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I don't even think there are environmental politics here!

A paper on youth influence and the coal mining industry in Bosnia & Herzegovina

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Abstract

Bosnia & Herzegovina is the 27th largest exporter of coal-fired energy in the world. Multiple organizations are warning about the dangerous rates of air polluting substances in many of the country's larger cities. Youths in Bosnia & Herzegovina feel alienated from decision-making, making it hard for them to express their voice and concerns. This paper is looking at the situation from a human ecologist standpoint, studying how air pollution, the coal industry, and the youths are interconnected through economic, political, and societal structures. This paper aims to answer the question:

How do a group of young inhabitants from a coal-producing region in Bosnia & Herzegovina experience their influence on the country's climate impact through their coal mining industry, and how are they involved in change processes within the subject?

Interviewing young people from the most coal-producing areas in the country, I wanted to showcase their perceived reality. Using different sociologist and human ecologist theories, this research presents a snapshot of youth's reality in Bosnia & Herzegovina. The key finding of this paper is that youths in the country are hesitant to engage due to several factors, including lack of knowledge, social structures, and corruption. While they are most likely suffering an information incident, they are also part of a socially constructed denial. This research helps lift a young perspective into the debate and hopefully it can help to include youths in decision-making processes in the future.

Keywords: youth influence, climate change, environmental politics, natural resources, fossil economy, youth engagement, political ecology, Bosnia-Herzegovina

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Introduction

General background to my research

When looking at the coal industry in Bosnia & Herzegovina (BiH) I discovered that due to the coal mining industry in the country and its geographical conditions, many regions in BiH are exceeding the World Health Organization (WHO) Air Quality Guidelines of air-polluting substances by far. According to the WHO (2021), the mortality rate in BiH attributed to household and ambient air pollution is 223.6 per 100,000, one of the highest mortality rates by air pollution in the world. Air pollution also causes serious health complaints, including cardiovascular, respiratory, and lung diseases. The United Nations Economic Commission for Europe (UNECE) (2018) writes that concrete measures to combat this development are not taken due to political instability and other factors. Instead, the country continues to develop its coal mining industry. In this research, I want to include young citizens' perspectives on environmental development in BiH. When meeting people from the region, many people mentioned the air pollution and the coal mining industry in the country. This naturally interested me as I have family and friends in the area. The idea behind this project started far before the first class I ever took in Human Ecology. The framework for the thesis was not set from the beginning. Still, looking at my international engagement during the past ten years, it was natural to create a project linked to human rights, young people's perception of reality, and climate change. The intersection between the areas within this research project, in combination with its close connection to post-colonialism and European power structures, made it a natural subject for me to conduct research within.

The study and the background

This research aims to lift a group of young people's perspectives within the framework of the study. The interviews and data presented are not meant to speak for all the country's young people, nor is it going to. This study will examine the mindset of a group of young inhabitants in one of the major coal-producing areas of BiH related to climate change, the energy sector, and politics in the country. It will audit how the inhabitants are experiencing their influence and insight in the country's energy production systems, climate impact and politics and their thoughts about the future and climate change. This study will also research any distinctions between their perception of the scope of coal production in BiH and the reality. This paper aims to answer the question:

How do a group of young inhabitants from a coal-producing region in Bosnia & Herzegovina experience their influence on the country's climate impact through their coal mining industry, and how are they involved in change processes within the subject?

After the wars in former Yugoslavia, many countries previously belonging to the area were literally on fire. Conflicts about territory and religion had fast developed into bloody fights within the country that had previously been thought about as a perfect *melting pot* for people of different ethnicities and religions. After the wars, the inhabitants had forgotten few of the pre-Yugoslavia conflicts, and when the leader of Yugoslavia, Tito, died, the course of events was hard to stop. Many of the countries were deeply affected by the war, and Bosnia & Herzegovina was significantly affected due to several attempts of genocide within the country (Resic 2013). BiH invested a lot of money in the coal industry to quickly rebuild the country and restore its economy. The investment led to the government lifting itself out of extreme poverty and chaos after the war but also to severe air pollution that is still affecting the residents of BiH.

So - why did coal become a big deal in Bosnia? According to the U.S. International Trade Association (ITA) (2021), the nation holds large quantities of coal, as much as 5 billion tons, which means that it is a resource easily available to them. Additionally, coal contains a high utilization rate as many industries and households, not to mention the GDP, depend on the industry to proceed. Coal also requires a pretty low capital investment, which is why Bosnia could expand its industry fast after the war. In addition, it gives relatively good returns quickly. Coal can also be used 24/7, unlike sun or wind that is dependent on other factors, such as weather conditions. Lastly, coal can be converted into several different formats and be used as raw and refined material. The

coal in BiH has been a golden ticket into the world economy for the nation, especially after the war. With much of their GDP depending on the exportation of the resource, there are not enough incentives to invest in other renewable energy sources with a possibility of less return.

But, the coal-fired energy in the Western Balkans has for a long time posed a serious health risk to the inhabitants of the area, resulting in thousands of premature deaths every year. In the report *Lifting the Smog* (2019;p.6) from CCE Bankwatch, one can read: “Tuzla is notorious across Europe and beyond for its poor air quality, and locals have taken to the streets in recent winters to protest about the heavy levels of dust pollution, particularly in the cold season”. The same report criticizes the government in Bosnia & Herzegovina for not making any remarkable efforts to limit fossil fuels, who argue it is an essential cornerstone in their economy. This critique has also been expressed by the UNECE (2018) and the European Union (EU) (2019). The United Nations (UN) (2010; p.21) declared on the topic of Bosnian governmental actions regarding the environment in 2010 that a “highly complex administrative structure” in the country was not established, which is why the country can not regulate environmental protection matters.

While intergovernmental organizations are pushing Bosnia & Herzegovina to leave the coal industry behind, this study will examine how a few of the country's young inhabitants regard the situation. The study will allow the young students to give opinions on the ideal development of their country's most polluting energy source. According to Erdogan & Marcinkowski (2015; p. 34), two professors of education especially focused on youth engagement and organizing, this is important because attitudes affect willingness to change. Mapping out perspectives of young Bosnians is essential if the set goal of winding up the Bosnian fossil fuel industry is to be met by 2050, which BiH has signed up for per the Sofia Declaration (EU 2018). A declaration signed by the government in an agreement between Western Balkan countries and the EU in 2018 states several environmental agreements to wind up the coal industry by 2050. This study will help fill a knowledge gap regarding young Bosnian inhabitants' consent and eagerness to downsize the coal industry. Mapping out the interlocutors' attitudes might help to give a youth perspective on the matter.

The connection to Human Ecology

One of the fundamental thoughts of human ecology is the unity of three different areas - the natural sciences, the social sciences, and nature. In this research, one of the most critical cornerstones has been to combine these three areas into something meaningful. By using the natural resources in BiH as representative for the natural sciences, a young community as the social sciences, and the climate changes caused by the fossil fuel industry in the country as the environment, the intention is to create cross-border research explaining the complex situation that the community is experiencing.

Alf Hornborg (2020;p.1) writes in an explanation to what research within Human Ecology might be:

In human ecology[...][we try] to provide a versatile and theoretically in-depth study of the interaction between humans and nature in different times and different parts of the world[...] A key task is to study how "environmental problems" arise, are interpreted and negotiated in different cultural contexts.

This explanation is the cornerstone of this research project. The idea is to provide a perspective on how history, culture, and nature interacts in Bosnia & Herzegovina, give a voice to young people in the country, and understand how the environment is interpreted, negotiated, and used based on the cultural contexts of that country.

Delimitations

In this study, there are several delimitations. All of the interlocutors are taken from one geographical area within BiH. I chose this country because of its unique history and its great climate impact on the modern world. The Tuzla region was selected after looking at several different components; for example, it holds a relatively young population, it is one of the most coal-producing area in the country, and the landscape in the area is very shifting, which allows for the opportunity to include research participants both included and excluded by the urban norm into the paper. In the region, one of the biggest cities in the country is situated as well as many villages, a lot of farmland and forest.

All the participants in this study are 18-25 years old. Communicating with prospective research participants online made it challenging to guarantee communication with parents and get an ethically valid agreement declaration. Also, the collected data focused on questions that would be hard for a very young person to have complete insight into. The upper limits of the interview group's age have been set according to the EU guidelines of a young person, defining a person between the ages of 15-25 (EU 2011; p. 3).

The project is not intended to speak for all young people of the area or in BiH; it is solely intended to give a snapshot of the thoughts and ideas of a group of young people. This group was formed by the young people who felt urged to let the world hear their voices. In total, four individuals chose to participate in the study, primarily, 7 persons were intended to participate, but 3 of them were unavailable due to lack of access to hardware, the internet and their working situation. I reflect further down on the adjustments that were made to ensure inclusion.

Theoretical Framework

Nollsummespelet (2015), by cultural anthropologist and the first professor in Human Ecology at Lund University, Alf Hornborg, is one of the essential modern writings in Human Ecology. This book has been one of the cornerstones of this project as it combines theory on human practices based on environmental, social, and natural structures. In his book, Hornborg (2015) looks at the crucial patterns between the western world's economic behavior, environmental load displacement, and post-colonial theory. In the context of this thesis, this research is vital as it focuses on the environmental impacts and consequences of capitalist economies and actions. The theories in this book have been valuable to combine with Wallerstein's *World System Analysis* (2004) and his theories of center and periphery states. In the context of BiH, Hornborg (2015) and Wallerstein (2004) generate perspectives on how the normalization process of building up a prominent fossil fuel industry is put in place. This research is valuable throughout this thesis as it problematizes the global world system and problematizes structures and norms. It was especially beneficial when analyzing the theme "The Hindering Factors" combined with Malm's *Fossil Capital* (2016). The information presented in that theme is deeply rooted in structures such as

capitalism, colonialism, and the global economy. Hornborg's (2015) study does, however, not analyze themes such as community engagement as Norgaard (2011) (presented below) or deep historical connections between fossil fuels and capitalism, such as Malm (2016) is doing.

In *Fossil Capital* (2016), human ecologist Andreas Malm describes how the capitalist system and fossil fuels are interconnected. Malm (2016) concludes that both are dependent on each other. By looking at economic history and the development of the fossil fuel economy, he concludes that the survival of the earth lies in slowing down the financial system and fossil fuel consumption. Malm (2016) further examines the reasons behind the industry's growth and why it has ended up as he calls it being "business as usual". Malm's conclusions are valuable to this thesis as they problematize the underlying reasons for expanding the fossil fuel economy. He incorporates great thinkers such as Marx and Smith into the conversations about capitalism, economic expansion, and the environmental economy. He adds new interesting perspectives and theories that contribute to many conclusions presented below. The content in this book is helpful in many ways, especially in the theme I have chosen to call "The Upholding Structures", where Malm's theories of the deep interconnection between fossil fuels and capitalism help analyze the interlocutors' thoughts with the background of fossil fuels being the roots of global warming. Unfortunately, the theory lacks some of the fundamental perspectives to my research, such as reasons for engagement and the BiH context, which is why I have chosen to combine this research with others, such as Norgaard (2011).

Norgaard (2011) has conducted research in a Norwegian village and looked at the engagement in climate change among the citizens in that village from an environmental sociology standpoint. The author uses theory from Zerubavel (1997), showcasing the connection between sociology, environmental denial, and the process of individuals collectively distancing themselves from information regarding climate changes because of societal norms or cultural expectations, presenting theories such as information deficit (Bulkeley 2000). Additionally, Norgaard (2011) connects her political ecologist theory to Marxist theory and political economy. The settings and political systems that she and I are researching are very different. Still, many conclusions can be used to analyze the mechanisms behind data from the interviews. To add to that, Norgaard is looking at the sociological factors behind why people might react in different ways to the threat of climate change and how that is affected by social structures and norms. She also looks at the

psychological theory of trauma and binds it to the phenomenons she sees when interviewing and observing her town. Some of the additional perspectives that come through her theory are; the idea of socially organized denial and psychic numbing. These insights are valuable to this research as it adds another layer of research and more perspectives on the sociological background to my interlocutor's perceived reality. Norgaard's (2011) theory does not treat any difference between youths and other citizens, making it only partly valuable for this research. I believe that youths are a good group to urge political engagement and organization, as they historically have been a group that encourages and drives innovation.

Ethical considerations

The participants got information about the purpose of the study before participation. They also got information about which university I was attending, the department where I was conducting the study, and where I would publish this thesis. Before participating in the interview, they also got the exact information they had earlier received on email regarding the storage of their data and how the recordings would be used. Likewise, they were informed about their possibilities of interrupting the interview at any time, that there was no remuneration for participating and that they could reach out with concerns and questions to me. This information was shared as recommended by Kaijser & Öhlander (2011; p.50), they write that it is important to provide the research participants with all information beforehand, so that they can make an informed decision of participation.

I informed the interlocutors about the purpose of the study and which of their demographics were relevant to it. The interlocutors have not received the interview questions before coming to the interview, as I was primarily interested in having a conversation based on the insight and information that the participants already had, and thought that sharing the questions might make them prepare and research beforehand. The project was registered in PULU before starting the collection of personal data. Kaijser & Öhlander (2011; p.95) further writes that it is crucial to understand how the interview as a social situation is dependent on different similarities or differences between the interviewer and research participant, such as; gender, age, social background and knowledge They describe that it is vital for the interviewer to reflect on their

influence on the interlocutors regarding their social status. Therefore, a short reflection follows on how these factors might have affected the interviews.

Regarding age, there are no significant disparities within the category as I belong to the same age category as the participants. I imagine this creates a similar power structure looking at it from an ageist perspective; in this type of setting, it was positive as the research participants seemed to feel comfortable using language and explanations commonly known in our age group. I am not entirely sure of the interlocutors' social status in the other categories. I have not asked them to disclose any information about themselves other than their age and the part of BiH they reside. I am an outsider in this context, which could contribute to the interlocutors feeling like the knowledge gap is to their benefit. They have expressed relief in participating in a research project where they are not expected to have previous knowledge. Regarding the habit of speaking, a paragraph further down reflects the choice of language.

Method and empirical framework

The empirical material for this study is semi-structured interviews with people from the target group. For this study, interviews seemed like the most appropriate option, and I also chose to combine them with visualization by asking the interlocutors to complete maps after the session. Kaijser & Öhlander (2011; p. 85) write that interviews are a good way to understand a research group's perspective from their eyes. Furthermore, Polkinghorn (2005; p.5) writes that qualitative methodology is the most fitting choice when showing as versatile a description as possible. In addition, Olsson & Sörensen (2007; p.12) develop this understanding by writing that the qualitative method is the process of exhibiting the interview participants' perceived reality. After the interviews, all participants were asked to put placemarks on a Google Earth map where they knew or believed there were coal mines. The maps have been completed individually and then put together by me to visualize all the participants' answers in one map (Picture [1](#) & [2](#)). This is a complement to the interviews to help show the participants experienced reality. They were asked to help visualize the knowledge about their immediate and more distant reality and to gather actual data input comparable between the participants, which I hoped could help me find a pattern of some kind.

The group has been recruited from universities, the countryside, from cities, and there has been no expectation or limitations regarding previous knowledge. I came in contact with the participants through social media and my connections at local universities. Clark (2006; p. 7) suggests that giving one's participants pseudonyms is a good practice as it helps the reader personify the interlocutors. Therefore, all the participants' real names have been replaced by pseudonyms. He also emphasizes the importance of cultural connections through the name, saying it delivers certain insight in one's persona having a name from a certain culture. Therefore, all of the participants have gotten Bosnian names. Irma and Ajdin are currently enrolled in an undergraduate program, Emir has finished his bachelor's degree and Enes is still attending upper secondary school.

All interviews have been conducted online, either via Zoom or via Messenger. Interlocutors chose to conduct the interviews in English, which is none of the participants' first language, or in Bosnian, all of the participants' first language. When interlocutors have chosen to conduct interviews in Bosnian, the interviews have been translated by an uncertified translator¹ from Bosnian to Swedish after transcription, they were translated by meaning rather than directly word by word. They were later translated by me from Swedish to English. Within the method, there are two main areas which need to be further discussed, which are; The difference between conducting interviews in a foreign language vs. conducting interviews in one's first language, and the difference between conducting interviews via Zoom, Messenger and in person.

The difference of language

The main difference in this aspect has been that the interviews conducted in English have had the opportunity to be more open-ended and less structured. When the interview has been conducted in Bosnian, there has been another person involved in the interviews, which has posed the need for them to be more structured around pre-planned questions, with less opportunity for spontaneous questions. Marschan-Piekkari & Reis (2004; p.23) write about how power dynamics might change when the interviewer is more fluent in the language one is conducting the interview's in than the

¹ My boyfriend, who is Swedish-Bosnian and speaks both languages fluently.

interlocutor also, they are reflecting over if interviews conducted in a persons' first and second language can even be compared. They concluded that this needs to be worked through several times, and that one can still not be sure to have straightened out every misconception. They include in their summary that they do not recommend hiring an interpreter when the interviewer and interlocutor can communicate in any level of the same language or languages as this might affect the dynamic of the interview even more than the language barrier might have.

However, there has still been a great benefit with allowing the participants to choose between the different languages. Some of the participants do not know English and would therefore be excluded from the study should it only have been conducted in English. Additionally, looking at it from a post-colonial standpoint, it is not defensible to research a young crowd in a non-English speaking country only in English without offering the opportunity to speak their mother tongue. The quotes from the interviews have been re-written from spoken to written language; this is because the essence of this research is based on what is said and the insights shared rather than the knowledge and ability to express oneself in a foreign language. I concluded that including grammatical errors did not make any difference to the result. Therefore, some of the quotes have been slightly changed to make them easier to read and understand.

After completing part of my research, I found a significant knowledge gap among the research participants in the area. When reading Norgaard (2011) and the educational researcher Zhang (2009), I was interested in understanding the media in the context within which the participants of this study live. Therefore, I asked one of my connections to send me five of the most popular newspapers from the area from a given date to examine how many mentions there were of climate change and the coal industry. However, I concluded that none of these five newspapers, all treating economics, politics, and education, mentioned the topics even once. This shows that the participants live in a misinformed environment, at least from the media.

The difference in meeting styles

Online meeting tool

Conducting the interviews via an online meeting tool was the second-best option after meeting in real life. Regarding the global situation, living in a pandemic, and the specific situation in the country, political turbulence and environmental crisis, this was the best option available at the time of the interviews. Meeting via an online meeting tool, such as Zoom, is special as it creates a different type of communication than meeting in person; it is not as easy to make sure the interlocutors feel comfortable and safe, and it is hard to guarantee that there are no outside distractions. Some of the interlocutors were in a room with other people when participating in the interview, as that is what their home-situation looks like. Moreover, this option requires the interlocutors to access the internet and a phone, tablet, or computer, which excludes a large crowd of youths in the area. Unfortunately, there did not seem to be any other options due to the country's medical, political, and environmental situation when the interviews were being conducted.

Messenger

The Messenger option was implemented after coming in contact with a group of youths expressing their need for flexibility in answering the questions. They asked for a more significant period because they had difficulty finding an hour where they could be undisturbed in their household. This was mainly due to their living conditions, working life, and not having stable access to the internet and hardware. The Messenger option was only used as an alternative for those interlocutors who had initially expressed an interest in participating but who put forward a hesitation due to the previously mentioned causes.

This was a good option for including more young people, primarily from a rural setting. However, it was also problematic as it made the interviews continue for a longer time, which delayed the research process. As in the above discussion about language, the questions tended to get less spontaneous and more structured than the questions asked to the participants conducting video interviews. There is also a difference in answering questions when writing vs. talking.

In contrast to the video interviews, these participants have had the chance to take their time answering and interpreting the questions. They might even have used a translation or searching tool to get some background information before answering the questions. This makes the material

collected different; however, I do not believe the difference in meeting styles has substantially impacted this research project. The research is based on the youths' insights rather than the language they use to express it.

The importance of breaking the urban norm, which is the norm of people from rural areas being valued less in political and media contexts, and showing young individuals from rural areas that their voices and opinions are impactful and needed weights up to the difficulties with adjusting for inclusion. It is vital that young people, particularly from rural areas since they are disadvantaged by the urban norm, are included in research like this naturally since they tend to believe that their involvement and engagement do not matter (Hägglund 2021; p. 22). By making adjustments such as providing the opportunity to attend interviews through chat apps, it helps rural inhabitants that might not have a stable internet connection to participate. The needs of these communities go beyond only allowing chat interviews, but it is one example of adjustments to make research more inclusive.

Data processing

In line with what Alan Bryman (2008; p.290) writes, several key themes have been identified, leading connections to develop fundamental concepts and patterns of coding and identification. He further writes that one can use the processed data to find themes and content beneath the surface. The data has been analyzed using a designated framework presented by Braun & Clarke (2006; p.15). The framework follows the below steps:

Step 1: Get to know the material

By listening, transcribing, and later reading the interviews multiple times, it was possible to get to know the material and do a close study of all the key terms and concepts hidden in the material, according to Bryman (2008) above.

Step 2: Create initial codes for the material

After reading the material closely, a few initial codes and key themes were identified. Two examples of these codes are "Economic structures" and "Corruption". These codes made it easier to digest the data and put it into different, very flexible folders.

Step 3: Identify themes

According to Braun & Clarke (2006), there are no firm themes found in every data set, but themes are rather identifiable by their importance for the study. This step leads to pairing the code words to themes and identifying them under different discourses and head themes. In this paper, I identified three main themes, which were; 1. The upholding structures, 2. The hindering factors, and 3. The personal level.

Step 4: Go through the theme

In this step, the authors want the researcher to confirm the earlier identified themes to ensure they are relevant and consistent, as Braun & Clarke (2006) writes that themes sometimes tend to intersect. Two themes early identified might be the same one. In this theme, I divided each theme into sub-themes and, in some cases, combined a few of the subcases as they were very similar.

Step 5: Confirm the themes

After working through the themes and keywords one last time, the authors say that the themes should be confirmed in the research and data analysis steps. In this part of the process, I had started by putting the personal level first and the upholding structures last to help visualize the situation like a cone, small to large. When confirming the themes, I concluded that the cone-visualization wasn't doing what I wanted it to do for my paper, so I changed the order and instead chose to portray it like a pyramid with the more prominent themes and structures before the more individual structures. I also put "the knowledge gap"-theme as a sub-theme in this step instead of its own theme as I determined it was intersecting with the personal level.

Step 6: Compilation

Not until this step should the themes be translated into texts and used in text analysis.

Discussion

After the data analysis module had been performed, three main themes were identified, each with a few sub-themes. The first theme was called *The upholding structures*, and the sub-themes to that were; *Economical* and *Societal*. The second theme was called *The hindering factors*, and the sub-themes were; *Corruption* and *Politics*. Lastly, the third theme identified was *The personal level*, and the sub-themes to this were; *Youth influence*, *The knowledge gap*, and *The ideal development*.

The upholding structures

While many participants reflected on their part in the country's environmental problems, they expressed frustration over structures that upheld the damaging system and prevented young people from getting into the debate. Two of those structures were identified as; the country's economic connections to the coal industry and the societal norm of not speaking about climate change.

Economical

According to tradingeconomics.com (2021), a website with data from more than 190 countries on the economic and historical context that has more than 1 billion page views, the average wage in Bosnia is approximately 1200 BAM/month, which equals 6300 SEK; however, the minimum wage is as low as 400 BAM, around 2105 SEK. Many research participants have claimed that coal mining is regarded as a financially safe job offering a high income and good pension. However, there is no public data on the earnings or pension of coal industry workers. In the interviews, several reflections were made over the economic impairments for the country with developing the coal mining industry; for context, the country exports approximately € 327M worth of electricity per year according to The Observatory of Economic Complexity (OEC) (2021), making them the 27th largest exporter of electricity of the world, this can be compared to BiH being the 135th most populous country, and the 125th country in the world looking at the area. Therefore, electricity production and exportation from the coal industry make up a large portion of the country's GDP. To add a perspective, the UNECE (2018; p.58) writes in their report that because of the lack of policy in the area, prices of other heating sources have risen, making even households, particularly in urban areas which had left coal behind, go back to it and therefore, the demand for coal-fired energy in the country has been increased during the past couple of years. According to Norgaard (2011; p.12), economic incitements are crucial when constructing what she calls a socially organized denial. The UNECE (2018;p.60) writes that households not connected to district heating utilities are particularly affected by economic inflation. With the price of cleaner sources such as natural gas and biofuels going up, it is hard for BiH to find other affordable energy-efficient sources than coal. Norgaard (2011; p 12) continues the reflection:

[...] thinking about global warming is difficult for community members because it raises troubling feelings, feelings that go against a series of cultural norms. And these norms are, in turn, embedded in the particular social context and economic circumstances in which people live. For example, only by analyzing cognition within the political economy context can we explain Hanno Sandvik's (2008) provocative finding that a nation's willingness to contribute to reductions in greenhouse gas emissions is inversely related to both emissions and national wealth.

Understanding the deep connections between the economic system in BiH and sociological theory such as Norgaard (2011), one can understand that the country's economic structures hinder sustainable development. Andreas Malm argues in his book *Fossil Capital* (2016) that there are deep, historical connections between fossil fuels and capitalism, they intersect, and Malm (2016) means that few will disagree with the economic scheme for as long as governments continue to feed the illusion of endless growth of capitalism and infinite access to fossil fuels. According to Norgaard (2011), the continuous trend of building out the industry over the past decades might depend on what Malm (2016) shows us. However, Malm (2016) means that if one of the parts, either capitalism or fossil fuels, is taken out of the game, that profoundly threatens the other's existence. Naturally, there is a limit on fossil fuels which means that our endless economy is an illusion. Hornborg (2015; p.38) presents a similar conclusion: having a functioning biosphere and an energy sector based on fossil fuels is not doable. Furthermore, he writes that the capitalist industry is built upon patterns that are destructive for the environment; therefore, he ends up in the same conclusion as Malm (2016) and Wallerstein (2004), who argues that there are profound economic power structures related to the unequal exchange in the world. The interlocutors expressed concern for their country's environment and experienced climate change in their everyday lives. This, however, did not seem to be reason enough for them to wind up the industry. According to Hornborg (2010; p.194), this is not unusual reasoning. He writes:

[...] a "*strong economy*" is destructive for the environment. As our economic system is constructed today, it foams growth to ward off people. Nevertheless, continued growth, in the long run, is impossible.

Malm (2016), Wallerstein (2004), and Hornborg (2015) are stable in their conclusions that fossil fuels are a contributor to maintaining the current world system that primarily benefits center states;

however, the young participants of this study do not seem to be quite as sure about that conclusion. This is interesting looking at the BiH context, as the country has been socialist for many years before now trying to become a more capitalist economy by expanding their fossil fuel sector's exports. The increased coal-fired energy production has resulted in testimonies of very severely polluted environments. Malm (2016) and Hornborg (2015) conclude that a capitalist system would not function without fossil fuels and that the fossil fuel industry would not be needed without the capitalist idea of accelerating consumption to unimaginable measures. However, there is no other conclusion: a fossil economy is a castle in the air, an impossible equation because it assumes unlimited access to matter that will peter out. Barbesgaard et al. (2016; p.35) writes in their article:

The ceaseless drive for accumulation inherent in capitalist commodity production speeds up the social metabolism. It results in faster depletion of resources, stemming from increasing demands for materials and throughput and the generation of ever more waste. It progressively deepens and creates ecological rifts.

This discussion of fossil fuels and capitalist exchange is also reflected over by Ajdin, who is a man with a university degree living in a medium-sized city:

So yes, Bosnian economics is dependent on producing electrical energy. Our neighbors export to us like some sort of metals for industry products. But what we export to them, we export to them electrical power. So our GDP depends on how much electrical energy we will produce this year and how much we will sell to neighboring countries. So politicians say that we have to produce electrical power by coal because of that reason. We don't have another solution. But the people are scared because of pollution, but they still don't want to change it for the same reason as the politicians - Ajdin.

The threat of the country falling into poverty and the GDP sinking is accurate to the citizens of the country, who not too long ago experienced wars and economic crises. The country still suffers a 32 % unemployment rate, making it hard to argue for taking away more jobs by closing down the coal industry. The historian Sanimir Resic (2018; p.236) writes that many Bosnian pensioners live in poverty. In addition, they have seen the value of their pensions decrease by more than 20 % over the past 20 years, something that is terrifying for most. Some participants say that there is an economic incentive for Bosnian citizens to maintain their dangerous coal mining industry: “but the coal industry[...]" says Emir, a young man from a medium-sized city, when asked about the relation between the industry and the country's economics “[...] it used to be the best-paid job, and

people that did that and now are in pension, they get an excellent pension from it". Hornborg (2015; p.58) reflects this when he writes about environmental load displacement and how capitalist value exchange can force people to accept immoral businesses;

Centrum states are inclined to export their most polluting industries to poorer countries, which highlights how the import of high-quality resources and the export of pollutants and health risks are two sides of the same coin (Own translation).

Hornborg (2015) and Wallerstein (2004) connect the imports of high-tech solutions to center-states with the export of dangerous industries in periphery states to show how it all adds to an unequal global exchange. Besides, they show the reader that the slow violence will, and can, not be exported since it is all a part of what Hornborg (2015) calls a zero-sum game, with no winners. There were also reflections related to economic migration and young people leaving the country to make a living rather than staying to make a difference:

Like, I mean, I love my country and 90 percent of people, especially young people, are leaving Bosnia because the economic status here, it's not very good, salaries are low, prices are very high, and everyone goes mostly to Slovenia or Austria or Germany to work and worry. A small number of young people stay here and try to make something - Emir.

According to Resic (2013), the national identities between former Yugoslavia countries were one of the most vital takeaways from the war. This causes young people to feel disappointed in their peers for leaving and "letting their country down". The societal norm is to stay and fight for a country where many feel alienated from decision-making and politics.

Societal

Societal norms regarding economic growth, trust in politicians, and work ethics are many due to the nation's culture and history of wars and financial crises. Many of the interlocutors felt disconnected from politics and the country's strategic decisions regarding the coal industry. When asked to share their first memory interacting with climate change or learning about it, there was a tremendous difference in timelines. Some of the interlocutors had studied it in preschool, being just 6-7 years old, while others had heard about it first if or when attending university. One of the

participants said that the interview was the first time they heard about the coal industry and its environmental impact. Two of the interlocutors, both with the same background of living in a city and having a university degree, reflected over them being disconnected from the countries environmental impact and politics:

And parents here are kind of more like spending every second working. They usually don't spend much time with children, especially talking about some higher topics like this one - Emir.

It almost seems like everyone is pro-coal, but they don't like the pollution. They are scared of the politicians, who don't want to change the coal industry now. The politicians still want to pollute. They still want to produce energy from coal - Ajdin.

One explanation for this reasoning might be Norgaard's (2011; p.4) idea of *psychic numbing*, which sometimes happens to people after a traumatic event. Norgaard (2011) concluded that the crisis of environmental change and pollution for some citizens could be so frightening that it makes them numb; it is experienced to be too hard to talk about. Moreover, virtually all the interview persons reflected their climate anxiety as a personal issue rather than a public matter. This is similar to the reflections Norgaard (2011) has in her book after meeting citizens of Bygdaby, where she says that the people in her research did not seem to discuss global warming or pollution in private conversations or political talks. According to Norgaard (2011), this was why the people might not ever spend any time reflecting on the matter. The conclusion can be drawn from this that societal structures and crisis response in a country affect the topic of conversations and the citizen's way of dealing with rapid changes that are too large or terrifying to even talk about. But also that alienating the citizens from decision-making might hinder their engagement.

Several interlocutors expressed a feeling of abandonment concerning conversations of climate change and the coal industry. They felt like discussing the topics, in private or in public, felt uncomfortable and unnecessary, similar to what Norgaard (2011) experienced during her research. In the interviews, some participants expressed that this had to do with the citizen's lack of influence within the country's politics. Others described it as being motivated by fear of personal or societal economic loss.

Some interlocutors gave quotes that are presented above, which highlighted that they felt concerned about the environment in BiH, that they experienced a poorer life quality due to the air pollution, and that climate changes more often was a topic discussed when talking about water, trees or other natural resources than the country's primary energy source. The same pattern is reflected in Norgaard's book *Living in denial* (2011; p.194). She writes that even though people in the village she researched seemed to be informed and concerned about global warming and understood the issue with climate changes altering life in the coming decades, they were very uncomfortable talking about the matters. They did not seem to spend any time in their everyday life thinking about climate change or what their village would look like in the following 50 years, but instead somewhat more manageable topics.

The interlocutors give different reasons why they haven't included this conversation in their everyday lives; they say that it is their culture and that youths today do not care about these topics. But as we look through the engagement in climate change in other parts of Europe, that claim is not entirely valid, and according to a report published by the UN Association of Sweden (UNA) (2021; p.6), the most important political question for youths in the Nordics is the environment. Norgaard (2011; p.195), describes how youths in Bygdaby are overwhelmed with guilt over participating in climate changes through the country's politics; no similar expressions are coming from the interlocutors in this research. One reason the interlocutors in this research gave to why youths don't talk about environmental degradation was that even if individuals care about the environment, no one brings up the topic in public because they feel alone in their engagement. Enes says that this might be because he lives in a more rural setting, and when asked if he ever talks about it with friends or family, he said: "No, not at all, because no one ever talks about it or mentions it. And especially people that live in places that aren't important or represented in politics, we talk about it even less." This is explained by Norgaard (2011, p.89) as a survival instinct, that people might want to protect themselves and therefore distance themselves from reality even if they might realize there is a severe problem that needs attention. It is also a clear example of the urban norm that the youths are experiencing, where their opinion is not as important or valuable because they are not living in a larger city.

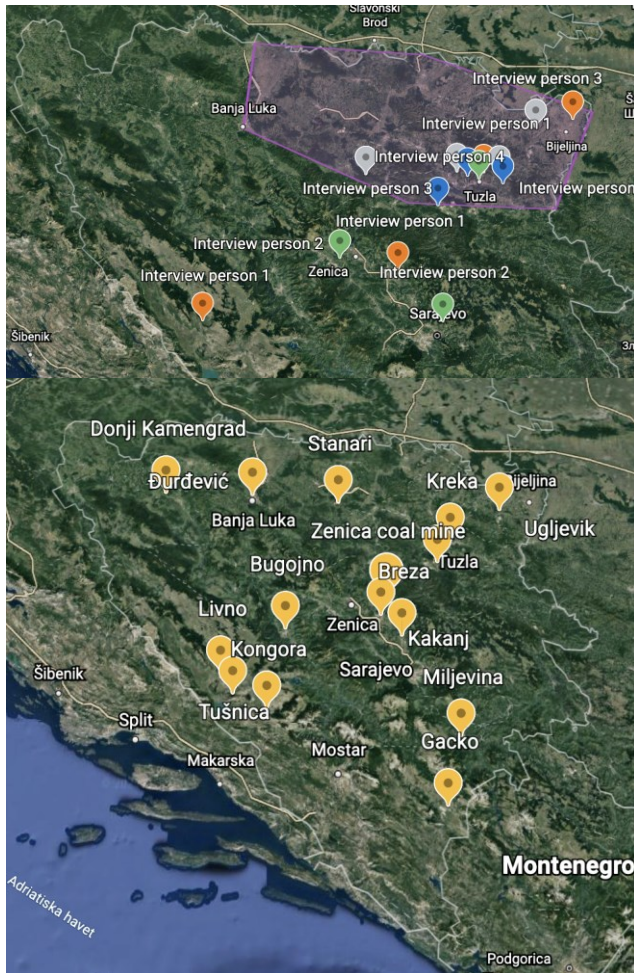
Another important aspect of this is presented in Wallerstein's *World System Analysis* (2004). He writes about the difference between center and periphery states and introduces the term "semi-periphery" states. The baseline of the concept is that the international trade in the current global economy is not based upon commerce between equals, but rather upon a power dynamic where "stronger" countries, the center states, made up an international trade allowing economic value to transfer from "weaker" countries, the periphery states, to them. This theory is also what Hornborg (2015) develops his understanding of unequal exchange upon. While BiH can not be considered a center state because of their environmental degradation to benefit other center states, they have, during the past 50 years, moved from being a periphery state to being a semi-periphery state. This, in reality, is them moving closer to becoming the user rather than the oppressed in the world system analysis. Still, it has yielded many advantages, such as moving closer to becoming an EU member state (EU 2018). Malm (2016), like Wallerstein (2004), means that the state of the periphery is not an original position of all countries but rather an effect of the capitalist system's progress. So, being caught in this system, it is understandable that it has developed several hindering factors for public engagement in BiH.

A snapshot of reality

After conducting the interviews, the participants were asked to put placemarks on a Google Earth map on every location they knew or believed a coal mine was. This was to see how economic and social structures might have impacted the youth's perception of reality. The participants were

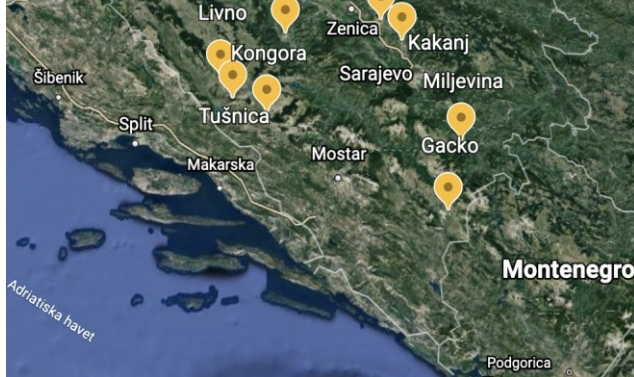
asked not to search for locations but only to use the knowledge they already had to complete the map. The maps are presented below:

Picture 1: Map showing a collected map of all participants' input, with each color representing one interlocutor. This map was put together after the participants had put in their data on individual maps.



The purple area highlighted is the area where the interlocutors live. I left out the participants' names because I determined it did not affect the impression of the maps.

Picture 2: Map showing the reality of the coal mines in BiH, where every yellow pin represents one coal mine.



One conclusion drawn from the data input is that the knowledge about the coal industry is lacking within the interview group, probably according to the social and economic norms and structures. After seeing this, the research on local newspapers was made, which showed zero reports on climate change, pollution, or the coal industry in any of the prominent newspapers during a given day. All research participants understood their immediate surroundings more than the rest of the

country, which requested an analysis of the shift of knowledge responsibility. On average, the interlocutors were able to identify 3.5 coal mines, which is only 23 % of the actual coal mines in the country. These maps add context over the knowledge gap among youths in the region that can be helpful to incorporate in the analysis that will follow.

The hindering factors

When conducting the interviews, several interlocutors lifted that they felt limitations to their engagement due to the political system and the democracy problems in their country. Two of these hindering factors, and the most common themes, were the corruption in the government and the political system of BiH. This, according to the youths, did not only affect their engagement but also made them hesitant to participate in the national debates on the topic due to them being subject to punishments, for example, not getting admitted to a university or getting a job.

Corruption

BiH is very famous for the corruption in the country. Resic (2018; p.236) on this topic: “The weak Bosnian economy also suffers from widespread and growing corruption in all sectors [...] Bosnia's judiciary is corrupt, which has a detrimental effect on both business and banking” (my transl.). Some interlocutors lifted corruption as a hindering factor for environmental development and youth influence, discouraging them. Irma, who is a woman currently enrolled at a university in one of the larger cities in BiH, said the public debate in BiH is being affected by the country's corruption: “The impact of the media is a huge problem too, because our politicians mostly manipulate them, so they decide all the things they want here like it was strict, it is restricted”. Looking at the research done on the more prominent newspapers, her understanding seems to be correct. Not a single article in any of the most prominent newspapers treated questions of climate change, coal mining, or air pollution. According to some of the interlocutors, the corruption in the country is acting as a catalysator for disengagement among young inhabitants of the country. Emir said:

For example, it's corrupt and, really, really hard to make a voice as an individual in my country. It's very complicated and hard to express yourself, and no one will validate your thoughts and opinions. So mostly everyone is just standing away from it as myself.

There is reason to believe that in countries with a lot of corruption, the political engagement among youths and other citizens tends to fall. Some of the participants in this study expressed that they feel disengaged and unmotivated to take action against climate change because the system might punish them by hindering them or their family members from getting a job and education. This is confirmed in the UN Doha Declaration (2001; p.12), where one can read about public engagement and corruption:

People lose trust in leaders, in social systems (public institutions) and sometimes even in society and ethics itself when they sense that corruption is widespread and corrupt actors are not being held accountable[...] Failure to meet public expectations for zero-tolerance of corruption may have deleterious consequences for the legitimacy of state institutions and the very utility of formal norms that citizens and firms are expected to follow, possibly resulting in higher public tolerance of un-civic and free-riding behavior.

The declaration further concludes that a country with much corruption is less likely to prioritize sustainable development and listen to its citizens. The interlocutors declare that the corruption in their government hinders them from speaking up against politicians as it might give them fewer chances to succeed in the future. Is this a way to maintain the hurtful power scheme coming from fossil economies and unequal load-displacement from center to periphery states that Wallerstein (2004), Hornborg (2015), and Malm (2016) write about?

Politics

The politics in the country after the war in the 1990s are still very turbulent, according to Resic (2018; p.88), who reflects over the current political system in BiH and states that the system in the country isn't a democratic multi-party system but rather three one-party systems based on ethno-policies. To continue, Resic (2018; p.68) says that this system is not intended to lead BiH with one democratic state but rather a way for individual political leaders to get power and include themselves in corruption and crimes. The interlocutors in different wording raised critique over the political system in general but also concerning the environmental impact and environmental policy, for example, Ajdin stated: "Well, I don't think that our politicians are very interested in our environment", and Emir, who is a young man with a university degree; "I don't even think there are environmental politics here". This showcases how alienated the young people are from political

processes and the lack of information in the media about the connection between coal-fired energy in BiH and the environmental degradation that the youths are experiencing. This is also clear looking at the maps that they were asked to complete, where one clearly can see that the lack of information spread affects their image of the country. They tend to know about their immediate surroundings but have little to no knowledge about coal mines further away.

However, the Bosnian government does have an environmental minister, instead they have a person in the role of “Minister of Environment and Tourism”. The current environmental minister in BiH has a doctorate in economics, and according to the BiH government website, she has not studied any environmental or ecological science. In reality, the country does not have a clear climate change strategy or policy, nor do they mitigate commitment (Vlada Federacije Bosne i Hercegovine 2021). This is interesting because it speaks for the government discourse on environmental politics as more economical than ecological, also to connect the environmental minister with tourism is an interesting choice as tourism usually functions as an income for a country. It hints that BiH regard their environment like tourism - a money making machine, which is exactly what Malm (2016) is writing about when describing the fossil economy. The UNECE (2018) criticizes the country for not putting in enough effort to create sustainable policy in the area. However, when reading Malm (2016), one can understand that a policy is not put in place in the area because of the connection between the fossil economy and the imagined infinite growth that comes with its power. Malm (2016; p. 482-486) presents the idea that using fossil fuels such as coal is a tool for sustaining the classist system and power dynamic in societies. The economic benefits of the coal industry benefit the upper class rather than the working class in BiH, which are ultimately the people suffering the most from climate change (OECD 2015).

While patterns of engagement are not further researched in my paper, many of the interlocutors' testimonies make it valuable to relate the research material to the reflections of Pilkington & Pollock (2015). The authors continue to reflect over why youths may be disengaged in politics, and conclude that it may be because politics are known as something complex, nothing for “ordinary citizens”, they conclude that politics often are regarded as “populated by a professional political elite concerned with pursuing a narrow self-serving agenda” by youths, which is closely connected to the quotes of the youths feeling disappointed by the corruption in the country. The

authors suggest that the discourse among youths may affect the engagement, and when young people from the country express a lack of confidence in its leaders and feel like the political leaders do not care about their opinions, and chances are this will grow disengagement among the young population (Pilkington & Pollock 2015; p. 7). The interlocutors themselves say that they feel like politicians in BiH are not interested in what young people think about political questions. Some even believe that BiH doesn't have environmental politics.

Well, I don't think that our politicians are very interested in our environment. You know, there are so many chances to change things. For example, there are so many factories in my town, and there are solutions for pollution, they just don't want to try to solve the problems just because it's costly. I mean, it's not expensive for them. They can solve this in some way, but they are not interested in their citizens - Irma.

According to UNECE (2018; p. 14-16), BiH lacks the administration to organize sustainable development plans. Because of the governmental organization in the country, environmental questions often get little priority. Moreover, there is no indication in the report or on the government website about youth involvement in politics; this indicates that the youths' testimonies about being alienated by politicians are real. A few interlocutors expressed a dislike for politicians and the political system in BiH, saying that they consciously lock out the public from debates. One thing that came up twice was the initiative by the politicians a couple of years ago to open new coal mines in the area where the interlocutors live. This raised public concern because of the already challenging situation with smog in the area, showing some knowledge of the connections. When asked about the public discourse around coal mines and politics at the time, Ajdin said:

The public, the public was scared. The people, all the people, said that the politicians want to pollute our air more. It will become more harmful to our environment. We even now can't breathe. What are you doing? That's not good for us. You want to kill all of us. You must stop it.

His interpretation was that even though the politicians stopped the plan, it was not because of the public protest but rather because of a construction problem. He said he took it as a sign that the politicians prioritize the economy over public health. Irma also expressed this isolated incident as a deal-breaker for losing faith in politicians, saying:

So the politicians don't want to change that, the coal industry, they even wanted to build a new power plant for our electric for coal electrical base in Tuzla. They wanted it, so they wanted to build this seventh plant telework. They don't want to change it. And that's all, well, I know about politics.

Norgaard (2011; p. 80) writes in her book that even people such as Irma above, and Ajdin, that are somewhat interested in climate change and coal consumption, experience difficulties processing the scope of global warming, which in extension hinders engagement. She writes: "Knowing about global warming raised fears for the future, feelings of helplessness, and feelings of guilt, some of which were in turn threatening to individual identity".

The personal level

Within this theme, the participants shared reflections over having, or not having, insight, interest, or/and knowledge about the climate changes, politics, and the coal mining industry in BiH. These reflections were later split into several sub-themes, discussed below.

Youth Influence

The discussion of young people's experience of influencing the public discourse was central to every interview, as it is fundamental for the research being conducted in this paper. Many of the interlocutors said they do not talk about climate change, the coal mining industry, or any other political subjects they might be interested in because they feel like they can not impact anything as individuals. However, this does not necessarily mean they are uninterested in the matter. Henn et al. (2005) published a study on youths in Britain and their political engagement. They concluded that while young people in Britain weren't necessarily interested in party politics, they had many opinions on political topics. According to them, youths did not engage in politics because they felt alienated from the political processes in the country. Heen et al. (2005; p.573) conclude that many of the youths interviewed felt like they had been so disconnected from the political process that they had lost their interest to speak on political questions that bothered them. Irma stated:

And the problem is as much as I'm interested in it, I am worried, stressed, and very irritated by their solutions. They just like, I don't care. And that's a little bit stressful for me, and that's the reason why I'm not very involved in all that. A story about how our politicians and our environment just don't work together.

Another couple of youths in my research expressed the same concerns. They mentioned that they didn't have any issues bringing up the climate change conversation or the problems with coal mining; it just did not feel like their opinions mattered to anyone. When asked about it, Enes, one of the youngest participants in this study, said: "There are no real conflicts in this theme, I feel free talking about it, but my words do not matter in this country". They pointed out disconnection from politics as one of the more prominent upholding factors to the poor youth engagement and negative environmental impact coming from the country. The youths in this study expressed they did not feel like they could make a difference because of the unreceptive system. Irma reflected over youth disengagement in her surroundings and stated:

[...][the youths] think they cannot change anything because it doesn't matter if they protest or do something like some activity or whatever, nothing changes. And young people are just quite like; I don't care, they would rather leave the country than like, stay and fight for the rights of the citizens, fight for our environment and such things. It's tough to talk with people about that because they are just like, "why does it matter? It won't change anything anyway". And that's our problem.

Emir and Ajdin felt like the most impact they could make as individuals wasn't in interactions or critique towards the government but instead through choices in their everyday life. Some of the research participants mentioned that making the heating system more effective would be good for the environment and that they had tried to pass that knowledge on to friends and family since they learned about it. Another person said that while they tried to sort their waste and not use poisonous products, she put the responsibility of action to higher institutions. Pilkington & Pollock (2015; p.7) wrote about youth influence and contemporary European politics and researched why youths might feel disconnected from politics. They argued that even though the population in many nations remains relatively young, the youths, in general, are much less interested in politics than the generation before them. Reflecting over what would interrupt this trend of youth disengagement, Pilkington & Pollock (2015) made a similar interpretation as Henn et al. (2005), stating that the situation did not depend on the youths but rather on the politicians. The downgoing

engagement spiral won't change as long as the political system is unreceptive to young people's demands.

The knowledge gap

In several interviews, the participants raised their own responsibility of learning about climate change, international politics, and the coal mining industry in their country. The educational system in BiH is designed like the Swedish, with nine years of primary school, three years of high school, and then going on to university. According to the National Agency for Education in Bosnia & Herzegovina (2018), children are supposed to be taught about climate change at some point in their first nine years of education, but there are no requirements on learning about the correlation between coal mining, energy, and climate impact. Most of the interlocutors confirm that they have been informed about climate changes around the age of ten but never learned about its connection to coal mining or fossil fuel usage. When looking at the maps presented before, it is evident that there is a significant knowledge gap among the youths regarding the extent of the coal mining industry.

The youths were, on average, aware of 3.5 out of 23 coal mines. Several interlocutors said they remembered talking about it in third grade and then again when/if coming to university. The interlocutors said the lack of knowledge within the area was another underlying cause of their disengagement. Contributing to the knowledge gap, the media does not seem to report on the connection between the industry and air pollution. After looking at the largest newspapers in the region during one day (see method), one can conclude there was not even one report of coal mines, air pollution, or climate change. According to Norgaard (2011; p.87) and Zhang et al. (2009; p.9), lack of knowledge leads to disengagement among all citizens, especially youths. So - is it possible that the government in BiH isn't producing knowledge among their children because they do not want to fuel engagement that can hurt their economy? Or - are the politicians in the country also suffering from what Hornborg (2015) calls for the unequal load displacement and lack of knowledge? Many participants internalized the critique instead of criticizing the government for not including learning about the climate changes in their curriculum.

They expressed shame and guilt over not knowing more about it. There are two different reasons for this, according to Norgaard (2011; p.12) who writes:

[...] psychological and survey research that studies human perceptions of climate change on an individual level, locate emotional and psychological experiences in both cultural and political-economic contexts. As a result of this emphasis on cultural, economic, and social contexts, my approach shifts from an “information deficit” model, in which the public fails to respond because of a lack of information, to a “social organization of denial” model in which the public on a collective level actively resists available information.

This suggests that there can be different reasons why people live in *denial* of climate change. While many states and societies certainly live in what Norgaard (2011) chose to call a social organization of denial, Bosnian youths likely partly live in an information deficit from what one can see in the media, the Bosnian curriculum, and the maps they created. Bosnian youths do not tend to have a lot of information about the spread of coal mines in the country according to the maps they created. This suggests that there is no proper discussion in public, but also a withhold of information. However, young people that think of themselves as knowledgeable in the area also do not understand the scope of the coal mining industry in the country. And, as the maps show, the youths tend to know more about their direct surroundings and coal mining than the situation further away from where they live. Meaning that even if they might not have any idea of the scope of the industry and its connections to air pollution and environmental degradation, they still experience bad air quality in their everyday life and see at least some of the coal mines regularly.

It is therefore very possible that their disengagement partly depends on their lack of knowledge about the number of coal mines in the country, an information deficit according to Norgaard (2011), which according to Pilkington & Pollock (2015), as well as Zhang et al. (2009) and Henn et al. (2005) might contribute to lack of political engagement. However, it does also seem like the youths are somewhat unwilling to add their knowledge up, they are experiencing some of the effects in their everyday lives, and they see the coal mines. Even in the area where they lived, there was a vast knowledge gap. The youths tend to lack knowledge on more than 75 % of the coal mines, even if they are experiencing severe health concerns due to the coal mining industry, such as smog and environmental degradation that they are discussing in their interviews. Likely, they are also a part of what Norgaard (2011; p.9) calls a *socially organized denial*, based on economic

impairments, that one can understand more of reading Malm (2016) and his arguments on connections between fossil fuels and capitalism, Wallerstein (2004) and the theory of center and periphery states, as well as Hornborg (2015), who presents groundbreaking ideas of the effects of the global world system and unequal distribution. When communities acquire economic benefits from a system, which Hornborg (2015), Malm (2018), and Wallerstein (2004) show, the communities tend to be less likely to engage against the system, developing what Norgaard (2011) calls a socially constructed denial.

The purpose of this study is to look at what young people in a very polluted environment, primarily affected by the coal industry, feel about their opportunities to make an impact and change. In Norgaard (2011; p. 64), one can read about a study conducted under similar conditions. Here, they concluded that in a democracy, the citizens decide and which policies and politicians to support through their votes. When criticizing politicians and procedures, one needs to consider how their engagement behavior affects the country. They also argue that people make choices with their money when they decide to consume good or bad products for the environment; however, this is not common knowledge in many communities. The community tends to lack understanding of their power. Hornborg (2015) also talks about “voting with one’s money” and even suggests an alternative currency that would make it economically beneficial to consume environmentally friendly goods. While this conclusion makes sense in the areas that the authors are studying, Sweden and Norway, the conclusion is not as apparent in BiH, where youths are not set up with the same conditions to make informed choices through votes or consumption. However, it is fascinating that the interlocutors have internalized the shame of their country’s environmental impact even though they do not have the same opportunities to learn about it as youths growing up in a center-state might have. This is an important point to acknowledge when criticizing periphery states.

The young people that have been interviewed in this paper did generally experience a knowledge gap in the field of climate change and environmental impact. Many of them knew they had a knowledge gap, but of course, not what knowledge they were missing. As presented earlier, they felt like, as young people, their voices could not make any difference in politics. Therefore, their actions and consumption patterns did not necessarily reflect their opinions. In addition, the

interlocutors had a considerable knowledge gap regarding the scope of their most polluting source in the country. This, in combination with a lack of trust in democracy and the politicians, has led the young people in BiH to paralyzation.

The responsibility of knowledge

One of the participants, Enes, the youngest one to participate in this study, and an inhabitant of a more rural area, said that he believed that his lack of knowledge about coal mining and climate change was because he did not live in an area where coal mines were common. He said:

In BiH, there are different regions; for example, in the area that I live in, I think there are much fewer coal mines than there are in the rest of the country, and therefore, it's not as common to talk about it here. But there are probably more conversations about it in other regions that are more polluted.

In reality, this person lives in one of the most polluted areas of Europe, having the most coal mines per capita in the country. However, the interesting part of this reasoning does not lie in the fact that this interlocutor lacks knowledge about his direct surroundings, but rather the shift of responsibility of expertise from people living far from the issue to the people residing more closely to the areas where these goods are produced. According to Zhang et al. (2009), an educational researcher looking at youth learning and engagement processes, young people usually shifts the responsibility of knowledge when feeling alienated from the process; they write:

To take over high levels of social and cognitive responsibility, students must recognize that their own ideas, like ideas in general, can be continually improved. They do this by working toward deeper explanations and higher-level conceptualization that gives them greater explanatory power (Zhang et al. 2009: p. 9).

This reasoning is not unique for this young participant but relatively widespread in environmental debates and politics. Young people not being equipped with the knowledge and explanatory skills tend to believe that they are not responsible for generating ideas and working through improvements. In the maps presented, it is clear that the participants did not have the conceptualization required to understand their direct surroundings.

Hornborg (2015; p. 109-111) writes about the reason behind environmental load displacement. In his book, he lifts the idea that while the public discourse is that humans are writing a collective

history, based on how “we” experience development of, for example, technique, in reality, we are split between people who experience the benefits of environmental damage through economic growth, and the people who experience significant disadvantages with the global financial and ecological system through pollution and deforestation. BiH is an example of a country experiencing the downsides of the global economic system and pollution, as one of its significant exports is energy coming from the coal mining industry.

Wallerstein (2004; p 23-31) writes about the consequences of being a semi-periphery state and how those states are affected by the global economy through world-system analysis. Additionally, he mentions how the power balance between center and periphery states undermines the working class and benefits the wealthy. This can also be applied to the reasoning behind shifting the responsibility of knowledge in a few interviews. The youths do not get to learn about climate change and the effects of their industry in school; instead, they are fooled into believing that their system is beneficial for all parties involved, a common misconception according to Wallerstein (2004), who writes that parties in favor of the current global economy often argue that it is a way for the periphery states to “pull themselves up by their bootstraps”, this is, of course, an illusion as it a system put in place to systematically exploit poorer states.

The ideal development

All of the interlocutors were asked to reflect on an ideal development of the coal mining industry in BiH. A few of the participants reflected on the smog in major Bosnian cities. Because of their everyday interactions with the harmful effects of the coal mining industry, they expressed a wish to make the factories more effective so that they wouldn't harm the environment as much. Irma talked about how the air pollution in her city hinders her from living a free life:

Well, right now, they need to develop their factories in a way that wouldn't be very poisonous for the air, for the environment because the factories in my area are affecting the air. And now there is a worry that the air is very polluted and fog is everywhere, like it's very dusty, mostly for winter. It is very tough to breathe outside. And on our television, that is always on the news. They tell us to stay at home, not to go out, but not because of today's pandemic, because of the air pollution.

Throughout the interviews, the research participants expressed an urge to use more modern technologies or invest and develop new technologies that are less bad for the environment because they see it as a solution for the harmful industries in their country. In Hornborg's *Myten om maskinen* (2010; p.98), he reflects on the term "development" and how it most often means a redistribution of global resources; he writes:

A consumption of time and space to save time and space for another category of society. Technology or capital can thus simply be regarded as a way of redistributing time and space resources in society.

The development towards a more capitalist economy in BiH has reached a new peak in the past couple of years, especially with their current efforts to join the EU, making them more of a semi-periphery state than ever. BiH has, per Hornborg's (2010) theory, historically been exploited for their coal, as they have exported enormous amounts of energy, but are in some way moving more towards using other states through imports of goods, while they are still exporting energy, downgrading their nature. However, the participants' new insights might witness them now being in a state of change. Instead of being exploited, they are now trying to use technology to develop their industry which will, in the long run, result in exploitation elsewhere, according to Hornborg (2015) and Wallerstein (2004), a typical pattern coming from nations with a fossil economy according to Malm (2016). Ajdin, who is a student and interested in energy efficiency, reflects over possible opportunities for BiH to adjust the system for their environmental advantage:

So I think we cannot produce enough energy for our country only through solar. Solo solar plants through the wind plants, but we have a mission to replace our coal plants with new nuclear plants. So I think that's the only way we can, so we have enough energy for our whole country - Ajdin.

He says they cannot yet leave fossil fuels behind for renewable energy sources because they are not compelling enough. Still, he is willing to look at other alternatives for their energy recovery. No interlocutor mentions the option of consuming less material goods to reduce energy demand and consumption. Both Malm (2016) and Hornborg (2015) raise the issue of the paradigm of endless growth, especially in combination with a fossil economy. According to Malm (2016), the continued growth has been an illusion haunting humankind since the beginning of history. Malm (2016;p. 611-613) gives several examples of human innovations that were thought of as an

alternative to degrowth at the time of their discovery. However, throughout history, these innovations proved to have shortcomings, forcing us to find new alternative solutions for the illusion of endless economic growth.

Per this, Hornborg (2015; p.68) discusses how the laws of thermodynamics work concerning that same illusion. He argues that for as long as the goal of development is to find innovations that can allow us to continue the consumption of fossil fuels, the societal laws contradict the laws of nature. Emir, a man from a medium-sized city, reflected over the coal mining industry and its development, but said that his knowledge in the area was lacking: “I'm not sure because I haven't, I mean, I don't even know what is the problem here [...]” he continued to reflect over what might be the best development for the coal industry and said: “[...] Coal, that is an interesting business that's going on now. Probably developing more efficient machinery would be good.“. This quote clearly shows how the lack of knowledge among the country's youths is holding them back from organizing and understanding the system. Furthermore, it helps hold both the global and the local economic structures in place, making it easy for politicians to continue “business as usual” while harming the environment.

Concluding discussion

In this part of the thesis, I will continue my discussion and weave it together with my conclusions, ending with a reflection on the answer to my research question. This paper concludes that youths from this area in BiH feel like they do not impact political processes or climate change in the country. There might be several reasons, which I will present below.

Not having access to knowledge makes young people feel alienated from the political space, which I believe is why they do not organize against the government's energy innovations and the country's environmental degradation. By not providing the youths with knowledge of any kind through the educational system, the media, or any other platforms, the politicians and people in power locally in the country and globally can continue to live by the illusion of an endless economy powered by fossil fuels in a periphery state. The politicians in periphery and semi-periphery states tend to lack information about these processes that they are a part of, according to Wallerstein (2004) and Hornborg (2015); however, they are making an active choice not to provide the

residents of the country with information about the reason behind environmental pollution and their energy sources, which witness that they are not clueless about the problems. The EU and the UN have published several reports on the matter, which should have reached the politicians, making them aware of the problem.

Should institutions such as the government, the media, and the educational system give young people access to knowledge about the country's environmental impact through, among other things, the coal industry, it would likely have threatened the survival of the coal industry and, in extension, threatened the opportunities for economic growth in BiH and to some extent also the global world system, and capitalism that is benefiting on environmental load displacement. By withholding information and establishing a system that punishes people who speak up against authority, BiH has successfully created governance that hinders young people from organizing and obtaining knowledge.

Another critical aspect of the knowledge gap among youths in the country is what Zhang et al. (2009), along with Pilkington & Pollock (2015) and Henn et al. (2005), presented. If youths are not equipped with enough knowledge within an area, that automatically leads to them being discouraged from engaging. And if they feel alienated from the system, that leads to disengagement. Corruption and political processes, and inadequate media reporting and education have led the youths who participated in the study to just that. In addition, these youths tend to lack feelings of collective responsibility for social injustices due to not being provided with in-depth knowledge. It is reprehensible that youths in BiH are not supplied with expertise, but it serves the government and the center states that take advantage of the Bosnian exploitation. The youths' maps showed that they do not have the tools to build community engagement; Norgaard (2011) calls this information deficit. But their everyday interactions with the coal industry and environmental degradation hint it might also be a socially organized denial. Most likely, the knowledge gap among Bosnian youths is a combination of socially organized denial because of the economic impairments with the industry and information deficit caused by lack of education and involvement from politicians. It all comes down to the structures of the fossil economy, global world system and environmental load displacement.

Many of the youths expressed concerns about the economic consequences for the Bosnian people if transitioning to renewable energy sources would be a reality. Without a doubt, closing the coal mines in BiH would affect the country and its citizens on all levels; the GDP, the production chains, the individual households, and the workers. First and foremost, this is an effect forced by the fossil economy. According to Malm (2016), the power structures at the implementation of fossil economies set up the society for these trials because it will hinder them from getting out of it. All of this is an effect of the global economy that Wallerstein (2004) writes about. According to Hornborg (2015; p.112), societies like BiH usually find themselves in a position like this when transitioning from being a periphery country to what BiH is becoming, a semi-periphery country. Norgaard (2011) allows for interpretation of the situation from an environmental sociologist standpoint; the public disengagement depends partially on denial caused by societal norms, political alienation, and a feeling the climate changes are too overwhelming to handle.

Therefore, my conclusion is that the main reason for young people's lack of involvement in the issue of air pollution, climate change, and the coal mining industry in BiH does not come solely from youths just not being engaged in climate changes in this part of the world. But instead, it is a symptom of youth's lack of knowledge, which is kept in place through social structures and the country's and the world's economic system. Also, through politics that alienate young people, corruption punishes engagement and contributes to distrust of the country's system. Additionally, the country's economic system, which benefits the use of fossil fuels and keeps the working class's salaries too low to afford a sudden rise in heating prices, paralyzes the big crowd. Looking at this from a larger perspective, BiH is an example of environmental load displacement, the aftermath of war, western impact, and a pressure to expand the fossil economy so that consumption patterns in the rest of the world can continue to grow. This is not only to blame on the politicians of BiH but rather a consequence of a damaging world system that benefits countries moving closer towards capitalism and environmental load discharge and punishes countries who do not.

To answer the research question:

How do a group of young inhabitants from a coal-producing region in Bosnia & Herzegovina experience their influence on the country's climate impact through their coal mining industry, and how are they involved in change processes within the subject?

The young people from this country do not experience any influence over the climate impact of their country, at least not in correlation with the coal mining industry and the fossil economy. Due to the lack of knowledge, political and socially constructed norms, corruption and economic punishments for engagement youths do not involve changing any processes within the area of fossil fuels, coal mining and environmental degradation.

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