country belongs, at the time of conquest or colonization or the establishment of present State boundaries and who, irrespective of their

legal status, retain some or all of their own social, economic, cultural and political institutions.”

As the latest IPCC Special Report on Ocean and Cryosphere in a Changing Climate states with high confidence:

“Institutional arrangements that provide for strong multiscale linkages with Arctic local communities can benefit from including indigenous knowledge and local knowledge in the formulation of adaptation strategies.” (IPCC, 2019)

Indeed, when it comes to Arctic regions, it is important to consider the local and indigenous knowledge, since the local communities know their environment, have long histories of interaction with their natural surroundings and skills to survive in them (UNESCO, 2018). According to UNESCO (Nakashima, Krupnik & Rubis, 2018), Indigenous knowledge “is integral to cultural complexes, which also encompass language, systems of classification, resource use practices, social interactions, values, ritual and spirituality”, and “these distinctive ways of knowing are important facets of the world’s cultural diversity”. The local knowledge is defined as “key element of the social and cultural systems which influence observations of and responses to climate change; it also informs governance decisions” (Nakashima, Krupnik & Rubis, 2018). As the IPCC SROCC (2019) points out, “the two kinds of knowledge are critical to observing, responding to, and governing cryosphere in a changing climate”. The importance of combining scientific knowledge, Indigenous knowledge and local knowledge is very high in areas affected by climate change and inhabited by indigenous and other communities, since they can complement one another by engaging both quantitative data and qualitative information (Crate and Fedorov, 2013).

In recent years, there has been increasing interest in the topic of thawing permafrost in the Russian Arctic within scientists from broad spectrum of disciplines. One bulk of research is dedicated to the physical aspect of geological features of a thawing permafrost crust (Czerniawska, Chlachula, 2020; Varlamov, Skachkov & Skryabin, 2020; Gorokhov, Fedorov, 2018), from local and international geologists, glaciologists, and meteorologists. There is also a great number of papers from social science perspective on how the local communities are coping with these changes and adapting their lives to new circumstances (Filippova, 2020; Fondahl, Wilson, 2017; Hiyama, Takakura, 2018; Solovyeva, Kuklina, 2020; Crate, Fedorov, 2013), with changes that can come not only from permafrost thawing but other climate related natural disasters such as flooding and forest fires (Vinokurova,

Solovyeva & Filippova, 2022). There is a growing interest in recent years in investigating how the local traditional knowledge of the environment contributes to better adaptation to such changes as the ones occurring due to climate change (Nakashima, Krupnik & Rubis, 2018; Crate, 2006). The IPCC Special Report on Ocean and Cryosphere in a Changing Climate (IPCC, 2019) stresses that local knowledge and indigenous science must be taken into consideration equally to the knowledge from the official scientific community for humanity to come up with the best ways to deal with climate change mitigation and adaptation. In case of Yakutia, the history of the people who traditionally live here, is a great example of adapting to severe climate, with Sakha people migrating to their current lands from Urals between the 12<sup>th</sup>-14<sup>th</sup> century (Gogolev, 1993). Since then, they have adapted their previously nomadic, horse and cow breeding lifestyles to new conditions, where they have used the unique qualities of permafrost taiga to fit their needs for pasture, while also learning from the indigenous people previously residing on these lands (Gogolev, 1993).

There have been several recent papers by anthropologists dedicated to how the population of rural Sakha reacts to and copes with the changes in the surrounding area of their villages or environmental crises occurring due to climate change, such as flooding, wildfires or thawing of permafrost (Vinokurova, Solovyeva & Filippova, 2022; Crate, 2022). The case of already changing environment and how people are coping with it can be an important source of knowledge for future global adaptation and resilience strategies (Nakashima, Krupnik & Rubis, 2018).

The focus of this paper lies also in the fact that Sakha traditionally have lived very closely with nature, calling themselves ‘children of nature’, and having a set of beliefs, according to which everything in nature has a soul, and one should care about the nature and people around and follow traditional rituals called *Sier-Tuom* (Vinokurova, Dambaeva, 2008; Crate, 2022). Crate, in her anthropological investigation on the local definition of sustainability for people of Vilyui Sakha villages has underlined how *Sier-Tuom* is still present as a value system in part of the population, predominantly elderly people (Crate, 2006). She underlines, how the traditional way of living in rural Sakha area generally is not passed to younger generations due to various socio-economic factors, systematic oppression of ethnic diversity in the Soviet Union, deconstruction of traditional household-based farming into collective and state-owned farms (*kolkhoz* and *sovkhos*, respectively) and the youth being raised more

as upstanding communist party members and workers in the state institutions, rather than in the private family (Crate, 2006).

Although the focus of this thesis is on Yakutsk, the capital of the Sakha republic, and the people interviewed are based in the urban areas far from alases, it is developmentally an important part of cultural identity of Sakha, who till the 1990-s mostly populated the rural areas of Yakutia. The traditional religion in the area is Tengri, and part of it is following the “*Sier-Tuom*”, set of beliefs and rituals centred around respecting nature and people, which will be described further (in chapter 3.1).

### 2.3 Environmental activism and definitions of sustainability in Sakha Republic

Solovyeva, in her 2018 paper “Ecology activism in the Sakha Republic, Russia's «Large numbered» Indigenous Peoples and the United Nations Declaration of the Rights of Indigenous Peoples” makes a detailed account of social and ecological activist movements in Yakutia. She distinguishes two waves of social activism, with the first wave associated with three decades between early 80s and 2008 being characterized by emergence of public discourse around pollution of rivers and land from diamond mining industry and long lasting consequences of underground nuclear explosions that occurred in 1965-1988 leading to extended radioactive contamination of the environment in the basin of Viliuy River, which was found out after release of classified data in 1990. (Solovyeva 2018)

The second wave of ecological activism, as defined by Solovyeva (2018), is associated with protection of Lena River, first in 2008 – a volunteer campaign against construction of the Eastern Siberia-Pacific Ocean oil pipeline that would go through the vast territory of Sakha Republic and would be built underwater to cross the river, and second – in 2013 protest movement “Save the Lena River” against construction of a chemical factory, with both projects not considering proper safety measures for difficult geological conditions of permafrost. The former project ended still being actualized despite local public outcry and the latter has been revoked due to massive protests and repositioned to another point still on the Lena River but up the stream – to Irkutsk region, where the local environmental movement was not that active. (Solovyeva 2018)

As a result of the first movement, a comprehensive approach combining public demands, scientific research, and regional government decrees was implemented to address environmental and social issues in the Viliuy region of the Sakha Republic. However, these measures did not fully succeed. While they did reduce the discharge of polluted industrial water into rivers, the ecological and social situation in the Viliuy region remains tense. The region's ecological status remains undetermined, the Viliuy Environmental Fund has almost dissolved, and no actions have been taken to mitigate pollution or fully compensate for socio-economic damage. The yield from the second movement of ecological movement – the opposition to state plans related to the ES-PO project – has also been disappointing, as the cheaper but riskier trench method was used to construct the ES-PO crossing of the Lena River. Despite support from the public and republic authorities, environmental activists were unable to effectively oppose the construction of a gas chemical plant on the Lena River's banks. Currently, there is a direct threat to revoke the Marka territory's Specially Protected Status in favor of diamond mining by ALROSA. (Solovyeva 2018)

Solovyeva (2018) adds more conditions to the list of the crucial elements for resolving environmental problems in Russia, made by Crate (2002). Crate's (2002) findings on the topic consist of a) a robust urban foundation, familiarity with and utilization of current laws; b) local leadership; and c) international connections. Solovyeva (2018) argues that although in the second wave of environmental activism all those components were present in Sakha Republic, there have been no positive but only negative changes in last decade. She attributes the environmental movement's failures in the Sakha Republic to several reasons beyond those factors, namely ineffective implementation of laws in Russia, rampant corruption, and a tendency to address urgent problems rather than tackling the root causes directly, with the underlying problem being the lack of recognition of Indigenous Peoples as rightful custodians of their ancestral lands, resulting in their exclusion from land management decisions and control over mining companies. (Solovyeva 2018)

In her 2005 paper, Crate investigated the local definitions of sustainability in rural Vilui area (Crate, 2005), which, to our knowledge, is the first and only account on local definitions of sustainability in Sakha Republic. Crate collected interviews on the use of local knowledge for sustainability and her findings revealed a consensus among participants that the teaching and practice of *Sier-Tuom* were considered the most effective approach towards achieving sustainability. Additionally, participants expressed concern over the generational gap and its

impact on creating an uncertain future, highlighting the importance of reintegrating knowledge and practices across different generations. When asked about how they envisioned translating their sustainability ideas into reality, participants emphasized three key factors: fostering a shared mindset, having strong leadership, and ensuring protection and rights. Crate connects the first two factors to the Soviet past of the villages. Regarding the latter factor, participants strongly advocated for obtaining rights to land, clean drinking water, and comprehensive environmental protection. Specifically, in the Vilui area, the lack of such rights and the abuse of resources were attributed to large-scale diamond development. (Crate, 2005)

In their study titled "Yakutsk: Culture for Sustainability" (2020), Kuklina and Shishigina examine the cultural sustainability of Yakutsk based on Adger et al.'s (2013, cited in Kuklina & Shishigina, 2020) definition of culture as the symbols that convey meaning, encompassing beliefs, rituals, art, and stories that shape collective perspectives and behaviours, and provide strategies to address challenges. The researchers state that due to the cultural heritage of indigenous peoples being closely tied to subsistence activities and symbolic land use, local authorities face challenges in integrating traditional worldviews, practices, and images into the urban environment. Meanwhile, the city serves as a hub for environmental activists and indigenous leaders concerned about their homelands, given its role as a centre for information resources and decision-making. Kuklina and Shishigina (2020) note that agency of the local cultural elites is evident, as they serve as spiritual leaders for the entire republic and shape the agenda for its development in multiple areas, including culture, economy, human environment, and city governance. This agency is demonstrated through the presence of numerous cultural institutions, book production, mass media, and educational initiatives that prioritize native languages and cultures. (Kuklina & Shishigina, 2020)

### 3 Research approach

To give the reader a better understanding of the context of the thesis, chapter 3.1 will introduce the case study – Sakha Republic, its cultural and historical background. Next, in chapter 3.2, the methods used for empirical research will be described.

### 3.1 Case study

City of Yakutsk, an urban area with population around 350 thousand people, capital of Sakha (Yakutia). Yakutia is the largest region of Russia, with its vast area equal to Argentina, with very low population density, mostly rural. Yakutia is known for extreme climatic conditions, and Yakutsk has famously the coldest temperature records for any major city on Earth. Yakutia is a region with a high level of natural resource economic potential, with the average salary in the republic being one of the highest in the country.

Yakutsk is the largest city built in the permafrost zone. The city of Yakutsk is the capital of the Republic of Sakha (Yakutia) and the largest port on the Lena River. The city is famous for the contrast of summer and winter temperatures: in winter, the thermometer sometimes drops to  $-65^{\circ}\text{C}$ , and on the hottest summer days it can rise to  $+39^{\circ}\text{C}$ . (Zueva et al., 2008) The population as of 2023 is 361,154 people, and more than a quarter of the republic's population lives in its capital city (Federal State Statistics Service, 2023).

Yakutsk's economic life originated from the industrial development of Yakutia in the late 19th and early 20th centuries, particularly through gold mining. Over time, Yakutsk has grown and expanded, becoming an economic centre of the region. The city now encompasses a wide range of socio-economic activities, including industrial production, construction, transportation, and a consumer market. Yakutsk has also become the financial and credit hub of the republic. It serves as the scientific, educational, and cultural centre not only for the republic but for the entire Far East of Russia. (Zueva et al., 2008)

Most of the population of Yakutsk in 2010 identified themselves as Sakha (47%) and Russian (38%), with the rest representing the “low numbered” indigenous peoples of the republic (Evenk, Even, Dolgan, and Chukchi), Buryat, Tatar, Ingush, and ethnic groups from the post-Soviet Central Asia (Federal State Statistics for Sakha Republic, 2010).

Due to its multifunctional nature, capital status, and educational opportunities, Yakutsk has always attracted a significant number of migrants from rural areas within the republic. In the 1990s, social tensions in the countryside, such as a lack of jobs, decline in agricultural production, and reduced social-cultural infrastructure, further fuelled the migration of the rural population to Yakutsk. In recent years, the city's population growth has been driven by both natural increase and migration. Most newcomers are young people from rural Yakutia



seeking higher education, better employment opportunities, improved social and living conditions, and quality education for their children. (Zueva et al., 2008)

The Sakha people traditionally were part of Tengrism, ethnic Turkic animistic religious system that has reverence of nature and ancestor worship. In case of Sakha culture, specifically, this system includes a worldview that presents the world as having three levels – underworld, habituated by evil spirits, upper world containing a pantheon of gods, and middle earth habituated by people, usually portrayed in poems as warriors of good origin, and spirits who can be either good or bad and possess humanly emotions and motives. The set of rituals called *Sier-Tuom* is dedicated to conversing to spirits of nature (in Sakha – “*ittchi*”) and gods (in Sakha – “*ayii*”), asking them for kindness and support and expressing respect and care for their belongings. The common *Sier-Tuom* is dedicated to Yryng Aar Toyon, the creator of all the worlds, or to Aan Alakhchyn, a goddess-spirit, responsible for prosperity of the middle world, or to Bayanay – a spirit of forest, hunting, and fishing. The rituals usually include making fire and giving gifts to fire, commonly, traditional food or drinks, and conversing to specific god or spirit with traditional speeches. The rituals are not a sheer formality, and traditionally Sakha see spirits in everything in nature, trying to not take more than you need and be respectful to *ayii* and *ittchi*. (Utkin, 1998)

With the colonisation of Sakha by the Russian empire in the 1632, the population of the republic has been forcefully baptized into orthodox Christianity (Seroshevsky, 1993), however, till this day, the Sakha people have managed to keep their traditional beliefs system, sometimes combining it with Christianity. During USSR, the processes of Soviet collectivization, agricultural industrialization, and acculturation worked to undermine Sakha local knowledge spatially, temporally, and socially (Crate, 2005), and in many families, traditions were not inherited by the new Soviet citizens, especially if they were not living in the traditional households in the village. However, after the break of the Soviet Union, the republic has gained an autonomy as a sovereign Republic of Sakha (Yakutia) in 1991. Since then, there is an increasing interest in revitalizing Sakha traditions coming from the people and the efforts of the first parliament of the republic. More people are interested in the history and culture of their own land (Kuklina & Shishigina, 2020), and one could argue, that despite a long collectivisation and sovietisation period, the physical isolation of the republic – it is vast and very distant from other regions of Russia – has helped preserving the local culture from the outside influence. At present, there is an emergence of literature, cinematography

and theatrical plays discussing the cultural heritage of Sakha people, and the traditional culture and native language is being preserved, as shown in the next paragraph.

In present day Yakutsk, despite its urban development, traditional subsistence activities like hunting, fishing, and reindeer herding still play a vital role in the local economy, with products such as fur coats and shoes from reindeer skin (*unty*) or felt (*torbaza*) produced directly in Yakutsk. Locally produced films in Sakha language that showcase the region's landscapes, social issues, beliefs, and familiar faces have gained popularity among the residents and the quality improvement in these films has expanded their audience reach, with Sakha-language films gaining prominence on the global stage. (Kuklina & Shishigina, 2020)

In terms of language use, official buildings in Yakutsk display signs in both Russian and Sakha languages, while tourist signs also include English. The national television company of the republic – NVK Sakha – has its TV and radio programs broadcasted in Sakha language, with some programs in Even, Evenk, and Yukagir languages. Publishing activities in Sakha, Even, Evenk, and Yukagir languages are carried out by the book agency Bichik and several regional newspapers. (Kuklina & Shishigina, 2020)

### 3.2 Methods

The empirical part for this research aims for a better understanding of the motivation that individual Sakha eco-activists have, what is their view on sustainability as a whole and of their region, how they came to activism, and what is the roles of traditions and history of Sakha in formation of their agency. To collect more intricate data on the activists' personal views, the semi-structured interviews were conducted – the conversation centred around a premeditated framework, leaving room, however, for the interviewees to talk freely and expand on some topics more than others.

The framework of semi-structured interviews (Appendix 1) consisted of four main topics that were of interest for the research questions. Technically, the interviews were held mostly in a form of an oral conversation via Zoom, and some were conducted by sending an interviewee a questionnaire to be filled out anonymously. The questionnaire consisted of set of questions identical to the initial framework. The interviewees were informed about

privacy of their answers in advance: the videos and questionnaires were kept confidentially, and the answers were fully anonymous.

The interviewees were chosen to represent a diverse form of sustainability related activism present in modern day Yakutsk city. The respondents were various actors from private, public, and non-profit sectors, whose activities are aimed towards sustainable change in the local community of Yakutsk city and Sakha Republic.

The first batch of the potential interviewees was found by a simple online search and social media, which was not difficult because of how publicly visible the activists are and how tight the local community is. The fact that the author of this research comes from Sakha community, the access to the community was not difficult. Then, the method of snowball samples was used, when each of the activists recommended the potential new respondent. At a certain point, the loop of recommendations closed and formed a tight circle of people, who somewhat cooperated. Hence, to avoid the biases to the sample, new people from different social roles were contacted for interviews.

All the interviews were held in Russian and Sakha languages, and subsequently analysed by the author in English. All the translations were done by the author. The audio interview transcripts were performed using AI speech recognition tool on Google Cloud platform (Google, 2023). The analysis of the interviews was conducted manually, due to difficulties with defining and detecting the key words, since the speech consisted of many regional slang and words of mixed Russian, Sakha, and English origins.

## 4 Results

The results of this study comprise the thoughts of the interviewees on their sustainability agency, how sustainable the development of Yakutsk is, and how did the Sakha and Soviet traditions effect their views on sustainability. Most of the interviews were held in conversation, hence there was more room for expressing thoughts on other matters as well – we had free-flow conversations around the general structure. In contrast, the answers received via the online questionnaire form were more straightforward and usually shorter, but, perhaps, more premeditated and condensed.

In this chapter, the main points from these conversations are presented, divided into three main topical narrative lines. Chapter 4.1 introduces individual agency and explores the interviewees paths to activism. The results on sustainably development in Yakutsk and its challenges are presented in chapter 4.2. Chapter 4.3 discusses the influences of Sakha beliefs and history on the respondents.

#### 4.1 Individual agency and path to activism

The people interviewed for this study all work in the field of environmental protection, be it a social entrepreneurship, research, non-profit, or government work. It can be seen from the interviews that all the respondents are value-driven and active people, who follow their passion for sustainability and connected their careers with it. All respondents have a very distinct agency when it comes to sustainability - each of them is a trailblazer in their respective field.

The questions asked around individual agency were about specific life events that led to the respondent starting their sustainability related career or activism path: what exactly from their experience had led them to first realize how important sustainability is for them, and when and how did it become their profession – was it hard, were they supported by someone in their community, and if the traditional Sakha beliefs had affected it (see Appendix 1).

The answers about motivation and start of the sustainability related journey (see Table 1) can be distinguished between “why” – why the interest to sustainability arose in first place, and “how” – how it became possible for them to start their career or activism path. The answers are grouped by the respondents’ field of activity since there is a certain correlation between answers from people from the same field.

Table 1. Key points from the interviews on agency

Field of activity	Why – formation of agency	How – actions and life circumstances
Research	Scientific interest  Will to share scientific knowledge on climate change and permafrost  Progression from problems of indigenous peoples to environmental protection	Were already in academia, gradually shifted to sustainability related issues in research  Support from peers

	Growing concern about climate change	
Social Entrepreneurship	<p>Learned more about global warming and world sustainability agenda</p> <p>Concern about what would be left to next generations</p> <p>Wanting to recycle, but not having such options in Yakutsk</p> <p>Becoming more conscious about own consumption</p> <p>Connecting the existing feminist views with sustainability and developing eco-feminist views</p>	<p>Got inspired by similar projects from social media</p> <p>Thought “Why not me?”</p> <p>Support from family – mental and monetary</p> <p>Having kids – seeing who exactly is the “future generations”</p>
Non-Profit	<p>Spiritual awakening</p> <p>Desire to do good deeds</p>	<p>Just got up and started one day, it was not hard</p> <p>Spread from usual <i>subbotniks</i>*</p>
Government work	<p>Being close to nature</p> <p>The desire to leave more pure, untouched nature for future generations</p> <p>Soviet Pioneer camps, where there was a lot of garden and field work</p>	<p>Started from the environmental protection career.</p> <p>Later, took a position in the local government body responsible for environmental protection.</p>

\* a Soviet tradition of the community clean-up on Saturdays.

When it comes to support from community or lack thereof, additionally to the Table 2 content, it can be stated that respondents from the social entrepreneurship group felt like there was no community around eco-agenda in the city, so they each came up with their businesses independently, and only afterwards found people who now became a community of like-minded environmental activists. The non-profit group member expressed clearly that they do not usually need support from anyone, but people usually join in anyways, inspired by a good example – and that good example is better than any words.

There is a clear desire to spread knowledge about sustainability to people, and the respondents actively do it voluntarily, trying to have bigger platforms for it, in the scope of the Sakha Republic. The social entrepreneurs group representatives claim that in a few last years, their activities have gained popularity and people are more educated in terms of recycling or zero-waste culture – they claim it is largely due to their social media following and engagement of more people in the activities through it, resulting in creation of a community that also gained visibility and following.

Specifically, for the representatives from academia, there is a clear concern about transfer of knowledge from research to general society. Some indicate that eco-activism stays within closed groups, and that people in them influence those who are like them and not the broader audience.

Some of the social entrepreneurs also state that they wish eco-agenda was not a subculture, but a new norm for everyone, not only for those who *identify* as eco-conscious people. The willingness of the social entrepreneurs to spread the awareness on, for instance, recycling as far as possible was apparent, but it seems to be a challenge for now, since “most people see it as subscribing to a new set of burdens on top of the many existing ones in their daily lives” – direct quotation, – “but I totally understand it and wish people did not see it as a radical switch and commitment to a completely new lifestyle, one simple change in their habits would be enough for me”. There is a clear wish to find better ways to communicate to a broader audience.

## 4.2 Landscape and regime: Sustainability and Yakutsk

It is impossible to look at the individual agency of sustainability agents without seeing the background, in which they operate - the landscape and the regime, in which they are actors (Geels & Schot, 2007). This chapter presents the definitions of sustainable development given by the actors, and their views on the way things are in the republic and its capital in terms of their sustainable development. They elaborate on the main challenges for sustainability in Yakutsk, what could be done to tackle them, and how they see the effects of their work changing the situation.

### 4.2.1 Defining sustainability

As mentioned above, the definitions of sustainability and sustainable development have a certain semi-official connotation to them and not used much as such. Therefore, before talking about sustainability in Yakutsk with the interviewees, their interpretation of these terms had to be clarified. The respondents were given the most widely used definition of sustainable development from the UN, which goes as “the development that meets the needs of the present without compromising the ability of future generations to meet their own

needs” (WCED, 1987), and asked to try and define it in their own words – for them personally or for Yakutia, in general. To convey the definitions given by the subjects precisely, they are given here in direct quotations (Table 2).

Table 2. Definitions of sustainable development

No.	What is sustainable development to you?
1	I agree with the United Nations' definition because it aligns with my own views. The goal is to minimize the negative effects of human actions on nature and work towards reducing harm. This requires a collective effort to lessen our waste and consumption and reduce our overall impact on the environment.
2	Feminists draw parallels between the exploitation of women and the exploitation of nature. If we want to protect humanity, we must address exploitation not only in the context of women but as a whole. The patriarchal system, which is closely connected to exploitation, has harmful effects on the planet. To combat this, we need a comprehensive approach to ending all forms of exploitation.
3	To me, sustainable development means effectively managing waste, with the government playing a role in establishing appropriate systems. We should focus on recycling and promoting practices that minimize waste. It's crucial to find a balance between responsible consumption and active environmental stewardship, including initiatives like cleaning up areas. At the industrial level, we need to develop conscious environmental management principles.
4	I fully support this definition. As a researcher of the natural environment, I am eager to share my knowledge about permafrost with the public. This includes identifying areas where human habitation could be risky due to permafrost-related hazards and highlighting safer alternatives for sustainable development. It's important to note that the city of Yakutsk has viable options for sustainable growth, although unfortunately, they are often overlooked for various reasons despite being widely recognized.
5	I believe that sustainable development is primarily about being mindful of the consequences of our actions. If individuals understand the cause-and-effect relationship between their behaviour and its impact on the environment, they would be more likely to change their own actions and push for responsible behaviour from businesses and governments. However, it's important to recognize that achieving true sustainable development can't be put solely on ordinary citizens' shoulders. The level of responsibility increases with the amount of power one has, and in our country, most decision-making power lies outside the hands of the general public. Nonetheless, I am continually impressed and motivated by individuals who strive for positive change.
6	Setting a good example for our children is crucial. Every action should consider the well-being of future generations, ensuring a positive legacy for our offspring.
7	Nature holds great importance in my life, influenced by my beliefs. When I spend time in the natural world, I make a point to respect the spirits of nature, recognizing their authority and asking for permission to be part of their space.
8	Sustainable development, to me, represents the harmonious coexistence and interaction between humanity and nature. Both entities should flourish and develop in symbiosis, ensuring mutual growth and prosperity.
9	Sustainable development refers to balanced progress within society, where human activities have an ecological impact that remains within the capacity of the local environment. Unfortunately, achieving this goal is no longer possible in Yakutsk, as well as many other regions.

The common points include minimizing negative environmental impacts by effective waste management, conscious consumption, environmental stewardship, and addressing of

exploitation; recognizing government's role; awareness, responsibility, and future-oriented perspective; and harmonious coexistence with and respect for nature. Many respondents directly mention nature – how important it is for humanity and nature to be in balance and to control exploitation of its limited resources and, essentially, to respect it. More on the respondents' relationship with nature is described in chapter 4.3.

Most of the interviewees avoid open criticism of the government in the interviews, which can be explained by the current political regime's draconian practices of silencing such conversations (see chapter 5.4 on limitations). However, as can be seen from Table 2, some respondents have been candid and unafraid to talk about the government and its politics – both in general and in terms of sustainability. It is clear, that the aggressive war in Ukraine and Putin's political regime is not contributing to sustainable development in Russia, affecting every aspect of life, starting with general state of fear in society, causing outmigration, financial and general insecurity, and a bleak view on the future of the country. New laws that undermine the status of regional protected natural areas are causing big risks for exploiting the natural resources found in national parks of the republic and disturbing traditional lifestyles of indigenous people of the North Yakutia, who use large territories for reindeer herding.

#### 4.2.2 Yakutsk: challenges and solutions

When it came to describing situation in Yakutsk in terms of sustainability, the questions asked where:

1. “Do you think that the economic development of the region is sustainable?”
2. “Do you see changes in terms of sustainability in Yakutsk, has it got better/worse. Why is that?”
3. “What are the most pressing issues right now? Is something being done to address them?”.

Each activist had their opinions, mostly related to their own field of operation, but some topics surfaced repeatedly – most of the interviewees clearly express their discouragement with the political situation in the country and how it is negatively affecting the sustainable development in the region. Considering how sensitive the topic of politics is now, it is worth



noting that only few people have avoided the topic whatsoever or have praised some government decisions taking on environmental issues, the latter being expressed by those who either work in the local government or collaborates with it. Another repetitive motive is about how prior to the recent political events (invasion of Ukraine) there was a feeling that things were going better compared to other regions, but now there is a lot of uncertainty.

Other main issues, each mentioned by some interviewees, are problems with the landfill and insufficiency of current recycling infrastructure, intensification of permafrost thaw due to climate change, low quality of life, excessive exploitation of natural resources, lack of influence on governmental decision-making, forest fires, and bad air quality in summers. All these issues (see Table 3) are well known for citizens of Yakutsk and seem to be perhaps not full but representative list of the most pressing challenges for sustainability in the city and the republic.

Table 3. The most pressing issues according to the interviewees' opinions

What are the most pressing issues?	Description
Waste management. Recycling	<p>The main waste management issue is that currently municipal waste is landfilled, and the landfill repetitively catches on fire, affecting air quality of suburbs of Yakutsk. Another one is that people litter.</p> <p>Recycling is problematic due to several reasons:</p> <ul style="list-style-type: none"> <li>- Logistics. It is too expensive to transport collected waste, since most of the waste fractions must be shipped elsewhere for recycling; and the logistics within the republic are problematic, in general, due to bad roads in off-season, between winter and summer.</li> <li>- Absence of the waste sorting plant for municipal waste and no infrastructure for waste management that would include separation of different waste fractions.</li> <li>- The new waste reform is about to be implemented soon, but people need to be educated and motivated to pay more for their communal services.</li> <li>- Another problem is the cost of the waste treatment. The amount of recyclable waste generated in Yakutsk is not very high, and the cost of recycling locally will not be covered easily by the sheer cost of recycled fractures.</li> </ul>
Climate change and permafrost thaw	Permafrost thaws unpredictably due to climate change and due to bad planning of surface drainage in the city. There is a risk of destruction of buildings and the fundamentals must be more protected from the permafrost thawing. This is currently the main consequence of global warming observed in Yakutsk.
Low quality of life	Because a lot of people in the republic are insecure in terms of their finances, safety, and basic human rights, they do not pay extra attention to their consumption and waste generation.
Uncontrolled exploitation of natural resources	The biggest problem is that people do not have power over their own land, they do not decide for themselves what to do with their resources and how exactly to extract them. However, because all mining companies are semi-private and semi-state

	<p>owned, there is an extended presence of corruption and little representation of the rights of indigenous peoples in rooms where decisions are made.</p> <p>New laws on regional protected natural territories – now the protected status can be easily lifted by local authorities. This creates many risks.</p>
Knowledge does not inform decision-making	There is a lot of knowledge about environmental issues in smaller groups of activists and scientists, but only knowledge is not enough – there are no environmental movements that would affect government decision making. A lot of public environmental activists are being pressed by the government, when it is perceived as political movement.
Forest fires and bad air quality in summer	Every summer there are wildfires in Sakha Republic. In 2021, there was a massive forest fire that led to hundreds thousand hectares of forest burning down in one summer and toxic smoke that blanketed the city for months as a result was described as an "airpocalypse".

Next set of answers has to do with how the respondents feel about dynamics of sustainable development – first, whether they see the development of the republic as sustainable, and second – what changes do they observe between when they have just started their activism and now. Responses to the question “is the development of Yakutia sustainable?” are represented on a scale from “strongly disagree” to “strongly agree” on Figure 1, where dots stand for one interviewee, and the phrases are examples of what people with corresponding statements are saying.

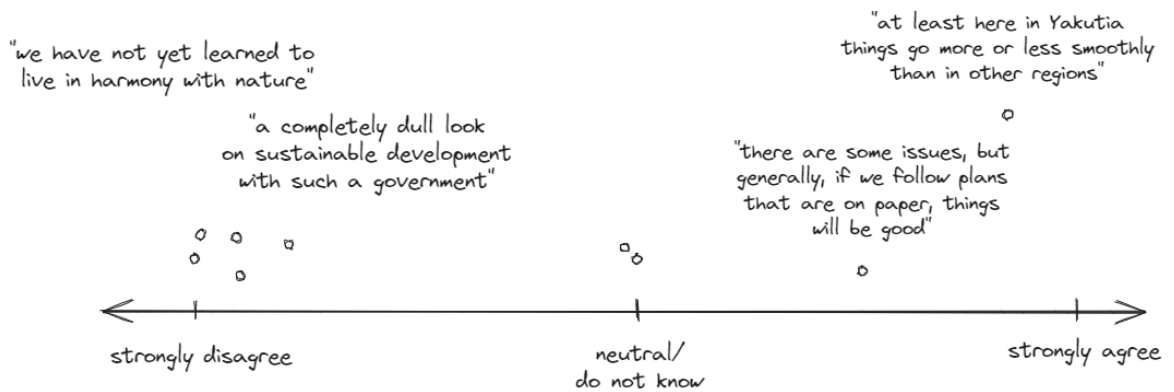


Figure 1. Is the economic development of the region sustainable?

When it came to evaluating if anything got better in terms of sustainability in Yakutsk, from the actors’ points of view, some pointed out that issues of recycling got a larger platform and more people got engaged in recycling-related projects and that there is a support in that from the local government. There is a notion that the local government supports the independent social entrepreneurs who deal with recycling and is ready to provide the waste management system in the city, since there is a federal waste management reform upcoming.

Representative of the government work states in the interview that they (the interviewee) support the local environmental activists and try to help them gain attention on the federal level, because they respect how the activists' initiatives come "straight from their heart" (direct quote), from pure strive for sustainability and not for personal benefits. This shows the agency of the government worker and how they interact with the niche level agents.

The interviews also touched on what, in the activists' opinion, could be done to address the sustainability challenges in Yakutsk, and the most popular response was to educate people about sustainability as much as possible and how constant circulation of knowledge is essential. Many people said that the construction of the municipal waste-sorting facility is much needed in the nearest future. Some people found it hard to answer the question and some expressed that subsidizing sustainability related businesses is important. Few people mentioned that the best solution would be a more democratic federal government, and some admitted that they do not know, what could be done for a more sustainable development of Yakutsk.

#### 4.3 Influences of Sakha traditions and history on agency formation

The relationship of Sakha people with their cultural identity has been fluctuating throughout the politically eventful history of the country. It was interesting to observe how interviewees of different age groups had varying experiences with their Sakha identity, considering the respondents grew up in two different countries – the Soviet Union and modern-day Russia, each of the countries having their journeys in relationship with national autonomy of Sakha people and their self-identification. For example, some of the statements from respondents about the Soviet legacy are presented in Table 4.

Table 4. Statements about the Soviet legacy

- about the Soviet tradition of praising science	- about Soviet circular economy	- about generation gap and issues of ethnic minorities in USSR
"I have developed as a researcher in the Soviet scientific traditions, where knowledge was praised. I don't think that Sakha traditional beliefs influenced my	"I was taught by my grandparents who were head-to-toe Soviet citizens, I think one of the better legacies from that time is being frugal and careful with things – repair and reuse them, almost	"When I was growing up, I was raised by people from the 19 <sup>th</sup> century – my grandparents who observed all the Sakha traditions, and I myself then grew up completely Soviet, so it was an interesting mix. In the USSR it was not praised to identify yourself as anything other than a Soviet citizen – "different" or "natsmen" *, and

involvement in ecology then.”	like circular economy. But of course, in this case, it was due to the deficit of consumer products.”	in the 80-s, there were a lot of ethnicity-based conflicts in Yakutsk about Sakha people speaking their own language, so sometimes it was dangerous to even speak your own language.”
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\* a Soviet term for ethnic minorities introduced in the 1930s that consequently became offensive

The third statement about generation gap and issues of ethnic minorities in USSR brings attention to how problematic was the Soviet regime’s effect on indigenous people’s self-identity. It has developed further into 1990s, where Sakha still struggled to define themselves as an autonomous republic, even though its autonomy as a sovereign Republic of Sakha (Yakutia) was declared in 1991. As one of the millennial interviewees mentions: “I am from that generation, when growing up in the 2000s it was embarrassing to speak with a Sakha accent. But after I lived in other countries, I accepted my Sakha identity.”

Nevertheless, in rural Yakutia, people still mainly spoke their own language, and the *Sier-Tuom* and traditional beliefs were easily preserved, since the way of life in the countryside has not changed drastically for centuries. To investigate, whether being born in rural Yakutia or the capital city leads to stronger or weaker influence of traditional beliefs, the interviewees were asked, where were they born – in Yakutsk, *uluus* (a “county” in Yakutia), another city in Yakutia, or somewhere else”. The results show that all the respondents born in *uluuses* are close to *Sier Tuom* and native language, and the three respondents born and raised in Yakutsk (out of total four) feel that they were somewhat disconnected from the Sakha traditions and culture. The quotations from the latter respondents are presented in Table 5.

Table 5. Exempts from responses about the interviewee’s relationship with *Sier-Tuom*

Example 1	Example 2	Example 3
Respondent: “Now I began to think that I need to learn more about my culture and language, this all is very interesting. Of course, in childhood, like everyone else, we were taught to respect the spirits of nature.”	Questionnaire: “Was respect for the traditions of Sakha and <i>Sier-Tuom</i> part of your upbringing?”  Respondent: “Most likely no”	Respondent: “Growing up in the 2000s, it was embarrassing to speak with a Sakha accent”

In the recent couple of decades there has been a big development in embracing the traditions by Sakha people, people are reclaiming their identity and are following *Sier-Tuom* in their modern lifestyles in Yakutsk. It can be supported by the following statements from the respondents: “*Sier-Tuom* has been developing and spreading strongly in recent years” and

even “the *passion for these traditions* eventually led to the pollution of the natural environment - the places of sacrifices have turned into dumps. However, now I see some attempts to handle it”.

Almost all the respondents, except one, express how the traditional Sakha beliefs have played an important role in their relationship with the environment and talk about having an intimate relationship with the nature since they were young. Several actors mention that from childhood they were taught by elders to respect spirits, not harm nature, and not to take from it more than necessary. One respondent states that even the Sakha language is built in such way that “we talk about nature as if it was a living being”. The respondents would start answering the question about following *Sier-Tuom* with “you know, just like everyone else”, and then elaborate on the specifics only after being asked to do it by the interviewer. Table 6 displays direct quotations from the respondents about their relationships with nature and what traditions and rituals of *Sier-Tuom* they were taught.

Table 6. Quotes about interviewees’ relationships with Sakha beliefs and *Sier-Tuom*

1	Respect for Sakha traditions in relation to nature has been and is part of our culture, which distinguishes us from other peoples. The people of Sakha worship the spirits of nature and a priori will not harm her. All hunters and fishermen, worshipping the spirit of Bayanay*, ask it to be generous, bring gifts to fire in the form of pancakes and kumis**, and introduce themselves.
2	As Sakha, my upbringing was in these traditions. I follow the traditions as taught by my parents, grandparents. Just like in the old days.
3	Mom always taught me from childhood to take care of nature - do not throw garbage in the forest or on the street, respect nature - do not pollute and, roughly speaking, do not even shout in the forest - respect the spirits of nature.
4	<i>Sier-tuom</i> for me is part of my culture, my personality, which has always surrounded me, and it all influenced me later. It brings is a subtle connection with the animal and plant world, and the way we talk with our nature - the language about nature is built as if it is a living creature, has a personality.
5	I have shamans in my family, so connection and love for the earth passed to me by blood. We believe in the spirits of nature.
6	Yes, of course, we were taught to respect nature, not to take more than necessary, to treat nature as a living soul.
7	My grandma would teach us not to hurt bugs and plants, only take what we need and show respect by following <i>Sier-Tuom</i> .
8	Of course, in childhood, like everyone else, we were taught to respect the spirits of nature. We as Sakha are very close to nature in general because it feeds us all.
9	Sakha traditional beliefs require respect for the natural environment and love for it.

\* Bayanay is a spirit of the forest, fishing, and hunting. It has a big respect among hunters and fishermen.

\*\* Kumis is a sour dairy drink produced traditionally by Sakha from horse milk.

The Sakha traditions may have not been the sheer reason for engagement in environmental activism for many respondents, but they have certainly instilled an undeniable respect and care for nature in them. Many interviewees mentioned that their development as adults, their career choices and circumstances have influenced their decision to start their career or activism paths (see chapter 4.1). However, as one of the activists noted, traditional beliefs have rooted their general passion for protecting the environment – “perhaps, I already had a good platform for environmental activism as a person who grew up with Sakha beliefs”. Some expressed an opinion that the way people treat the environment in Yakutia these days does not reflect the traditional beliefs and shows “bad sides of civilization”.

When asked “are you interested in preserving traditions and *Sier-Tuom* in the future development of the republic, and, in particular, Yakutsk?” most of the respondents answer with assertive positive response and show hope for the future sustainable development of the republic to coexist with traditional beliefs. One of the examples of such statements is presented below:

“Our experience as a nation, I think, can lead to some extraordinary solutions to various environmental issues. I think that this lacks support from the state, or at least requires that it does not interfere. But it seems to me that our traditional relationship with nature can really help us to introduce new practices for a more ergonomic use of the natural resources”.

This statement correlates with the opinion of one of the activists, who expresses that they have worked on so many initiatives in Yakutsk and they can see the results of them already, however, they have burned out recently and disappointed by the actions of the federal government, and think that the true sustainable development can only come with systemic changes, and however active the citizens are, the efforts of social enterprises have to be supported or at least not stifled by the government.

As can be seen from the answers, there is a hope that traditional beliefs could be a good support for sustainable development of Yakutsk in the future. Despite many challenges (see chapter 4.2), all the interviewees have hope for a more sustainable future for their republic.

## 5 Discussion and conclusions

To investigate sustainability agency in Yakutsk, the aim of this paper was to find answers to following research questions: 1) How did the sustainability agency form in Sakha environmental activists? 2) How did the history and traditions influence their agency? and 3) What is sustainable development in the context of Yakutsk? The following chapter is divided into five parts, in which the author will discuss the influences of traditional beliefs, history, and other factors on sustainability agency creation (chapter 5.1), challenges for sustainable development in Yakutsk and possible ways forward (chapter 5.2), sustainability transition in Yakutsk viewed under MLP (chapter 5.3), as well as limitations of this thesis (chapter 5.4) and possible directions for future research (chapter 5.5).

### 5.1 Sustainability agency formation: influences

The investigation of sustainability agency formation in Sakha environmental activists shows that all the respondents came to environmental activism due to their deep concern about sustainability issues, values and wanting to bring good to society and future generations, not for personal benefit. This result corresponds to previous research findings, such as (Rauschmayer *et al.* 2011; Lessmann and Rauschmayer, 2013; Koistinen *et al.*, 2020). What the non-profit actors and social entrepreneurs have in common is that they each came to activism on their own, without influence from any groups, and only afterwards have created a community of like-minded actors around them – this result correlates with findings of other research papers on formation of agency (Pahl-Wostl, 2006; Comeau, 2010 cited in Pelenc *et al.*, 2015).

Most of the interviewees already had an intimate relationship with the environment, due to their upbringing with traditional Sakha beliefs based on respecting and caring for nature. Adding to the results of the study on local knowledge for promoting sustainability in rural Vilui Sakha area made by Crate (2005), our findings show that *Sier-Tuom* has affected the motivation of actors for sustainable development but was more of a platform for formation of the sustainability agency, and not the sheer reason for starting the activism path. Furthermore, this result can be characterized as agency formation due to upbringing and

education and be an addition to Koistinen's *et al.* (2020) findings about effects of individuals' internal worlds on the agency-formation process in the context of sustainability transitions.

The results show that there is a certain correlation between being born and growing up in rural Yakutia and feeling closer to traditional beliefs and Sakha language, which can be expected, since the traditional way of life and language are mostly preserved in *uluuses*. This correlates with the observation made by Ivanova (2017, cited in Kuklina & Shishigina, 2020) that those Sakha who had resided in the city for over ten years were less likely to solely identify Sakha as their native language, and among ethnically Sakha people born in Yakutsk, only 57 percent chose Sakha as their native language compared to 100% indicator among rural Sakha migrants (Ivanova, 2017, cited in Kuklina & Shishigina, 2020). However, as answers of the interviewees who were born and raised in Yakutsk show, they have also come to be interested and get closer to their Sakha identity, as they reclaimed it consciously later in life. This theme, however, needs further research with larger sample sizes.

Generally, from all the interviewees there is a representation of how Sakha people still possess their traditional beliefs system, combined with their modern lifestyles. As can be seen from chapter 4.3, *Sier-Tuom* is such an ordinary part of life for people that it is not perceived as a philosophical concept or organized religion with certain rules – they simply have incorporated it in their worldview.

There is a certain renaissance occurring in Sakha society in recent decades of reinvigorating traditional culture (Kuklina and Shishigina, 2020), which can also be observed from the interview results. An attempt to stick to traditional values can invoke right-wing movements in a society, and that poses risks to ethnic minorities and women's rights, if such movements get widespread or/and gain institutional support. In Yakutia, this renaissance has led to the occurrence of a far-right nationalist male activist group called "Üs tümsüü". Yegorov-Crate (2021) in her paper dedicated to "othering" migrants in Yakutsk, describes this nationalist group as having gained a reputation "for staging raids in collaboration with Yakutsk police on nightclubs, cafes, and restaurants known to be owned and/or frequented by Central Asians, many of whom are temporary laborers" and publicly supported by the top figures in the Republic. Yegorov-Crate (2021) points out the dynamics, where "the increasingly essentialist approaches to nationality, the reification of Sakhanness and the image of the



republic as a definitively Sakha homeland, puts migrant status in both legally and socioculturally ambiguous position” (Yegorov-Crate, 2021).

On top of traditional Sakha beliefs, legacy of the Soviet Union also influenced some of the interviewees’ paths to activism, such as: (1) community clean-ups, (2) reuse, repair, and recycling, (3) academia – as research was a well-respected professional area in the Soviet society, and (4) interest in indigenous people’s rights caused by discrimination and ecological crisis caused by the Soviets.

## 5.2 Sustainability challenges and possible ways forward

Traditional beliefs coexist with very modern perception of sustainable development of the activists from Yakutsk, and almost all the respondents showed hope and optimism, when asked about the future sustainable development of the region coexisting with the traditional beliefs. However, the situation in Sakha capital now is so that there are many challenges for sustainability, and, as noted by most of the respondents, the political situation in the country is negatively affecting the sustainable development in the region - the repetitive motive in interviews was about how prior to the recent political events there was a feeling that things were going better compared to other regions, but now there is a lot of uncertainty now. Main socio-technical challenges for sustainability in Yakutsk, each mentioned by some interviewees, are problems with the landfill and insufficiency of current recycling infrastructure, risks coming from permafrost thaw due to climate change, low quality of life, excessive exploitation of natural resources, lack of influence on governmental decision-making, bad air quality in summers and forest fires. These issues are well known by the citizens and observers of the environmental and political situation in the republic. Many research papers have been written about permafrost thaw and effect of climate change on the geology of the region (Czerniawska, Chlachula, 2020; Varlamov, Skachkov & Skryabin, 2020; Gorokhov, Fedorov, 2018).

Another motive in the interviews was a lack of possibilities to influence governmental decision-making and having more rights and power over own land. This result correlates with Solovyeva (2018), where she states that the main reason for inability of the republic to be sustainable is the lack of recognition of indigenous peoples as rightful custodians of their ancestral lands, resulting in their exclusion from land management decisions and control

over mining companies. Among other reasons she lists ineffective implementation of laws in Russia, rampant corruption, and a tendency to address urgent problems rather than tackling the root causes directly (Solovyeva, 2018). The results of interviews in this thesis show that the government is supportive of waste management system implementation with the new federal waste reform coming. However, this potentially has risks of ineffective implementation and corruption, which is usually a case for such large federal programs in Russia. Additionally, the waste management infrastructure is, indeed, much needed in Yakutsk, however, this solution addresses an urgent problem and does not solely lead to a truly sustainable development.

The majority of the interviewees sees enlightenment and education as the best solution for these issues, since then people would be more supportive of sustainability initiatives and practices, and, perhaps, the future generations will have more influence on the government, compared to now. This result correlates with Loorbach (2007): “The ultimate goal of transition management should be to influence and empower civil society in such a way that people themselves shape sustainability in their own environments, and in doing so contribute to the desired transitions to sustainability”.

Thus, with some of the results correlating with findings of Crate (2009), the interviews show that the sustainable development in Yakutsk can be achieved by (1) a more just and democratic government in power that supports the sustainable niche innovations or, at least, does not interfere, (2) more informed and empowered citizens, and (3) development of a functional waste management infrastructure in the region, which is a part of a general economic development of the republic that is transparent and has sustainability in its base. Clearly, the sustainable transition of socio-technical systems in Yakutsk entails more than just a new waste management infrastructure, and needs more solutions, for example, for logistics and prophylactics of forest fires, as mentioned in the interviews, and many other systems.

### 5.3 MLP and sustainability transition in Yakutsk

If looking at the interviewees as sustainability transition actors in MLP, only one of them is representing the current system – as a government worker, and everyone else represents either a niche level or a position somewhere between niche and regime, which will be

discussed on further. In an example of social entrepreneurs who deal with recycling in Yakutsk and cooperate with the local government in order to achieve system transition in waste management, we can see how actors need to work with the established system to achieve their goals. And in the example of the interviewee representing the government work, it can be seen how an agent can belong to the status-quo, and at the same time – cooperate with niche and regime actors. (Rothaermel, 2001; Geels & Schot, 2007; Bergek et al., 2015).

It is not clear, how actors' positions in MLP differ in a democratic society compared to an autocracy, which Russia is now under Putin's regime. In the given setting, the state acts as an incumbent to sustainability transition, as many other unsustainable systems, creating lock-in mechanisms (Geels, 2011). This includes exploitation of natural resources, making laws that violate human rights and rights of indigenous peoples, cutting off international cooperation, not controlling corruption and lacking transparency in its operations, not even mentioning starting an aggressive war with a neighbouring country.

The results of this study show that even those actors who belong to institutions at the regime level, in a way, stay in their own niche and have little power over decision-making, when most of the power belongs to the incumbent state. In such country as Russia, the power of the state is enormous, and not many changes in socio-technical systems can be made without support from the government. Hence, the changes made by the actors in the regime level, can only reach the landscape level with permission and support from the status-quo holder – the government, and the resulting transitions are set by parameters of the current system, corresponding to previous research (Koistinen *et al.*, 2020). If the current autocratic regime persists, there needs to be more support from the government in Yakutsk dedicated towards niche initiatives and innovations, for example, in form of subsidies for sustainability initiatives from social entrepreneurs – as mentioned in the interviews.

#### 5.4 Limitations

One of the main limitations for performing this research was the current isolationist and repressive political regime in Russia that created a lot of insecurity and mistrust in people's communications about topics that may be sensitive, especially with foreign institutions. As an example of this politics, in May of 2023, Greenpeace was declared an 'undesirable

organisation' on the grounds that the work of Greenpeace "poses a threat to the foundations of the constitutional order and the security of the Russian Federation", implicating that its activities promote a certain political position that opposes the current government's politics (Greenpeace, 2023). Additionally, the topics of environmental and indigenous activism are very political in Putin's regime, since they deal with protection of nature and rights of indigenous peoples from activities of fossil fuel industry, the main money maker of the regime, and the indigenous people having their main support from international organisations. One example of the isolationist vector of development of this political regime are the new laws about control over activities of "Persons Under Foreign Influence" and numerous legislative amendments to "foreign agency" regulation (OVD Info, 2023). Therefore, limitations coming from the political situation included:

- Due to potential interviewees' mistrust to contact a stranger, the initial plan to gather at least 15 respondents to get broad and diverse sample was not successful.
- Because of major changes occurring in many Russian people's lives after the invasion of Ukraine, it was hard to contact many environmental activists, whose opinions would add to the results of this study.
- Self-censorship of the interviewees on criticism of the government.

Additionally, since the sheer amount of sustainability actors with a platform was found to be limited in Yakutsk, it also conditioned the smaller sized sample for the interviews.

One of interviewed researchers does no longer live in Yakutsk, and has lived abroad for many years, however having concentrated their research on the Sakha Republic, that being the reason for including them to the sample.

Another limitation of this study lies in the fact that the author has her own political views, radically opposing the current political regime, which could have led to the results of the interviewees being interpreted with a bias.

## 5.5 Directions for future research

In this thesis, the focus was on Sakha traditional beliefs and culture specifically, however, there is much more ethnic and cultural identities in Yakutsk, and citizens of many other

ethnicities contribute to its sustainable development. A large part of population of Yakutsk does not identify as Sakha ethnically, and exclusion of non-Sakha environmental activists from this paper has led to it lacking full cultural representation of sustainability in the city. Future investigations of sustainable change agency in Yakutia must focus on greater number of agents, generally, and strive for more representation and inclusivity. Additionally, since the paper concentrated only on the interviewees' agency and their views on the existing state of sustainability in Yakutsk, the future research made from the multi-level perspective on sustainability transition with various actors would add to better understanding of the possible transition and challenges for it.

There needs to be more research on sustainability system transition actors in autocratic regimes, since there is a greater power disbalance in such political regimes, and relations between agents from three levels differ from those in democratic societies. However, the niche initiatives still emerge there and sometimes enter the regime level, and the dynamics of even smaller transitions and various bottlenecks and lock-in mechanisms in such societies must be studied more.

## 6 Summary

The thesis investigated interviewees personal narratives on agency formation, sustainable development's definitions, and state in the context of Yakutsk, Sakha Republic. The research questions: 1) How did the sustainability agency form in Sakha environmental activists? 2) How did the history and traditions influence their agency? and 3) What is sustainable development in the context of Yakutsk? – have been answered in the results and discussion parts of this paper, and results were reviewed from the MLP perspective on sustainable transitions. The findings of this paper were based on the interviews with 9 environmental activists from Yakutsk, and their narratives on agency formation and state of sustainability in their hometown. The study revealed that all the agents have strong individual motivation for sustainable development, which definition has also been a topic of investigation, and have come to activism on their own, and only after having created communities of like-minded people around them. The agency to sustainability in most of the respondents has been influenced by the traditional beliefs of Sakha people, that are based on respecting nature

and treating it as a living creature, this result adding to previous research on sustainability definitions from Sakha perspective.

The interviewees are drivers for change in their local communities, and have good insight on the situation concerning major environmental and social issues in their republic, which have been described as lack of transparent economic development with sustainability in its core, risks coming from permafrost thaw due to climate change, low quality of life, excessive exploitation of natural resources, lack of influence on governmental decision-making, bad air quality in summers and forest fires, and, finally – political situation in the country, which poses repression on freedom of speech, human rights, and basic safety of its own citizens. Nevertheless, the interviewees show optimism about future sustainable development of Sakha Republic and show hope that the traditional indigenous beliefs will support it.

The study adds to the previous research on sustainability agency formation, investigating narratives of environmental activist who are knowledgeable of the local situation, and the specificity of the local context adds diversity to research body on sustainable system transitions and sustainability agency. Looking at the personal narratives of activists also contributes to the indigenous knowledge research, and to the body of knowledge on environmental activism and definitions of sustainability in indigenous societies.

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## Appendix 1. The interview framework

### 1. Background

- Where were you born and raised? Yakutsk, *uluus* (countryside), another city in Yakutia, or somewhere else?
- What do you do? What was your project/campaign/work about? Why is it important to you?
- What is sustainability to you? How does ‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs’ look like in the context of Yakutsk, in your opinion?

### 2. Personal motivation to act as a change agent

- Why did you decide to start your project/campaign/career in sustainability?
- Was the situation better/worse when you started compared to current state?
- Were you inspired by any other activists around you, did you start alone?
- What was the goal of your activity and how are things going now?

### 3. The effect of Yakutian traditional beliefs

- Were you taught *Sier-Tuom* as you were growing up? Can you give an example?
- For you, somewhere in your path of becoming an eco-activist, is there an influence of traditional beliefs?
- Do you think there is generally a connection between traditional beliefs of Sakha and how we treat our environment?
- Are you interested in preserving the traditions of *Sier-Tuom* in the future of Yakutsk?

### 4. Views on current state of sustainability in the region

- Do you think the economic development of the region is sustainable?
- Do you see change in terms of sustainability in Yakutsk, are things better/worse. Why so?
- What are the most pressing issues now?
- Is anything being done to tackle them?

### 5. What could be done further

- What are the primary means of tackling these issues, in your opinion? What do you think should be done next?
- Do you think the progressing economic development will coexist with *Sier-Tuom*, will they have effect on one another?