Resistance to Coal:

The Challenges of Achieving Environmental Justice in South Africa

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Abstract

While the environmental justice movement has grown worldwide, it seems that the movement has yet to mobilise in South Africa. The instances of environmental injustices in South Africa are abundant but paradoxically this has not given rise to a united movement demanding environmental justice for a transition to a new and renewable energy path. This thesis explores the challenges of creating an environmental justice movement in South Africa against coal extraction. It is based on the grounds that many environmental hazards are unequally distributed onto notably the areas where black and poor people live.

Built on interviews with scholars, NGOs, activists, coal mine workers and affected community members in South Africa, this research presents and compares how environmental injustice is conceptualised and experienced in relation to communities affected by coal. The thesis scrutinises which incentives there are for community members to resist against coal extraction, and which challenges they face if or when doing so.

The research concludes that despite the immense amount of coal struggles, the creation of a stronger and more visible environmental justice movement in South Africa is yet to come. This can be explained through the extent of the country's dependency and reliance on coal, in which both the economy and its citizens have been trapped in a carbon lock-in that has led to lack of action. It thereby argues that it is crucial that immediate and basic personal needs are covered, to allow citizens to start rising up against the extractionist forces in South Africa, while recognising

the importance of a bottom-up mass-based approach to put an end to the environmental injustices that are occurring in the country.

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1. Introduction

While global coal production is exceedingly decreasing, it is still on the rise in South Africa (IEA 2017; Cock 2018); currently, 70% of South Africa's electricity is generated from coal (EIA 2017). Not only is South Africa the fifth largest coal producer in the world, it is also one of the most energy- and carbon-intensive countries worldwide, with a disproportionately high level of greenhouse gas emissions compared to the size of its economy (Krupa and Burch 2011; Eberhard 2011; NDP 2012).

South Africa is facing severe challenges on its energy development path due to the fact that a large part of the country's population still does not have access to energy, notably black people[1], while at the same time having to face the environmental concerns of reducing CO_2 emissions (Winkler 2007). Environmental injustices are most obviously manifested in poor[2], black and marginalised communities at both regional and local levels (Anguelowski and Roberts 2011) while they at the same time "stand to be disproportionately harmed by a changing climate" (Ciplet, Roberts, and Khan 2015, 245). Some of the most pressing challenges that requires immediate action are to mitigate climate change, while also closing the gap between the rich and the poor and reduce the racial oppression of the black population in South Africa (Winkler and Marquand 2009).

In 2011, while hosting the 17th Conference of the Parties in Durban, South Africa made an agreement to embark on a change of trajectory for its energy sector to decarbonise and prioritise renewable energy in the future (Maupin 2017). However, despite agreements and obligations to reduce its carbon emissions and enhance their mitigation policy, South Africa continues to invest in new coal projects and infrastructure (Burton and Winkler 2014). This impedes the prospect of decreasing environmental injustice imposed onto the ones who are already suffering the most. Due to the great extent of the South African economy relying on carbon, a transition to a low-carbon economy only seems likely to occur from a bottom-up approach, because "despite the odds, grassroots movements can pose serious challenges to both governments and corporations" (Horowitz 2012, 23). A strong, mass-based environmental justice movement demanding rights for a healthy and clean environment against coal extraction could potentially be what is needed in South Africa in order to change its path to a low-carbon economy once and for all. However, such movement does not yet exist in South Africa. But why does it not?

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[1] Throughout my thesis I will mainly refer to 'black people' rather than 'people of colour'. This is based on
[2] When referred to poor people, it is solely in terms of economic means.

1.1 Aim and research question

The aim of this research is to scrutinise how a country that is historically recognised for its many resistances against injustices, especially the resistance against the apartheid regime, has not yet generated a more widespread environmental justice movement against the injustices related to coal extraction. This thesis will give a comprehensive comparison of how the understanding of environmental justice- and injustice is conceptualised and experienced in relation to coal mining-affected communities. The incentives for- and obstacles to resistance in mining-affected communities in South Africa will furthermore be depicted by investigating which challenges pertain when resisting. This leads to the following research question and sub questions:

What are the potentials and limitations for the creation of a stronger and more visible environmental justice movement with regards to coal in South Africa?

- *How is environmental justice conceptualised and perceived in comparison to how environmental injustice is experienced?*

- *What is the main incentive for resistances in mining-affected communities and what is preventing people from resisting?*

By investigating these questions I should be able to determine whether it is possible to create a stronger and more visible environmental justice movement that could combat the reliance on coal in South Africa.

1.2 Structure of thesis

In order to better understand the potential grounds and limitations for the establishment of a greater environmental justice movement, one must also have an understanding of some of the most essential insights of the South African history. This thesis will therefore start by outlining a historical context of South Africa to present the framing in which a potential united environmental justice movement against coal extraction could arise. Secondly, the methodology used in order to obtain primary empirical data will be described, leading to a depiction of the theoretical framework such as environmental justice and injustice, on which the research and thesis is built on. This is followed by a presentation of some of the key empirical findings attained during fieldwork and interviews with mainly mining-affected community members and activists, which inspired the use of "languages of valuation" and "carbon lock-in" as additional theories. Next, follows part I of the analysis which entails a conceptualisation and experience of

environmental justice and injustice in South Africa, as well as the unequal distribution of goods and bads onto particularly black and poor communities. Part II of the analysis presents key findings in relation to the limitations and possibilities of resisting against coal extraction in South Africa, whereas part III attempts to outline the structural confinements of the creation of a united environmental justice movement in South Africa, in which alternatives to a low-carbon economy is deemed necessary. Lastly, a conclusion will critically summarise the results in relation to the research question.

2. A historical context of South Africa

This section will outline the contextualisation of the cease of the apartheid system, describe the Black Economic Empowerment strategy that was implemented as a way of opposing the discriminatory inequalities happening during and after apartheid, and lastly describe the current coal arena in South Africa.

2.1 Apartheid

After more than 300 years of colonialism and oppression of the South African people, the year of 1994 marked the point in time where South Africa transitioned from the apartheid authoritarian system to liberal democracy, governed by the African National Congress (ANC) party (Robins 2010; Movik 2014). Apartheid was commenced in 1948 along with the election of the white National Party; in this system, the human rights of black people were systematically violated and defeated (Black 1999). Although apartheid has ceased to exist, its legacy has generated one of the most unequal distributions of wealth between black and white people in the world, with vast unemployment, as well as racial and gender disparities in level of skills, education and the underdevelopment of especially black and rural communities in South Africa (RSA 2012; Davids 2005).

With the termination of apartheid followed a reduction in poverty. However, this did not lead to a reduction in inequality – to the contrary, inequality has gotten worse in South Africa since 1995 and has created one of the most unequal societies in the world (Bhorat and van der Westhuizen 2008; Cock 2014). At the same time, South Africa has become one of Africa's richest economies, mainly due to the country's high level of resources such as coal (Death 2014).

2.2 Black Economic Empowerment (BEE)

As an attempt to attain more equal distribution of wealth, resources and opportunities after apartheid, the ANC government launched the Black Economic Empowerment (BEE) Act. The

objective of the BEE is to compensate and "facilitate redistribution of productive resources to those groups that had been oppressed and disadvantaged under the apartheid regime" (Movik 2014, 190). This includes specific procurements of skills developments, ownership- and employment policies that allow a broader access to economic wealth for the marginalised population. One of the BEE policies states, that a minimum of 26% of the company shares in the mining industry has to be owned by historically oppressed people (Burton and Winkler 2014). However, the BEE initiatives have "created opportunities for the extraordinarily rapid accumulation of wealth by a small group of black capitalists" (Robins 2010, 4). This has given rise to an unequal widespread race-based exclusion, which has led to a small handful of black elites being enriched, thereby not solving the issues of inequality but rather distributing them elsewhere (Bond 2000b; Roberts, Kivilu, and Davids 2010).

2.3 The importance of coal

The legacy of apartheid has furthermore characterised South Africa's energy sector, which still severely influences and infiltrates present politics and energy transition. Historically, South Africa has followed a highly capital- and energy-intensive development path that is heavily reliant on the coal mining industry (Winkler and Marquand 2009). This development path has been defined as the 'minerals-energy complex' of South Africa, in which the economy of South Africa is structurally dependent on resource extraction and -beneficiation (Fine and Rustomjee 1996). Coal is South Africa's cheapest and mostly used energy source, and is also one of the highest contributors to the country's rise of prosperity and economic development (Jeffrey, Henry, and McGill 2015). While the recent statistics show, that 85,4% are connected to electricity (StatsSA 2013), in 1993, at the very end of apartheid, only 36% of the population were connected to the electricity grid; a percentage that, needless to say, did not favour the people of colour (Baker, Newell, and Phillips 2014).

The state-owned electricity company Eskom is responsible for generating 90% of South Africa's electricity and owns all the coal-fired power plants in the country, which currently accounts for 70% of all of South Africa's primary energy consumption (EIA 2017). Although there is now widespread recognition that there is a need to phase out fossil fuels from the world-economy, South African coal extraction is frequently legitimised as being a large employment source and a strong economic contributor; this being despite only a rather small percentage of the population having the skills to work in the coal mining sector (Spencer et al. 2018). Considering the new construction of the two large-scale coal-fired power plants Medupi and Kusile, electricity derived

from coal as well as extraction is expected to grow in order to continue the status quo required to protect Eskom's dominant position on the market (Montmasson-Clair 2017).

3. Methodology

Having contextualised some of the most essential insights from past and present South Africa, this chapter will somewhat briefly outline the methodology used throughout the research. This thesis is mainly built on the knowledge gained through empirical data and interviews that I conducted during two months of fieldwork in South Africa. This section will firstly give an insight into the chosen critical theory of science followed by an outline of the applied methods, and the ethics and limitations it entailed.

3.1 Critical theory of science: Decolonial theory

Due to South Africa's history of colonialism, which led to decades of apartheid and tensions between whites and blacks, I have come to recognise the dubious power relations inherent in both my position as a researcher and in the topic of my research, by drawing from Smith's (1999) work on Decolonizing Methodologies. Despite the fact that apartheid no longer exists, it is still possible to detect traces of colonialism in the current post-apartheid South Africa. Although power relations were grounded in racial segregation during apartheid, these power relations are still evident in issues of labour, dispossession and pollution mainly felt by poor, black South Africans (Cock 2014). This can be explained by the notion that colonial power structures have endured even after the end of the colonial era; something that is not only true in South Africa but for most former colonies. According to Quijano, colonialism is not over – it has been outlived by coloniality in which the same power dynamics are embedded (Quijano 2007). He claims that "the model of power that is globally hegemonic today presupposes an element of coloniality" (Quijano 2000, 533). Following these lines I have therefore found it important to depict the issues of race in relation to coal struggles in South Africa through the lens of decolonial theory. The way in which it has been incorporated into my research will be elaborated on in the paragraph about positionality further below.

3.2 Applied methods

In order to understand the possibilities and limitations to form a stronger environmental justice movement in South Africa, I have employed a critical ethnographic method including direct observation, while doing fieldwork in South Africa. The methods of narrative walks and drives, as well as unstructured and semi-structured interviews have been central to my research. I have

furthermore created a map of coal struggles as a way to portray the visited coal-affected communities and coal mines in South Africa during my fieldwork.

3.2.1 Fieldwork

In February and March 2018 I was in South Africa to gather primary data about the current state of environmental justice movements in South Africa in relation to coal mining. The first month I stayed in Melville, Johannesburg closely located to every potential interview person at Wits University, University of Johannesburg and most of the Environmental Justice NGO headquarters in South Africa. By using the sampling method of snowballing, (See Denscombe 2014; Streeton, Cooke, and Campbell 2004) I was able to get in contact with coal mine workers and community members after engaging with NGOs, Community Based Organisations (CBOs) and scholars. The second month I travelled towards the regions of Mpumalanga and KwaZulu-Natal (see Figure 1) where I visited and interviewed communities affected by mining, coal mine workers and a farmer with help from various activists, of whom many also live in mining-affected communities. I went to 14 different communities in the areas of Vanderbijlpark, Middelburg, Emalahleni, Wonderfontein, Carolina, Ermelo, Somkhele and Fuleni.

Figure 1: *A screenshot of the map of 'Struggles in Coal Mining-Affected Communities in South Africa' showing all the sites I visited during my fieldwork. The blue dots are the visited communities, the black dots are coal mines, the brown dot is a farm and the grey dots are refineries and power plants*

In order to grasp how massively coal mining expands throughout South Africa and how closely connected the communities are geographically, I created a map of *Struggles in Coal Mining-Affected Communities in South Africa* to keep track of the coal mines and communities I visited and

conducted interviews in (see Appendix 2). I mainly did research in Mpumalanga as this is the region with more than 80% of all of South Africa's coal mines – and where the majority of coal-fired power plants are located; thereby being recognised as a toxic air pollution zone (Spencer et al. 2018). Furthermore, I went to the Gauteng, Free State and KwaZulu-Natal regions, in which fewer amounts of coal mines and coal-fired power plants are located (see Figure 1).

3.2.2 Critical ethnography

The primary method that I have used during my fieldwork has been the one of critical ethnography. It differs from conventional ethnography in the way that it is politically embedded and asks 'what could be' instead of merely describing 'what is' (Thomas 1993). The position of a critical ethnographer has enabled me, not only to be critical but also to embrace the fact that I as a researcher wish to invoke societal change (Thomas 1993), thereby openly being against coal mining within the limits of not offending anyone. As stated by Madison (2005, 5), "the critical ethnographer also takes us beneath surface appearances, disrupts the status quo, and unsettles both neutrality and taken-for-granted assumptions by bringing to light underlying and obscure operations of power and control". The underlying purpose of my research is, and has been, precisely to disrupt and emphasise the unequal power relations related to coal mining and coal conflicts, and questioning the societal system that creates such unequal environmental burdens onto especially black and poor people.

Initially, I went to South Africa with the purpose of investigating and mapping coal resistances and to connect them to global similar struggles; however already after a few weeks of being there, I could detect that I had to unlearn my previous perceptions of the state of resistances in South Africa and stay more open to the realities of the country, thereby drawing conclusions without any preconceived notions. As a chosen method of critical ethnography I listened to what people told me about their view on environmental justice, coal mining and resistances, and although I was still looking into environmental justice, the aspect of it changed according to what people were telling me. Another dimension to critical ethnography is to give something back to the informants, as a way of empowering them and not making them feel as a source of extraction (Madison 2005). For this reason I created the map of *Struggles in Coal Mining-Affected Communities in South Africa*, so that I can share my knowledge visually with the people I have been in contact with during my fieldwork.

3.2.3 Direct observation

As part of my research I was doing direct observations (Denscombe 2014; Trochim and Donnelly 2001) throughout my fieldwork in South Africa. Although not doing exhaustive

observations, this method has still provided me with the possibility of getting access to more in-depth understanding of people's everyday lives (Denscombe 2014); this by observing not only what people say and how they say it, but also noticing what they are not necessarily communicating, and in some instances, what they are taking for granted as being significant (Valentine 2001). This has been of high importance especially for the insight of how coal mining impacts communities, which I would not have been able to achieve without having been there myself and engaging with community members, mine workers and activists in the affected communities. I have been explicitly aware of my observations during interviews (Spradley 1980), taking notes of impressions, reactions, feelings and situations of my interviewees. This has enabled me to dig a bit deeper and grasp what is important for my informants. I also used the method of direct observation outside the field when I spoke to Uber drivers, people on the street or passers-by to try and get a more general understanding of people's view on coal mining and equality in South Africa.

3.2.3 Interviews

During my fieldwork I conducted 44 interviews with representatives of organisations and communities. Interviewees include NGOs, CBOs, scholars, activists, members of mining-affected communities including coal mine workers and a farmer. I interviewed representatives from 8 different NGOs and CBOs[3], 6 scholars, 11 activists and 1 farmer. Furthermore, I visited 14 different communities where I interviewed 7 coal mine workers and 11 community members. Suffice to say that the farmer and activists also lived fairly close to one or several coal mines, thereby also being affected community members. Disregarding their occupation, they are still extremely affected by coal impacts.

Throughout the fieldwork I mainly used the method of unstructured- and semi-structured open-ended interviews (See Flick 2014; Turner 2010; Kvale and Brinkmann 2009). When interviewing NGOs, CBOs and scholars, the purpose was to get an insight into the coal arena in South Africa and of the level of resistances with a focus on environmental justice and injustice. Some of these interviews were unstructured, rather like a regular conversation with a purpose, whereas others were distinctly semi-structured. These interviews provided me with contextual comprehension and led me to activists working with mining-affected communities and environmental justice, and to a farmer who experienced extensive impacts from coal mining. The interviews with the

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[3] The boundary between the organisation being a NGO or a CBO was often indistinct because the informants were often representatives of several organisations at once. They are therefore used interchangeably in this thesis, although mostly using NGOs.

activists then led me to mining-affected community members and coal mine workers, with whom I conducted semi-structured interviews (see Table 1):

Table 1*: List of interviews and methods used during interviews*

Interviewees	Method	Quantity
Scholars	Semi-structured and unstructured interviews	6
NGOs and CBOs	Semi-structured and unstructured interviews	8
EJ activists	Semi-structured interviews and narrative drives	11
Affected community members	Semi-structured interviews and narrative walks	11
Coal employed community members	Semi-structured interview and unstructured interviews	7
Farmers	Semi-structured interview	1
Total number of interviews		44

It occurred twice that the entire community gathered when conducting an interview, thereby making it more like an unplanned focus group interview than an actual interview. I had a few questions that preceded the interviews, such as asking about their level of resistance and impacts of coal mining, but I always listened to what the interviewees emphasised and found important to talk about, so that I could better comprehend their perspective and experiences. I therefore stayed flexible and gave space for the interviewees to lead the conversation in their preferred direction, although within the confinements of my topic. The level of questions differed compared to how talkative the interviewees were and how much background information I already had about their situation. During interviews with NGOs, CBOs, scholars and the farmer I recorded the interviews and wrote notes simultaneously, whereas the other interviews were merely notes due to language barriers (see 3.5 Limitations).

3.2.4 Narrative walks and drives

Inspired by Jerneck & Olsson's (2013) article on narrative walks, I applied this method to get a better understanding of how communities experience the impacts of coal mining, both in relation to their homes and health as well as everyday situations of their lives. The method of narrative walks is very convenient in the way that it establishes a more relaxed environment with a shift of power from the interviewer to the interviewee, given that the interviewees are the experts in their own surroundings. However, instead of a narrative walk it more often than not turned into a narrative drive due to geographical distances and lack of time. Using this method has enabled me to create a routinized process of data collection, which has enhanced the richness and depth of my research (Butler and Derrett 2014).

I consequently used this method every time I met with an activist in a new town. While driving I interviewed the activist(s) about their relation to coal and environmental justice. This helped me to better comprehend how coal is affecting the town on a general basis and also how differently environmental justice is perceived. On most of the narrative drives we drove through the whole town and stopped when there was a coal mine and a community next to it, so that I could interview someone in the community and take pictures. My initial plan was to also do a narrative walk once being in the community with one or several community members, so that they could show me how coal mining is impacting their lives. By asking the interviewees to show me how the coal mines near their houses affect their lives, I was able to get a better sense of what they are struggling with daily. This however was quite difficult due to the language barrier, so when they did show me around their house or community, it was mostly without verbal communication or with the help of translation from an activist.

3.2.5 Coding

It did not take long before I started seeing a pattern of what the interviewees emphasised during the interviews, so I decided to code the interviews according to different themes that most frequently came up (Flick 2014). In order to do so I read through all my field notes and created categorisations that I interpreted as being most representative for my findings. The themes are: impacts of coal mining, dispossession of land, no clean and affordable energy, contaminated water, (un)employment and corruption. The coding will become more apparent in the section of empirical findings (see 5.1).

3.3 Ethics

There are of course many ethical considerations to bear in mind before, during and after fieldwork, none the less concerning interviews in which often intimate experiences of people's lifeworlds are investigated (Kvale and Brinkmann 2009). One of the first things I asked before starting an interview was whether the interviewee preferred confidentiality or anonymity and thereafter asked for permission to record the interview. I furthermore informed them of how I wanted to use the information they shared with me.

Everyone but coal miners and one community member gave me their consent that I could use their name in my research. However, after hearing about several incidents of activists' houses being burned down and their lives being threatened by mining companies or community members who are in favour of mining, I have decided to only use their first names, to preclude any potential compromise of their safety and unnecessary implications (Palmer et al. 2014). During my fieldwork, I encountered many coal mine workers who seemed to feel unsafe when I

approached them. I found out that it is because many of them have signed contracts in which they state that they will never speak openly about their job, stressing injuries and safety measures as being subjects that they cannot speak about to anyone. I tried avoiding intrusion as much as possible and always had respect for people's wish to not partake in an interview. However, it seemed like there was a discrepancy between what I believed to be intrusion compared to the activists leading me to my interviewees, often walking straight into someone's house asking for an interview.

I have also been aware of how my visit to very impoverished communities could affect the interviews with community members. There is an asymmetric power relation, which cannot be avoided even by recognising and reflecting about it (Brinkmann and Kvale 2005). Although I tried being flexible during the interviews and gave space for the interviewee to speak about topics important to them, I am still the one initiating the interview, setting the agenda by asking questions about their lives. Additionally, I am interfering in people's lives by trying to understand how coal mining is affecting them without being able to give them anything back besides showing interest and compassion. Several times I experienced that the interviewees in the affected communities expected that I gave them money in exchange – or as a sign of gratitude – for their time, which put me in a difficult position, knowing that very little money for me would mean a lot for them. A few times an activist demanded that I gave 20 Rand (approximately 1,50 €) after an interview, which I would usually not have prescribed to do, not only because it could lead to potential expectations towards future researchers, but also because it thereby commodifies the interview. However, to avoid any inconvenience, I felt compelled to give the money given that it was a request from the activist. On another, but related note, every time I met with an activist they spent the whole day with me showing me around, answered all my questions, helped me get in contact with community members including coal mine workers. We therefore always had lunch together, which I paid for as a gesture of appreciation for their help and time.

3.4 Positionality

Being aware of one's own positionality is of high importance, and following Madison's (2005, 16) statement it becomes apparent why: "Positionality is vital because it forces us to acknowledge our own power, privilege, and biases just as we denounce the power structures that surround our subjects". Throughout my fieldwork I have been conscious of my own positionality, by incorporating the decolonial critical theory of science into my research and engagement with informants; I have done so by being mindful of my position as a researcher, and how different

power dynamics are at play when scrutinising coal struggles in mining-affected communities. Most importantly, I am not colour blind when it comes to race and racial issues (Apfelbaum, Norton, and Sommers 2012) but aware that I as a white researcher have certain privileges (McKaiser 2011). I have openly discussed this issue with many of my informants, because it is an on-going problem in South Africa. I have therefore consciously been aware of this power dynamic instead of trying to wish away or deny its existence. I have furthermore been alert to not impose any of my own beliefs, whether that being ideological or personal, onto the people I have interviewed or had meetings with. Bearing this in mind I believe that, although not being able to break the barrier of unequal power relations at least in some way I have managed to diminish it slightly by acknowledging it.

3.5 Limitations

One of the practicalities of doing fieldwork and collecting empirical data is that it entails recognising certain limitations connected to it (Valentine 2001). One factor that can be depicted as being a limit is that I have been quite time-constrained during my fieldwork. Nonetheless I decided to pursue this research and tried organising my time most optimally before, during and after my fieldwork. While I was in South Africa I had to squeeze in a lot of interviews and meetings daily in order to make it to all the communities and coal mines that I wanted to visit. Regarding the timeframe I could have chosen to only focus on a few towns rather than all of them, but I believed there was a need to visit as many towns as possible in Mpumalanga and KwaZulu-Natal in which there are coal mines to get a broader understanding and insight. If I had more time I would have stayed at each area longer, engaged in participant observations, and conducted fewer interviews per day. This would have enabled me to reflect about my findings and process them along the way instead of only after coming back to Denmark.

In most interviews with community members including coal mine workers there was a language barrier, as their native language is Zulu and they had difficulties speaking English. I therefore got help from the activists who translated my questions to the interviewee(s) and their answers back to me, so that we could have a better flowing conversation. Each time I had spoken to the activists beforehand notifying them of my research interests and which subjects I had in mind for the interviews so that they were prepared for what I wanted to discuss. A few times I noticed that what was being said got lost in translation or that the activist told me what I wanted to hear instead of what was actually being said. Most often this was fairly easy to distinguish between, because the activist translating gave considerably longer answers than the informants did. As a

way to combat this issue I asked the interviewee the same question several times phrased in different ways as to hear what was repeated in the answers.

Another constrain in my research is the fact that there is a gender bias in my interviews (see Appendix 1). When it comes to NGOs and scholars it is fairly equal between the participation of men and women, whereas men heavily dominate the other categories. It is relatively more obvious when depicting the interviews of coal mine workers, due to that employment sphere being highly male dominated. However, had the opportunity presented itself, I would have wanted to conduct more interviews with women in the mining-affected communities, as they are often the ones experiencing the worst impacts. This is also something that could have been avoided had I had more time for planning. Furthermore, it might have been a limitation that the coal mine workers were scared of speaking openly and honestly about their working conditions, because they are afraid of losing their job by engaging with me. Although I have completed a large number of interviews, I am aware that this does not make this research generalisable. It is merely demonstrating a small part of the reality of coal mining conflicts in South Africa, which can of course be depicted in various ways, and this is one of them.

4. Theory

After having clarified how this research has been shaped throughout the fieldwork and interviews, I will now present the theoretical framework that lays the foundation for interpretation of the empirical findings. I will first present the theory and concepts of environmental justice and injustice, followed by a depiction of the environmentalism of the poor and the languages of valuation. I will lastly present the theory of the carbon lock-in, which later will be linked to South Africa's dependency on coal.

4.1 Environmental justice and injustice

The term 'environmental justice' emerged in the US in the early 1980s along with the grassroots movement's opposition to practices of environmental hazards imposed onto poor, black communities, in which the movement started to demand environmental justice (Bullard 2000; Walker 2009). The term has been warmly welcomed into the sphere of both environmentalist activists and scholars when referring to the unequal distribution of environmental 'goods' and 'bads', the former meaning facilities such as parks and common spaces and the latter meaning sites of hazardous waste and extraction (Carmin and Agyeman 2011; Martinez-Alier et al. 2014). Environmental justice encompasses human rights, race, class, gender and social justice issues and is based on the principle that everyone deserves the right for a clean and healthy environment

without being discriminated (Bullard 1996; Agyeman, Bullard, and Evans 2002; Agyeman and Evans 2003). It aims at improving the current and future injustices in relation to the "distribution of environmental costs, benefits, and conditions on the grounds that all are equal and have equal rights" (Schlosberg and Collins 2014, 361). Environmental justice activists and scholars recognise how people of colour, low-income and working-class people are disproportionately exposed to large amounts of environmental hazards, such as resource extraction, air- and noise pollution, toxic waste production- and disposal, locally undesirable land uses (LULUs) and dispossession of land; also known as 'environmental injustice' (Bullard 2000; Brulle and Pellow 2006).

The term environmental injustice is often used interchangeably with that of 'environmental racism', because environmental injustice encompasses the aspects of both class and race. It was defined by Benjamin Chavis as a way to depict racial discrimination in the unequal environmental distribution, where people of colour are exposed to sites of extraction and pollution while being excluded from environmental decision-making for their benefit (Schlosberg and Carruthers 2010). Environmental racism is an example of an injustice in which environmental hazards are imposed on a specific group of people (Pellow 2000). According to Bullard (1993a, 11), "environmental and health risks are not randomly distributed throughout the population"; it is rather a zero-sum game based on the uneven distribution of environmental burdens (Hornborg 2012), in which the poor and people of colour continue to suffer from environmental bads and burdens in comparison to wealthier and white people, as a consequence of class and race being intricately linked to each other (Stein 2004). Environmental injustices can therefore be seen as being manifested in racially discriminatory practices that continuously exist throughout the world (Cole and Foster 2001).

Although initially used by activists, the term environmental justice has evolved into a concept used by scholars to empirically demonstrate the importance of linking pollution and environmental degradation with racial issues and poverty (Temper and Del Bene 2016). It is therefore both a concept and the name of a social movement that can be depicted as a dialectical relation between a movement and a subject of study, as it is used in both praxis and in theory (Sze and London 2008). The link between the research and praxis of environmental justice becomes evident when contemplating the growing number of conflicts and resistances all over the world. As the number of conflicts increases, so does the use of the term environmental justice. This is a consequence of capitalism becoming globalised, which has created an insatiable need for growth, thereby leading to an increase of the number of people demanding environmental justice to protect their resources (Sikor and Newell 2014; Martinez-Alier 2014). Since its emergence in the US, the environmental justice movement has reached new global

heights of recognition and participation in opposition to practices of environmental injustices and is now used all over the world as a way to bring attention to the importance of equal environmental distribution of goods and bads for all (Temper et al. 2018; Schlosberg and Collins 2014). In other words, environmental injustice is what people are fighting against whereas environmental justice is what people are fighting for.

Although not a uniform movement, it serves to unify and give space for a diversity of struggles against injustices in every part of the world, recognising that people suffer from different environmental hazards and have different demands and values regarding environmental needs (Schlosberg 2004; Sikor and Newell 2014). The environmental justice movement focuses on challenging the "business-as-usual" environmentalism that is typically practiced by privileged wilderness and conservation environmentalists, often viewed as being the predecessors of the environmental justice movement (Bullard 1993a).

4.2 Environmentalism of the poor

The importance of using the notion of environmental justice especially becomes evident in comparison to other streams of environmentalism in which matters related to race, class and violations of human rights are not being addressed. This coincides with Cock's (2014, 5) statement of how "environmental justice represents an important shift away from this traditional authoritarian concept of environmentalism which was mainly concerned with the conservation of threatened plants, animals and wilderness areas". According to Martinez-Alier (2002), there are three streams of environmentalism: the cult of wilderness, the gospel of eco-efficiency and the environmentalism of the poor. Those who resist environmental degradation in order to protect their livelihood have been referred to as "environmentalists of the poor" (Guha and Martinez-Alier 1997; Martinez-Alier 2002). Whereas the first two groups of environmentalists are most often led by middle- and high-income white people who engage with wilderness preservation and animal protection, the latter is led by marginalised and poor people who are struggling against resource extraction, deforestation and conservation to protect their lands (Bullard 2000; Martinez-Alier et al. 2014, 2016). This stream is tightly connected to the environmental justice movement and the demands that are redeemed.

Environmentalism of the poor asserts that struggles related to the environment and human rights are inseparable, meaning that people have the right to remain on their lands protected from resource extraction and harmful investments (Anguelovski and Martínez-Alier 2014; Martinez-Alier 2014). This, however, does not imply that poor people always act as environmentalists and that environmentalists are always poor people, rather that it is a matter of necessity that people

need to protect their livelihoods in order to survive. Whereas wealthier people are slightly disconnected from and less concerned with the environment as their source of livelihood, many rural populations, and often also minorities and marginalised communities, are directly connected to it, as they live off and by the environment as their source of livelihood. They therefore have a more intimate understanding of the environment and what is at stake when companies start prospecting and extracting fossil fuels nearby or on their land (Martinez-Alier 2002; Davey 2009). The movements of environmentalism of the poor, or "the environmentalism of the people" (Martinez-Alier et al. 2014) as they are also being referred to, "combine livelihood, social, economic, and environmental issues with emphasis on issues of extraction and pollution" (Martinez-Alier 2009, 59). It is not always the case that the people who are resisting have an actual choice as to whether they want to resist and act as environmentalists; it is often marginalised people such as women, poor or indigenous who willingly or unwillingly are taking the part as the defenders of the environment.

4.3 Languages of valuation

Resistances and struggles frequently arise due to conflicting interests in relation to how differently environmental goods and bads are valued. Social actors have different interests and goals, each with their own definition of what has value; this becomes particularly clear when comparing economic value with that of environmental value (Munda 2008), such as what the imposer of environmental hazards value in comparison to those being exposed to it. This different understanding of value is characterised as "languages of valuation" (Martinez-Alier 2002, 2009). Environmental conflicts and what people depict as injustices are difficult to value, due to people's different positioning when valuing how much something is worth. Avcı, Adaman, and Özkaynak (2010) argue that this especially becomes challenging when people are dependent on the environment for their livelihood. Anguelowski (2014) explains how it is often poor people who defend their livelihoods and territorial identity against people using the dominant language of valuation, namely the economic valuation, such as the valuation used by mining companies and governments. The common language of valuation of mining companies is based on the increase of economic growth, commodification of land and the development paradigm in which large-scale resource extraction projects are being prioritised over, for instance, the perceived sacredness of land, which cannot be monetised (Avcı, Adaman, and Özkaynak 2010; Martinez-Alier 2002). These different values are "incommensurable", meaning that the value of sacredness of land cannot be directly compared to economic values. As Martinez-Alier (2002, 94) emphasises, "environmental destruction may be compensated and restored", however "irreversible damages are not taken into account" when encountering that people's livelihood is

at stake. When mining companies are to choose the site of their extraction projects, they generally choose to place them in areas where they can get away with paying a low monetary compensation (Munda 2008). Compensations are therefore "an act of power to simplify complexity and a monetisation of the different languages of valuation" (Cardoso 2018, 46). The language of valuation thus describes the complex and manifold differences between intrinsic value and monetary value.

4.4 Carbon lock-in

Another relevant concept in relation to environmental hazards is that of "carbon lock-in". According to Unruh (2000, 2002), the term describes past and on-going investments in fossil fuel extraction projects and technologies, that produce organisational, social, governing and institutional limitations to alternative energy paths. Such investments create a tendency of inertia in which "certain carbon-intensive technological systems" are allowed "to persist over time, 'locking out' lower-carbon alternatives" (Erickson et al. 2015, 1). Once these carbon investments are made, they create a fossil fuel dependency that makes it difficult to supersede the current fossil fuel technology, even in instances where the alternative proves to be an improvement of the existing system (Unruh 2000; Erickson, Lazarus, and Tempest 2015). Although fossil fuel technologies, such as coal-fired power plants are expensive to build, they are "relatively inexpensive to operate and, over time, they reinforce political, market, and social factors that make it difficult to move away from, or 'unlock' them" (Erickson et al. 2015, 1). It thus becomes more challenging for new low-carbon solutions to flourish and for economies to create a transformation away from fossil fuels, in which they "decarbonise" and avoid further carbon lock-in (Mattauch, Creutzig, and Edenhofer 2015).

The same applies to the adoption of mitigation policies in favour of inhibiting environmental hazards, thereby preventing carbon locked-in economies to achieve ambitious emissions reductions:

> In many cases governments have direct control over carbon-intense sectors and, while the rational behavior would be to correct the externality of environmental degradation, governments instead exacerbate the problem through continued subsidization (Unruh 2000, 828).

The effects of the carbon lock-in do not solely apply to social institutions and governments. They are also influencing citizen's way of structuring their lives in relation to infrastructure, which determines whether they are obliged to drive cars or use public transportation or bikes. The choice of means of transportation is thereby not always a matter of an autonomous preference,

but rather conditioned by a self-perpetuating path-dependency according to the societal structure (Unruh 2000).

5. A synthesis of key findings: We Are Screaming But No One Is Listening[4]

In order to understand the grounds for how the analysis has taking shape, this chapter will briefly present some of the key findings based on observations and interviews with mining-affected community members and coal mine workers. It will outline a synthesis of the negative impacts coal has on the interviewed community members' lives and the injustices they experience, which are, as previously mentioned, based on the coding and categorisation of interviews and observations.

5.1 Impacts of coal

Independently of people's occupation, every community I visited feel massive impacts from coal mining, whether that being coal mine workers, activists, unemployed people or farmers. Almost all the communities have huge cracks in their houses because of blasting from the mine(s). Many were deprived of clean water and had no access to electricity although they were living right next to coal mines, power stations and electricity cables. They had coal dust in their houses and no clean air to breathe. Many of them described having sicknesses like tuberculosis, asthma and chest problems because of living so close to extraction sites. Most of the interviewees had no health care or the means to deal with their sickness caused by coal mining, which mutually conditioned them to live a life of unemployment.

5.2 Dispossession of land

With the placement of extraction sites follows removal of community members' houses that live on the land intended to be demolished. Most of the interviewed community members had been forcefully removed from their land by mining companies, who in turn promise them compensation and jobs in the coal mine. Many of them used to live off their land by farming and did not need education or skills training or income to survive. But when the mining company relocated them, they had to engage in wage-labour.

5.3 No clean or affordable energy

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[4] Quote by the activist Zethu (13.03.2018)

Most of the communities I visited lived right next to energy cables but did ironically not have proper electricity; many of them rely on digging coal with shovels in nearby abandoned coal mines for heating and cooking, which is very polluting both inside and out. Even many of the mining communities where people work in coal mines did not have electricity.

5.4 Contaminated water

It was mentioned several times by the informants, how many of the mining companies are mining illegally without water licenses or prospecting rights, thereby using the same water sources for cleaning the coal as the communities are using for cooking, cleaning and washing. This has led to many instances of contaminated water, in which people have no means of attaining clean water.

5.5 Employment in the coal mining industry

There is a tendency of false promises of jobs in the mining industry, in which local people do not get employed. Both activists and community members referred to this as a "recycled job process" where the mining companies are bringing their own employees instead of hiring people from the affected communities. This has been confirmed by the interviewed mine workers who moved away for their work, following different extraction sites. However, they also emphasised that the main reason for working with coal is because they want money, and mining is one of the best-paid jobs you can get when you have no skills. Money is of high importance, because it means that the community members can take care of their basic needs.

5.6 Corruption as the root cause of injustice

The interviewees stressed the fact that poor people are easy to bribe, because they fear that they will not be able to support themselves and their families. As soon as members of communities ask for a demonstration or a protest at the municipality office, the mining companies goes to the communities and bring food or tiny amounts of money to bribe people, telling them that they can have these things for free as long as they do not attend the protests. This can create tensions in the communities, because even though people are against mining, they are not against money in desperate times.

6. Part I: The conceptualisation and experience of environmental justice and injustice in South Africa

Based on the presented theoretical framework and key findings, this chapter will firstly outline how environmental justice is conceptualised in a South African context. Secondly, this will be compared to how environmental injustice is experienced, based on interviews and observations made throughout fieldwork. Lastly, this chapter will scrutinise how the environmental goods and bads are distributed unequally in the mining-affected communities of South Africa.

6.1 Conceptualisation of environmental justice in South Africa

It has been estimated that the term "environmental justice" was first used in South Africa during the Earthlife Conference in 1992, and that this conference inspired the formation of the Environmental Justice Networking Forum (EJNF) in 1994 with the aim of mobilising "people around the notion of environmental justice" (Cock 2004, 8). Although the network came to an end in 1998 due to racial tensions and unequal power relations between blacks and whites in the movement, it still remains the only example of a united movement in South Africa (Cock 2004).

The way that the term environmental justice is used in South Africa has many parallels to how it was framed by the civil rights movement in the US, when comparing to the anti-apartheid struggles in South Africa (Walker 2009). During our interview, the scholar Victor Munnik (01.03.2018) explained how there is a mirroring effect between the US and South Africa, due to the fact that the paradigm of environmental justice was directly imported from "black inner-city activism in the US", in which the "whole history of environmental racism was brought to South Africa as well as environmental injustice". The professor, Jacklyn Cock (02.03.2018) emphasised the importance of addressing environmental racism in order to build a strong environmental justice movement in South Africa, because "black people are the worst sufferers from climate change, toxic pollution and the ones who lack access to clean water" and that "it is especially black poor people who are affected by pollution and damages from coal mining". There is no uniform conceptualisation of environmental justice in South Africa, which according to McDonald (2004) can be an advantage insofar that it gives space for different kinds of groups and organisations to be drawn to and take part of the movement. Several scholars such as Bond (02.03.2018) and Cock (02.03.2018) stressed the fact that environmental issues are often seen as white middle-class concerns, such as preservation of wilderness areas rather than the pursuit of justice or human needs. Both Cock and Munnik (02.03.2018 and 01.03.2018) emphasised how race and class imply each other in South Africa, which is why an environmental justice movement in South Africa cannot be envisioned without bringing the notion of environmental injustice and environmental racism to the fore.

6.2 Conceptual versus experiential understanding of environmental injustice

From my interviews and observations, it became apparent that the concept of environmental justice vividly exists in South Africa and has been embraced by many scholars, organisations and activists. Not only are there dozens of environmental justice organisations present in South Africa, many of them are also working closely with activists who engage in knowledge-sharing events with mining-affected communities. However, it did not take long before I noticed the difference in the way that the concept was used by my informants empirically explaining the phenomenon, compared to the ones being directly exposed to the impacts of environmental injustice; in this case, the impacts of coal mining. There is an abstract, conceptual understanding of environmental justice, injustice and racism, which differs from the concrete, experienced understanding. Makoma Lekalakala, the director of Earthlife, explains how they, as an organisation, use the term "environmental justice" in order to empower affected communities:

> We work on policies and put them in practise by engaging with the local communities
> affected by coal mining. We give the people on the ground the means to empower
> themselves through movement building and education. We do NOT teach them about it,
> but create relations and connections to environmental injustice and climate change by using
> the local communities' own experiences; in that way they can benefit from the knowledge
> of environmental justice (Lekalakala 27.02.2018).

This shows how the concept of environmental justice is not expected to be known in the communities that are actually affected by environmental hazards; it is rather based on the act of knowledge sharing between those working with environmental justice and those experiencing the impacts from coal mining. According to Shutkin (1994, 580), this kind of empowerment is a way of creating environmental protection because "environmental justice is the most resonant, most powerful response to […] economic and racial inequality". Most of the interviewed activists and NGOs use this kind of method to connect the experiential understanding with that of the conceptualised understanding; by doing so they create awareness of the violation of people's basic rights and the injustices they experience.

Mining-affected communities, on the other hand, do not use a conceptualised formulation such as "environmental injustice" or "environmental racism" to explain the oppression they feel. Almost none of the interviewees from coal-affected communities –including coal mine workers– were aware of how coal mining has a negative impact on the environment. They did not state explicitly how their experiences represent instances of "environmental injustice"; for them it was merely everyday life. However, it was a life that they were clearly not satisfied with. Through

interviews and observations it became evident that communities are experiencing the utmost environmental injustice, even if they would not use those exact words. They all emphasised how their health and lives are being jeopardised by coal mining. Whether interviewing affected community members or coal mine workers, all the communities had issues with the huge amount of fly ash, also known as coal dust in, on or near their houses, often leading to them having chest problems, sore throats, headaches or eye problems. Other issues they highlighted were massive cracks in their houses because of the weekly blasts (see Figure 2 and 3), contaminated groundwater and rivers, sinkholes left from abandoned mines, acid rain, un-arable land and no clean air to breath because of all the coal dust. This conforms with Zehner's (2012) description of health impacts related to coal mining.

Figure 2 and 3: *The Vaalbank community in Carolina in the Mpumalanga region, where every house was full of massive cracks. All photos, unless stated otherwise are by Daria Rivin*

Independently of their occupation, the mining-affected community members are extremely affected by coal impacts; although the coal mine workers are benefitting from their salaries, they still feel the impacts on their health just as much as the next person, often even more because they are exposed to coal during their time at work as well. Paradoxically, the decisive example of unequal distribution of environmental goods and bads becomes vastly evident when accounting the access to energy in mining-affected communities. Bond (2012, 145) states that in South Africa "millions of poor people are regularly disconnected [from] or denied access to the grid due to extreme poverty", which confirms this finding. Every visited community is located right next to either one or several operational or abandoned coal mines, a power plant or a coal refinery (see Figure 4). Regardless of their occupation, half of the interviewed community members were deprived of access to energy, either because they do not have permission to connect to the electricity grid, or because they cannot afford to pay for the electricity.

Figure 4: *The Duvha power plant to the left, a coal mine in the middle stretching all the way to the Masakhane community on the right side, in Emalahleni, Mpumalanga. The community did not have any electricity*

Trusha Reddy (22.02.2018), a coal network coordinator, described this being because "the coal production does not benefit the poor; it is out of reach, particularly because it is too expensive, but also because the high income users pay less than the poorer people. It favours the big industries rather than the local communities". This often instigates that the community members are risking their lives, having to fetch coal in abandoned coal mines nearby their houses (see Figure 5).

Figure 5: *A woman with her baby digging coal for heating and cooking in the coal mine opposite of their house in the MNS Informal Settlement in Emalahleni, Mpumalanga*

Although the explanation of felt impacts from those directly affected by coal mining correlates with the definition of environmental injustice and environmental racism, they do not articulate it in this way. They are using a different terminology that is less abstract, such as focusing on the

lack of service delivery of clean water and affordable energy, but more often than not they focus on the lack of jobs and the difficulties of having to live with high impacts from the mine without working there. Scrutinising these injustices and connecting the conceptualisation with the experience of environmental injustice therefore seem highly important to create awareness of what can be done to prevent this injustice from occurring.

Activists and NGOs are working to improve the affected community members' lives by trying to understand their predicament and often helping with organising workshops and information-sharing events. The approach for knowledge-sharing differs between activists and NGOs. The activists Zethu and Vincent (13.03.2018) tried to educate people in the local communities about environmental justice by giving crash courses about people's rights and how air pollution is affecting everyone negatively. They used the method of "teaching by doing", by trying to be the solution they want to see, which is a functioning community not reliant on employment in the mining industry. They created job opportunities for the local community such as car washing, farming and making vegetable gardens around the city of Ermelo to keep people occupied and make a living despite being unemployed. Zaneli (07.03.2018), another activist, used the approach of door-to-door campaigns and dialogues with the affected communities as a way of sharing information about environmental justice. It is a dual process in which both activists and NGOs gather knowledge and understanding from the felt experiences that the affected communities suffer from, and by working together they empower each other. As Meshack (23.02.2018) from the organisation 'Mining Affected Communities United in Action' phrased it, "each one, teach one", and as Sifiso Dladla from the organisation ActionAid (28.02.2018) put it, "each one needs one": in order to increase the knowledge of environmental and human rights, it is important to engage with the community members and for them to engage with activists and NGOs as well.

6.3 Unequal distribution of environmental goods and bads

The end of apartheid led to a reduction in poverty, but it did not instigate a reduction of inequality (Bhorat and van der Westhuizen 2008, 31). One of the biggest foundations for inequality in South Africa is coal extraction. As the activist Zethu (13.03.2018) eloquently put it, "coal mining is an island of success in a sea of poverty". The activists and NGOs interviewed continuously mentioned the fact that coal mining does not benefit everyone, but rather the already rich people, the small elite and those owning the coal mining companies. Dladla from ActionAid (01.03.2018) argued that, "the richer the mining company is, the poorer the local communities are. The communities are black, formerly uneducated people and therefore

expected to be poor". Not only does this statement reaffirm the racial injustice of coal mining, it also shows that coal is a significant driver of inequality in South Africa – once the prospecting and extraction of coal start there is no way back; the impacts will be felt forever.

All of the community members' struggles can be framed as struggles of environmental justice and acts in the nature of environmentalism of the poor. However, the struggles are not explicitly expressed through this framing, but rather connected to that of health impacts or false promises of jobs, thereby disregarding the correlation with the environmental injustice they experience. It is evident both from interviews and observations that the mining-affected communities mostly focus on what they can see or grasp and are not linking it to unequal distribution of environmental goods and bads or environmental injustices. Movik (2014, 187) argues that there "may be different perceptions of what constitutes a just distribution" of environmental goods and bads; it depends on "ensuring that everyone has access to sufficient resources to sustain life" (2014, 193). Nonetheless, in the case of the interviewed community members there is no doubt that what they are experiencing is a breach of their human and environmental rights. According to the South African Constitution's Bill of Rights (2015, 9), "everyone has the right to an environment that is not harmful to their health or well-being" and that they have the right to live in an environment protected from "pollution and ecological degradation". Although endorsing the right for every citizen of South Africa to live in a clean and healthy environment, it is obvious that this declaration is not an actual depiction of the reality that the mining-affected community members are experiencing.

Besides being a trigger for inequality, coal mining is also reshaping the physical landscape of South Africa, which is disproportionately affecting mostly black, poor people. As stated by Milbourne and Mason (2017), when mine-owners start extracting, they do not respect the existing landscape but rather approach it as a commodity that should be utilised (see Figure 6). This conforms with my findings, in which 8 out of 18 community members, including coal mine workers, were forcefully removed from their land so that mining companies could start extracting.

Figure 6: *This area in Ermelo, Mpumalanga used to be land for farming. Now there is a massive toxic sinkhole from an abandoned coal mine, that children often swim in on warm summer days. Behind it is another abandoned coal mine with a community right behind it*

During an interview, an anonymous man from Somkhele told me his story of how parts of his community were relocated in 2012 and how they were promised a compensation of 12.000 Rand per family (equivalent to 800 €) if they chose to move, including one job per family in the coal mine as an extra support. However, they moved before getting the promised compensation, because:

> We were fooled by a good spokesperson from the mining company, who told us that he was on our side and would help us if we agreed to move. We all believed his words, his fake promises. Now we have lost our land and right to farm and we live far from any clean water resources. Had we known we would never have agreed to move (Anonymous Man 3 16.03.2018).

Most mining companies hire a spokesperson who is in charge of communicating with the affected communities and is then supposed to be the correspondent between the company and the community to make sure that everyone has expressed their opinion and been heard. However, in many cases the spokesperson fails to do this job in a respectful and honest manner. All but one of the community members mentioned how their community was promised prosperity and jobs in the coal mine, which made them agree to either relocate or accept coal extraction near their community. Sifiso Dladla (28.02.2018) also explained this as a "customary

law" that rules in South Africa that, "if you make a promise, you keep it. That is why people believe the words of mining companies when they make promises".

The above-mentioned anonymous man and many others in the community of Somkhele were able to live off their land before the relocation; they did not feel deprived of anything, but they were made poor by the mining company who did not value their livelihood important enough to compensate them adequately. The mining company furthermore started extracting on the land where their ancestors were buried without relocating their remains. This is an instance of the unequal environmental distribution in a racially discriminatory manner, where yet another extraction site is being placed on the land owned by black people. Furthermore, it is an example of two very different languages of valuation: the mining company values economic growth higher than what the sacredness of the land is worth for the people originally living there. The economic valuation of the environment or the landscape is, according to Milbourne and Mason (2017, 32), "often overriding established meanings of nature amongst local (and indigenous) communities", because it is "exclusively valued in relation to their actual or potential contributions to the means of production and the generation of economic or financial profit". This embodies the experiences of the community members. William, an unemployed welder, explained how the coal mine next to his house used to be a ground owned by a black man, and that no one would have ever touched it had the property been owned by a white man (06.03.2018). This conforms with the activist Zaneli's description of why there is one big area in Emalahleni that is not directly exposed to coal extraction (see Figure 7):

> Bankenveld is a white people's area. No one will ever touch that, even though there most likely is coal underground. No mining company can afford paying the compensation it would cost to relocate white people. They only come to poor and black people's areas and take advantage of them (Zaneli 07.03.2018).

Historically, people of colour and poor people have been excluded from the decision-making that concerns their land and the opportunities to engage for their benefit (Pellow and Brulle 2005). This confirms that environmental bads are not randomly distributed throughout the population but that they are deliberately located in the areas where people already have the least resources and capabilities for opposing the placement of the extraction sites. Compensations are furthermore valued lower when people own fewer things that can be monetised to a fixed price, such as the visited communities in South Africa.
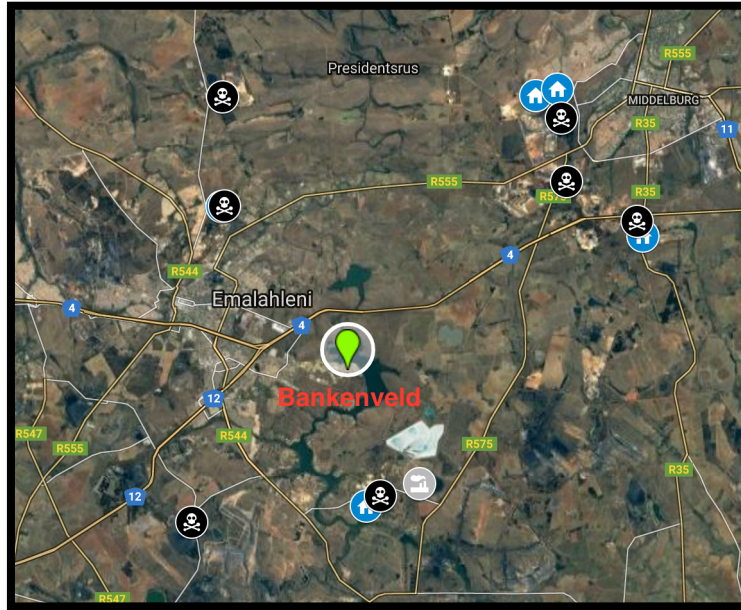
Figure 7: *Bankenveld is a community in Emalahleni mainly inhabited by white affluent people. The blue dots are mining affected communities, the black are the coal mines that I visited and the grey is a power station*

Anguelowski and Roberts (2011, 25) explain how "eventually, poor communities are caught in a cycle of deeper poverty and isolation while stronger and well-off communities can more easily adapt to and recover from climatic impacts". This is furthermore an instance of "spatial injustice", which is manifested in unequal distributions of environmental goods and bads typically directed at communities of people of colour that experience greater contamination and are more vulnerable to environmental hazards than white communities (Anguelowski and Roberts 2011).

To sum up, it has been detected that in South Africa, environmental bads are deliberately located in the areas where people are poorest and lack the resources to oppose them. It is marginalised people, such as the black and poor population, who suffers the worst from environmental burdens and feel the impacts of climate change the most. One of the biggest triggers for inequality and environmental injustice is the extraction and use of coal. However, although being greatly exposed to the impacts from coal mining, the mining-affected community members do not perceive this inequity as an environmental injustice, which is why it is important to bring the notion of this term to the fore, in order to create awareness of people's rights, so that they can start demanding environmental justice.

7. Part II: To resist or not to resist

The resistance against the apartheid regime is by far the most famous and extensive mobilisation that has ever taken place in South Africa, but even before and after this, various social

movements have ascended and been of great influence for creating change (Death 2014). Due to South Africa being a country that has been, and to this day still is highly politically oppressed, the scholar Munnik (01.03.2018) asserts, that resisting is one of the society's key characteristics.

7.1 The environmental justice movement in South Africa

As has already been demonstrated, many instances of environmental injustice are occurring in South Africa, however this is not the framing that is being used by the directly affected communities. During my fieldwork I experienced first-hand how more than a dozen communities are directly exposed to environmental injustice. There is no doubt about the extent of incidences of affected communities all over South Africa. This brings to fore the importance of focusing on environmental justice in order to create change that is beneficial for the people who are affected the most. By focusing on environmental justice, it becomes possible to place environmental issues "within a larger critique of unequal social relations and the capitalist globalization process and increasing social metabolism they are embedded in" (Temper et al. 2018, 10). A movement for environmental justice could potentially "help to move society and economy in the direction of social justice and ecological sustainability" (Martinez-Alier 2014, 241), furthermore leading the environmental justice movement into being a force for sustainability (Scheidel et al. 2018).

Given that the number of communities experiencing the negative effects of the unequal distribution of environmental goods and bads is increasing, it can be expected that these communities will eventually take part in the environmental justice movement (Pellow 2007, 15), and South Africa is no exception. Although acknowledging that no united environmental justice movement currently exists in South Africa, a new unified environmental justice movement is anticipated to emerge, in which injustices of exploitation, environmental racism and exhaustive inequalities will be linked once again in South Africa (Bond 2000a; Cock 2018; Martinez-Alier 2002; Death 2014). As contended by Bond (2016), the ground for creating an environmental justice movement is fertile, and some of the connections have already been made.

7.2 Incentives for resisting

Resistances occur on a regular basis. Noteworthy, although not generalisable, is that every interviewed community member who was not working as a coal miner had protested against the impacts of coal mining. Many of the interviewees had been taking part in marches, pickets and bigger protests while others had sent letters and complaints to the mining companies documenting the damage done to their community. The most frequently recurring reasons for resisting are unregulated blasting, coal dust and fly ash, no access to clean water, cracks in

people's houses and the paradoxical lack of access to electricity although living right next to one or several coal mines (see Figure 8). In other words, the communities start resisting when their livelihoods are being threatened or directly compromised, because they are relying on their land for farming, vegetable gardens and clean water.

Figure 8: *Ndabayakhe's (06.03.2018) house to the right, in the Vaalbank community in Middelburg. Although she works for a coal mining company and lives right next to an electricity cable, she does not have electricity in her house and is required to burn coal for heating and cooking*

This follows Avcı, Adaman, and Özkaynak's (2010, 229) statement that, "resistance to activities that both deprive communities of access to natural resources and pollute the environment" is important because of "local people's dependence on the environment 'as a source' and requirement for livelihood". These communities can thereby be understood by using the framework of environmentalism of the poor; although the community members are not necessarily protesting for the sake of defending the environment, they are defending their right to live on their land, which is being jeopardised by coal mining. Their struggles thereby fit with the theory of environmentalism of the poor, as they are poor and marginalised communities who are obliged to defend their livelihoods from extraction sites located near them in order to sustain their basic needs.

7.3 Challenges of resisting

Despite having resisted against the mining companies in the past, many of the community members declared that they felt discouraged from resisting. Several of them mentioned how the

mining companies used to notify them before blasting. However, after they started to complain about coal dust, vibrations and cracks in their houses caused by the blasting, the mining companies began to blast without any warnings in order to prevent the communities from being able to document the impacts (see Figure 9).

Figure 9: *A blasting that happened without any warning during an interview in the Vaalbank community in Middelburg. The ground started to shake and it became extremely dusty due to all the smoke. This happens randomly approximately three times a week*

Furthermore, all the activists and several community members stressed the fact that the mining companies keep changing their names on a regular basis, so that they can discard any complaints. The activist Zethu (13.03.2018) explained this by saying; "our stories are being swept under the carpet by the coal mining companies. Every time an issue occur, they change their name, stating that they have never heard about such an issue before". It can be depicted as a form of discretely silencing people, because although experiencing the same on-going impacts from the extraction site, the community members start to feel hopeless and dispirited. As the community member Isaac (06.03.2018) clarified, "the municipality blames the mining company for cracks in our houses because of blasting, but the mining company blames the municipality for poorly built houses, so now we have nowhere to go with our complaints. No one will hear us".

Another frequent obstacle that the community members experienced when they were defending their land was that the coal mining company was turning other community members against those resisting. Different languages of valuation are at play, however, not only between the

mining companies and the community members, but also within the communities. The community member Mr. Mtshali (15.03.2018), opposed relocating and giving up his big piece of land for four consecutive years. For him, his land was "incommensurable" (Martinez-Alier 2002, 258), because he could live off his land, which he valued higher than what could be offered in the form of a monetary compensation. The irreversible damages of the environmental destruction of land are not being taken into account, nor the fact that most of the community members will have difficulties sustaining their livelihoods after relocating. It can be argued that these tensions create an intrinsic power relation between those supporting mining over those being against. Mr. Mtshali did not move voluntarily but was frightened for his and his family's lives because the mining company denied paying the other relocated community members' compensations until he agreed to move; this initiated several death threats if he did not move immediately, which he eventually did. As the traditional leader of the neighbouring community stated (16.03.2018): "Resisting coal mining often cause problems, because it creates tensions and divisions in the communities". It was the case for every interviewed community, that there were tensions between those against mining and those in favour. This demonstrates how the dominant language of valuation, the economic valuation used by the mining companies, can also be used by the community members; those being in favour of relocating are turning against those resisting, by demeaning the importance of valuing land and territorial identity compared to money.

7.4 The injustices of coal mining

Although having participated in some kind of resistance, a state of apathy appeared to rule the community members' lives one way or another. Most of the community members blindly believed that there are some parts about coal extraction that are good even though they experience extreme injustices every day. The community member Andries (07.03.2018) stressed the fact that people are not scared off from working in a coal mine just because of the impacts they feel. All but two of the interviewed community members did not want to get employed by a mining company had the possibility presented itself. Despite being familiar with the negative impacts coal mining has on their own and others' lives, the rest of the interviewed community members strived towards mining employment. The overall ambiance of the community members was that they felt powerless and scared. Their immediate and vital needs such as being able to afford food, already consumed most of their energy. They therefore do not have the resources to change their situation by resisting one of the only possibilities they have to get out of their misery: namely the employment from the very mining company that is destroying their lives. Every interviewed community member, who was not employed by a mining company, stated that they were against coal mining. But only insofar as that they did not work there; once getting a job

in the mining industry they could surpass the issues and impacts they felt. This became evident when interviewing coal mine workers who were also living next to extraction sites. Lucky (08.03.2018), a coal miner said, "I know that the more we mine next to people's houses the more trouble we cause. Coal mining is affecting people in a very bad way. But this does not affect me, because I have a job there now and money comes before anything else". Every interviewed mine worker was aware that their work is destructive, but for the time being they are getting a salary which makes them able to support their family, and that is a more pressing issue than the implications of their actions.

It thereby became clear that the injustice of coal impacts for community members changes according to whether they have a job in a coal mine, hope to get a job there one day or know for a fact that they will never work in one. Every interviewed coal mine worker was proud about their employment and talked about it as being prestigious; not only because of the money, but also because of the dangers and risks connected to the manual labour they do. It seemed as if working in a coal mine, especially while being young, was considered to be a rite of passage that they wanted to pursue. The community member and part-time activist Kleinbooi (08.03.2018), clarified this phenomenon of young black people deliberately searching for jobs in the coal mining industry, being related to them seeing coal mine workers in their communities having cars, thereby connecting coal mine employment with being able to afford buying a car. It could possibly be explained by the implementation of the Black Economic Empowerment strategy, which initiated more black people to work within the coal mining industry as a way of dealing with the injustices and racial discriminations in South Africa after apartheid. Zaneli (07.03.2018), who is currently an activist, used to work for AngloCoal for five years until the department got shut down. She said: "I only saw coal mining as a beautiful thing at the time. I did not realise all the negative impacts it caused because I was making money". An interview with another coal miner confirmed her statement: "When I see a coal mine, I see success! I know there will be job opportunities and money. I love mining" (Anonymous Young Man 1 07.03.2018). It was a consistent viewpoint of all the coal miners, and the activists who were previously employed in a mining company confirmed this outlook as well.

To sum up, the majority of the affected community members tried to resist by confronting the mining companies. However, the fact that they do not know where to direct their complaints has led to a state of hopelessness and lack of will for resisting. Despite every interviewed community member being exposed to environmental injustice and degradation, the prospect of working in a coal mine is often valued higher than the negative impacts caused by the extraction sites.

8. Part III: The missing alternative to a just transition away from coal

As has already been asserted, there are several restraints to overcome in order for affected community members to start resisting the extractionist forces that are the main cause of the environmental injustice they experience. But what is it that keeps them from resisting, and what pulls them towards the wish of getting employed by the same source that put them in that desolated situation to begin with?

8.1 A trap of carbon dependency

Following Unruh's (2000, 2002) theory of carbon lock-in, there is no doubt that the South African government and economy is trapped in a seemingly inescapable carbon lock-in. Due to the trajectory of continuous investments in coal and the two new coal-fired power plants in the process of being built, it is expected that the South African economy "will remain locked-in to a coal-based energy system for the foreseeable future" (Burton and Winkler 2014, 19). South Africa's path dependency on coal has created a carbon lock-in that is deflecting any form of alternative, which obstructs climate mitigation that could benefit the ones mostly affected by the pollution and hazards it causes. As stated by Baker et al. (2015, 2), the "coalitions concerned with maintaining the status quo are well organised and have used the discourse of growth, employment and competitiveness to hinder the implementation of mitigation policy". The possibility of leapfrogging a carbon lock-in has long passed, once being trapped in a carbon-intensive economy (Unruh and Carrillo-Hermosilla 2006). This conforms to my findings in which the community members are connecting coal mining with growth and job creation rather than destruction and injustice. Not only does this carbon lock-in destroy the possibilities of mitigating climate change, it is also maintaining the already most affected and poorest part of the population in deep inequality and injustice.

As stated by Malm (2016, 79), the enduring investments supporting coal extraction and infrastructure extend "the ruts of path dependency" because "the longer business-as-usual persists, the harder it becomes to break out of it". Likewise, it is on the verge of being impossible for the affected community members to oppose this impediment. It is apparent that many of them see no other way out than to continue this vicious cycle and to uphold the status quo although that compromises their health and violates their rights. It appears that the carbon lock-in is entrenched deeper than that of the South African economy. It can be argued that the mining-affected community members are trapped in a lock-in that is structurally bound in the South African system and that they cannot escape this entrenchment; it is beyond them, and

unknowingly they help enforcing the carbon lock-in because they strive towards working within coal mining instead of going against it. As the community member William (06.03.2018) explained, "danger is not a priority: danger is everywhere, so it does not matter if you work in a coal mine. You will die earlier if you have no food, so people choose coal".

Following Brown and Spiegel (2017, 110), this shows how "coal is entangled with broader configurations of political and economic power"; the coal dependency of South Africa goes far deeper and beyond the control of the community members' capabilities to resist the extractionist forces that further maintain them in their current position. As Hallowes and Munnik (2017, 4) state, "people have no choice but to breathe. And they have no choice but to take on dangerous and toxic work – if they can get it". The community members' state of apathy can thereby be viewed as a severe consequence of South Africa's carbon-intensive path dependency. Furthermore, it is an example of how the government serves the economy at the expense of the people they are representing and claiming to protect from environmental harm and injustices, by putting pollution before the health and justice of the people they claim to serve. Malm (2013, 17) raises an important point, stating that "fossil fuels should, by their very definition, be understood as a social relation: no piece of coal or drop of oil has yet turned itself into fuel". The coal industry relies on people digging up coal as much as the people rely on the coal mining industry to hire them. It can therefore be claimed as being a twofold process in which one enforces the other to continue, thereby preventing the community members to resist due to the endless hope of employment.

8.2 Coal as the breadwinner

As many of the community members explained, it is not because they lack interest in changing their current situation, but most of them are too scared or lack the resources to resist. As William stated, "people cannot resist because it is too expensive when they get detained or arrested. They cannot afford the bail, so they become too afraid to raise their voices and instead keep quiet and then nothing changes" (William 06.03.2018). A possibility of resisting against coal extraction could be by engaging in a "just transition" to a low-carbon economy, in which there is a focus on job creation outside the sphere of fossil fuel extraction but rather in the industry of renewable energy (Newell and Mulvaney 2013). However, due to the entrenchment of coal it seems that a just transition is unlikely to happen in the near future. In 2011, there was a national campaign with this exact focus called "One Million Climate Jobs" in South Africa (Ashley et al. 2011); it got massive support from trade unions, organisations, activists and scholars, but it is far from producing the aspired results. The fear of losing jobs to the decrease of the coal sector seems to

be of higher importance than climate mitigation; as stated by Cooling et al. (2015, 5), "for workers and communities who rely on the coal, oil and natural gas industries, climate action could mean the loss of well-paying jobs and key employers". It furthermore seems, as if the interviewed community members do not want to be in the way of other community members' fortune, who have been lucky enough to get employed by a mining company.

Nonetheless, a massive broad-based environmental justice movement coming from below could potentially be what is needed for the government to finally realise that it is time for a change of trajectory and to start making new investments in renewable energy. The South African government's National Development Plan even states that this is what is needed before the government can start a transition to a low-carbon economy: "Change is more likely to be bottom-up, triggered by perceptions at a national or local level, and aggregated progressively in regional and global agreements" (NDP 2012, 91–92). However, many of the interviewed community members continue to believe that coal mining equals job creation; due to their difficult living conditions, they have accepted the extraction sites on or near their land for the slight possibility of them getting employment, although it is also widely known, that coal mining does not necessarily lead to jobs. The promises of creating jobs through new coal mines are continuously being broken and most of the community members are aware of this. Sadly, it seems that the community members are only against mining when they are not benefitting from the extraction as they had wished for. The community member Isaac (06.03.2018) for instance, stated that, "the coal should be left in the ground, when we are not benefitting from it".

The ones who do oppose coal extraction are frequently threatened with lawsuits or death threats for being against their own county's prosperity, if they cannot be bribed with money and job proposals. When Voss (14.03.2018), a maize farmer, was asked to let a mining company prospect and extract coal on his land they threatened to take him to the high court. According to section 54 of the constitution, he claimed he would lose the trial on the accusation of being anti-growth and against the government's plans of affluence; because coal mining supposedly benefits the entire country. This statement correlates with Cock's (2018, 265) argument of how "challenges to mining are dismissed as anti-growth". Currently, Voss has two abandoned coal mines on his land that have not been rehabilitated; one of them has been burning underground for more than two years now, causing a collapse of the surface, thereby ruining the land from ever being used for farming (see Figure 10).

Figure 10: *An abandoned coal mine burning under the ground. Photo by: Mark Olalde*

Saying no to mining is even more difficult for the community members, because that entails saying no to the possibility of living a better life. As the activist Zethu (13.03.2018) explained, "if you say no to mining you must have the means to do so: desperation is key because coal mining is the breadwinner of the family". Zethu explained this further by stating that, "hungry comrades will always be bribed or corrupted. They evaluate the environmental impacts to what they feel in their stomachs and choose coal". When people are desperately poor they worry about covering their immediate needs and the only way for them to cover those are by working. Employment in a coal mine provides money and safety; you do not necessarily need an education to work there and you can easily get promoted. However, coal mining is not an actual breadwinner. Contrary to what many of the community members are misled to believe, there are very few jobs in the mining industry. As Spencer et al. (2018, 2) explains, "coal extraction is not a large employer in [the] aggregate, although the employment effects are frequently used to justify opposition to mine closures or limit the transition away from coal".

Interestingly, some of the activists fighting against coal extraction are also trapped in the carbon lock-in without realising it. One example is the activist Nomonde (12.03.2018), who stated that, "if there were more jobs in coal mining there would be less struggles for people". She wants to change the system but seems to unknowingly be replicating it by aspiring to more job creation within the mining industry. Another example is one of the most comprehensive resistances in South Africa against coal extraction, which has taken place in the Fuleni community (see EJ Atlas 2017). The community has united against a proposed extraction site on their land, demanding that the mining company should "leave the coal in the hole" for the sake of the national park

close by. However, based on interviews with activists and affected community members in the area, it appeared that although having the focus on stopping fossil fuel extraction, the underlying issue rather seemed tied to the false promise of jobs in the nearby coal mine in Somkhele which instigated the resistance. This demonstrates how there is a lack of alternatives to the carbon-intensive economy that dominates in South Africa, causing the energy path to continue being dependent on coal. This makes it difficult if not impossible for citizens of South Africa to break away from the carbon lock-in, because it seems like there is no way out.

Simultaneously, the education system is so bad that it can be argued of enforcing people to work with mining. As already stated, it is one of the few jobs where people can get hired without necessarily having any educational background or skills training. The coal miner Lucky (08.03.2018), who started as a coal digger but recently got promoted to a lab researcher said that "coal mining is good; especially for young people like me without a proper education. We cannot afford continuing to study. The educational system is too bad and too expensive, so we choose coal where you do not necessarily need skills but can get easily promoted".

8.3 The lacking alternative

Bullard (1993b, 10) claims that "the offer of a job (any job) to an unemployed worker appears to have served a more immediate need than the promise of a clean environment". As has previously been argued, the community members have to have their basic needs covered before they can start acting as environmentalists. It can be claimed that although they feel extreme impacts of environmental bads, they continue to have a soft spot for coal mining. Vincent (13.03.2018), an activist, stated that there is a severe need for a change of discourse in which everyone believes that coal mining equals job opportunities. He claimed that people have been "brainwashed into having this belief" because the "mining companies bribe them". It can be argued that this makes people think of the mining companies not as villains but as saviours. This confirms Nixon's (2011, 4) argument that "impoverished communities are often assailed by coercion and bribery that test their cohesive resilience". The community member Kleinbooi (08.03.2018), explained how he tried mobilising the neighbouring community who suffers from the same impacts as his does, but as he said,

> They all turned against me, because the mining company had already been there and bribed them so that they would not listen to me. And what can I offer them? Nothing but knowledge-sharing about their rights, but when people are hungry they do not listen to reason.

Andries (07.03.2018) similarly explained how he and people from his community used to protest the lack of water access because the coal mine used water without having a license. However, they quickly realised that there was no point in starting another march or a picket against the mining company, because as he stated "too many people work there or want to work there, and you cannot march alone while others are stepping back. The only thing you can then do is to just cross your arms, lay back and do nothing. There is no point in trying anymore".

The interviewed community members are aware of what their immediate needs are, but they are not connecting them to the issue of environmental injustice or depict them as a violation of their actual rights. This is an explicable oxymoron of a carbon-intensive economy that is heavily relying on the extraction of coal for it to function, in which the citizen's health and wellbeing is exposed. As Lucas (05.03.2018), an activist, stated, "environmental rights are human rights" and they are inseparable because "when you temper with the environment, you temper with people's lives". But it seems that the lack of resources makes it nearly impossible for the community members to envision a future without coal, because as the activist Zethu (13.03.2018) argued, "they think with their stomachs and not with their heart". It thereby appears that there is a need for finding a common enemy that outweighs the apathy of the community members. As Kleinbooi (08.03.2018) said, "only after corruption will stop, people will be able to stand up for their rights, because as it is now, people are only looking for today, and not for tomorrow". Zethu (13.03.2018) further stated that, "if everyone is fed, then maybe community participation would be stronger". This verifies that people take bribes because they are desperate and hungry, and this is the reason why they can surpass the environmental injustices they experience.

9. Conclusion

In this thesis, by using critical ethnographic research and mixed methods, such as interviews and direct observations in coal mining-affected communities, I have attempted to comprehend why there is currently no unified environmental justice movement in South Africa against coal extraction. By answering how *environmental justice is conceptualised and perceived in comparison to how environmental injustice is experienced,* I have found, that scholars, NGOs and activists in South Africa are engaging in knowledge-sharing with mining-affected communities by connecting the conceptualisation of environmental injustice with experiences of environmental injustice. Although affected community members do not necessarily depict their situations as acts of environmental injustice, there is no doubt, that what they are experiencing are instances representing the unequal distributions of environmental goods and bads, in which they are solely

exposed to the latter. Addressing these issues is therefore crucial for building a stronger environmental justice movement in South Africa against coal extraction.

By answering *what the main incentives are for resistance in mining-affected communities and what is preventing people from resisting*, I have found, that the main reasons for community members to resist is the endangerment of their health and livelihoods by mining companies. This further confirms how environmental goods and bads are not randomly distributed throughout South Africa – on the contrary, the extraction sites are deliberately located in areas where notably black and poor people live. The thesis has shown, that the struggles of community members can be depicted in light of theories of environmental justice, environmentalism of the poor and languages of valuation. However, despite all the interviewed community members having resisted against coal extraction in one way or another, a tendency towards apathy overweighed the felt experience of injustice, which appeared to have generated a discouragement of resisting. These limitations and lack of resistance were explained through the theory of carbon lock-in.

It has been argued, that the continuous investments in coal projects are impeding the prospect of decreasing environmental injustice imposed onto mining-affected communities. This is based on the grounds, that the South African economy is so entrenched in its reliance on coal extraction, that it has been trapped in a carbon lock-in, thereby deflecting a possible transition to a low-carbon economy through a top-down approach. However, this research concludes, that it is not only the country that is trapped in a carbon lock-in; the coal dependency is also influencing the citizens of South Africa. Despite being severely exposed to environmental hazards, the interviewed community members seemed only to be against coal mining as long as they did not benefit from it. I have therefore argued, that mining-affected community members can withstand the environmental injustice they experience either by being employed by a mining company or having the prospect of employment. Due to not having the financial means and resources to oppose the placements of coal extraction sites, community members are blinded by this hope of employment in the mining industry, although the mining industry is the exact cause for their predicament. The effect of the country's carbon lock-in is influencing the citizens' way of structuring their lives; unconsciously this is creating a self-perpetuating dependency on coal, which is reinforced by the lack of resistance on behalf of the communities.

Conclusively, it is therefore argued, that the country's carbon lock-in is deflecting any form of alternative, and further obstructs resistance. Instead of uprising against the experienced injustices, the community members feel discouraged due to the energy they expend on fulfilling their immediate and basic needs, which simultaneously triggers them into wishing for employment in

the mining industry. It thereby appears to be a dual process of enforcement; one coming from above and the other from below. However, the likelihood of breaking free of this entrenchment seems greater coming from below, given the fact that the government continues to invest in new coal projects and infrastructure. This emphasises the importance of creating a unified environmental justice movement against coal.

However, whether a stronger and more visible environmental justice movement is growing in South Africa is challenging to predict. Coal struggles could potentially be a unifying factor that lays the ground for an environmental justice movement against coal extraction; especially when considering the massive extent of instances of environmental injustice and unequal distribution of environmental goods and bads that are dispersed in a racially discriminative manner. Many of the communities have experienced severe challenges of resisting due to tensions within the communities between those supporting mining and those against. This can be viewed as a setback of the South African economy, in which the citizens are trapped in inequality and feel the need to work with mining, which tends to lead to a state of inertia. Furthermore, the resistances are being undermined by the economy's reliance on coal, making it difficult for its citizens to break free from the status quo. But despite how difficult resisting seems, opposing an unjust system will always remain as a possibility. There exists no better example than that of the resistance against the apartheid regime, which was initiated from the bottom-up. This suggests, that there is a potential for a unified environmental justice movement against coal extraction in South Africa, but that it lies in the hands of the people. Thus, it is up to citizens of South Africa to combine their forces to find a common enemy that is bigger than the apathy they currently feel.

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      Environmentalism*. U of Nebraska Press.

Appendix 1

List of interviews (chronological order):

Name	Occupation	Place of interview	Date of interview(s)
Bond, Patrick	Professor at Witwatersrand	Skype meeting and Witwatersrand University	19.12.2017, 09.01.2018 and 02.03.2018
Hallowes, David	Researcher for groundWork	Skype meeting	12.02.2018
Barry, Sheila	Director at Earthlore	Johannesburg	16.02.2018
Burton, Jesse	Scholar at Cape Town University	Skype meeting	20.02.2018
Reddy, Trusha	Coal network coordinator	Johannesburg	22.02.2018
Meshack	Works for MACUA	Johannesburg	23.02.2018
Mokoena, Samson	Director at VEJA	Vanderbiljpark and Sasolburg	26.02.2018
Lebo	Activist	Sasolburg	26.02.2018
Lekalakala, Makoma	Director at Earthlife	Johannesburg	27.02.2018
Healy, Hali	Professor at University of Johannesburg	University of Johannesburg	27.02.2018
Galvin, Mary	Professor at University of Johannesburg	Johannesburg	27.02.2018
Dladla, Sifiso	Works at ActionAid	Skype meeting and at Wits University	28.02.2018 and 01.03.2018
Munnik, Victor	Research Associate at Witwatersrand University	Witwatersrand University	01.03.2018
Cock, Jacklyn	Professor Emeritus at	Witwatersrand	02.03.2018

	Witwatersrand University	University	
Mnguni, Thomas	Works for groundWork and HEJN	Middelburg	05.03.2018
Bafana	Activist, works for HEJN and MEJN	Middelburg	05.03.2018 and 06.03.2018
Lucas	Activist, works for HEJN and MEJN	Middelburg	05.03.2018 and 06.03.2018
Isaac	Unemployed, recycling trash	Tokologo community, Middelburg	06.03.2018
William	Unemployed welder: community member	Tokologo community, Middelburg	06.03.2018
Zwelahke	Unemployed: community member	Vaalbank community, Middelburg	06.03.2018
Ndabayakhe (and her father and family friend)	Cleaning officer in nearby coal mine	Vaalbank community, Middelburg	06.03.2018
Zaneli	Activist	Emalahleni	07.03.2018
Andries	Unemployed: community member	MNS Informal Settlement, Emalahleni	07.03.2018
Anonymous young man 1	Employed in nearby coal mine	Masakhane community, Emalahleni	07.03.2018
Anonymous young man 2	Employed in nearby coal mine	Masakhane community, Emalahleni	07.03.2018
Vusi	Activist	Wonderfontein	08.03.2018
Kleinbooi	Employed at a gas station: community member	Lecubank community(?), Wonderfontein	08.03.2018
Anonymous man 1	Machine operator in nearby coal mine	Community (?) in Wonderfontein	08.03.2018
Anonymous man 2	Plant operator in nearby coal mine	Generalssdraai community,	08.03.2018

		Wonderfontein	
Anonymous woman	Plant attendant in nearby coal mine	Generalssdraai community, Wonderfontein	08.03.2018
Lucky	Lab technician in nearby coal mine	Another community in Wonderfontein	08.03.2018
Nomonde	Activist	Carolina	12.03.2018
Almost the entire community present during interview	Unemployed	Vaalbank community, Carolina	12.03.2018
Mthokozisi	Makes fast food in a shack	Silobela community, Carolina	12.03.2018
The whole community present during interview	Unemployed	A community (?) in Carolina	12.03.2018
Zethu	Activist, works for Khutala Environmental Care Group	Ermelo	13.03.2018
Vincent	Activist, works for Khutala Environmental Care Group	Ermelo	13.03.2018
Voss, Johan	Maize farmer	Ermelo	14.03.2018
Billy	Activist, works for iMfolozi Environmental Justice Organisation	Somkhele and Fuleni	15.03.2018 and 16.03.2018
Mrs. Mkhwanazi	Works for Mpukunyoni Community Property Association	Somkhele	15.03.2018
Mr. Mtshali	Auto mechanic and farmer: community member	Community in Somkhele	15.03.2018

Anonymous man 3	Unemployed: community member	Another community in Somkhele	15.03.2018
Traditional Leader of Fuleni community	Traditional leader: community member	Fuleni community	16.03.2018
Phila (and his dad	Activist, works for iMfolozi Environmental Justice Organisation	Fuleni	16.03.2018

Appendix 2

A link to the map of *Struggles in Coal Mining-Affected Communities in South Africa* that I created to give to the interviewees:

https://www.google.com/maps/d/u/0/edit?mid=1fksaRmPaJn0NkiMiiXUvEC-Jm_is_esb&hl=en&ll=-26.428170323257902%2C28.671031067187414&z=8