

Climate Blame Below The Glaciers:

Challenges to Climate Justice in
Peruvian Mountains and German Courts



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Abstract

This thesis investigates climate blame amongst a local population in the Northern Andes, Peru, and relates it to arguments on climate liability in German courtrooms. It does so on the backdrop of a climate lawsuit, which in 2017 was accepted by the Higher Regional Court in Hamm, Germany, filed by a Peruvian farmer against a German coal- and electricity company. Based on epistemological standpoints of cultural relativism and critical realism, and through ethnographic fieldwork in Huaraz, Peru and document analysis of the court case in Germany, it finds that notions of climate justice in these distinct places are accompanied and challenged by a range of other worldviews and principles. It describes in detail a range of perceptions of climate change causes within the local population, and finds that residence and livelihood strategies have an influence on perceptions of climate change. The worldviews and principles are contextualized and analysed through theories of climate justice, individual guilt, and collective responsibility which reveal that the majority of the local population blame themselves or their own community for climate change, which resembles arguments put forward by the coal mining company for exempting their climate liability. With the development of my own concept “diffuse responsibility”, I argue that the discourse of attributing blame for climate change to local livelihood management strategies creates guilt in individuals and conceals major emitters’ climate responsibility. However, notions of climate justice exist in both places as well, linked by the climate lawsuit from the Global South against a major emitter in the Global North. The thesis also offers a critique of the project of the lawsuit concerning community involvement, and a discussion of the potentials of climate litigation as a tool for climate justice.

Keywords: *Climate Blame, Climate Justice, Perceptions of Climate Change Causes, Climate Liability, Climate Litigation, Individual Guilt, Collective Responsibility, Diffuse Responsibility, Water Scarcity, Glacial Lake Outburst Flood, The Global South, The Andes, RWE, Huaraz, Peru.*

Resumen

En 2017, la corte de Hamm, Alemania, se aceptó la demanda judicial presentada por un agricultor peruano contra una gran compañía alemana de carbón y electricidad RWE, acusando a la empresa de ser responsable de las consecuencias del cambio climático en su localidad: El derretimiento de glaciares y el riesgo de inundación desde un lago glacial. A raíz de esta acción, esta tesis investiga las percepciones de “responsabilidad” y “culpa” entre la población en Huaraz en los Andes en Perú y los comparan con los argumentos de responsabilidad climática emitidos por la corte Alemana. A través de un trabajo de campo etnográfico en Huaraz, Perú, y del análisis de documentos del caso judicial en Alemania, basado sobre puntos de vista epistemológicos del relativismo cultural y del realismo crítico, esta tesis señala que las nociones de justicia climática en estas distintas localidades están acompañadas y desafiadas por una gran variedad de cosmovisiones, principios y discursos. La tesis describe en detalle una gama de percepciones de la población local sobre las causas del cambio climático, y encuentra las diferentes estrategias de los medios de vida locales que influyen sobre las distintas percepciones que se tienen en cuanto al cambio climático. Las cosmovisiones y principios encontrados durante la investigación son contextualizadas y analizadas a través de teorías de justicia climática, de culpa individual, y de responsabilidad colectiva, revelando que la mayor parte de la población local se culpa a sí misma o a su propia comunidad por el cambio climático; lo cual a su vez se asemeja a los argumentos presentados por la empresa demandada RWE para eximir su responsabilidad climática. Con el desarrollo de mi propio concepto "responsabilidad difusa" pretendo mostrar que el discurso que atribuye la culpa del cambio climático a las gestiones de medios de vida locales genera culpa en los individuos de las poblaciones locales y oculta la responsabilidad climática de los emisores mayores como las grandes empresas de electricidad y carbón. Sin embargo, las nociones de justicia climática existen tanto en Huaraz como en el corte en Alemania, y en este caso se vinculan por la demanda climática del Sur Global contra un emisor mayor del Norte Global. Finalmente, esta tesis aporta una crítica sobre la demanda judicial en cuanto al involucramiento de la comunidad local, y una discusión sobre la capacidad y el potencial del “litigio climático” como una herramienta para la justicia climática.

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In the following thesis, I have changed all names of respondents¹. All translations of responses from Spanish to English are mine, unless otherwise stated.

¹ It is in line with scientific codes of ethics to do so for reducing the risk of harming or disadvantaging participants (Flick 2009, 37).

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En la siguiente tesis, he cambiado todos los nombres de los encuestados². Todas las traducciones de las respuestas del español al inglés son mías, a menos que se indique lo contrario.

² Este está en línea con los códigos de ética científicos para reducir el riesgo de dañar o situar participantes en una posición de desventaja (Flick 2009, 37).

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Appendix

Appendix 1: List of Interviewees

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1. A Good Place to Study Climate Change: Introduction

“How can I not be afraid [that it will happen again]? (...) How can I forget? I will always have to remember what happened (...) It was the third of December at seven in the morning. Many people died... thousands” (Tereza 05.02.18).

- Retired urban resident from the city Huaraz

“Almost all of us are worried: How will life be tomorrow? Our children or grandchildren will live through this (...) But in which way will they live? Suddenly, there will be water crisis. They could die from lack of water” (Gabriel 12.02.18).

- Small-scale farmer and carpenter from the village Llupa

When you come as a tourist to Huaraz in the Peruvian Andes you normally only stay a day or two in the city itself, before heading off for a mountain hike or a bus trip to one of the still remaining glaciers. However, when you stay just a few days more, you start noticing that the inhabitants of this area live under special conditions. You start noticing the evacuation route maps hanging in many shops and local homes, showing where the glacial lake outburst flood³ will arrive if it comes, where you should run, and where to collect the dead bodies after a disaster has occurred. Some remember the horrors of 1941 when a glacial lake outburst flood from the Lake Palcacocha killed thousands. Today, because of meltwater from retreating glaciers, that same lake, Palcacocha, is considerably bigger than it was then, and represents an overhanging risk of another flood disaster. When you ask people if they are afraid of an outburst flood, some people are. Others are more worried about water scarcity, which simultaneously represents a present

³ During this thesis I simplify scientific terminology. Glacial lake outburst flood (GLOF) is the geographic term which refers to a sudden and in some cases cyclic release of meltwater from a glacier-dammed or moraine-dammed lake, which can result in a catastrophic flood (Iturrizaga 2011). The term “glacial lake outburst flood” will in this thesis be used interchangeably with the simplified concepts of “lake outburst flood”; “outburst flood”; and “flood”. I use the terms “glacier retreat” and “glacier melting” instead of the scientific concept “loss of glacier mass”.

problem and a major future risk. Especially rural small-scale farmers experience the immediate consequences of precipitation changes and retreating glaciers.

When you learn about these serious impacts it becomes obvious that Huaraz and the surrounding villages are really “good” places to study climate change: If you were in doubt whether the consequences of climate change are real, you will no longer be so.

But from where does this global climate change come? There is today almost complete scientific consensus that climate change is human made; its origins are found in the increased level of greenhouse gases in the atmosphere, caused by human activity. The International Panel of Climate Change (IPCC) was clear on this already in their second report from 1995 (Hastrup 2016, 40). But what are the local Andean perceptions of this phenomena and its consequences? How do people in the Andes understand, relate and react to the impacts of climate change that they already experience, and the risks that threatens them? In their view, what is causing this, and who should be held accountable?

During the 23rd UNFCCC Conference of the Parties (COP) negotiation in Bonn, Germany, I met a Peruvian farmer and mountain guide from Huaraz named David, who is filing a lawsuit against a German lignite mining- and electricity company (in this thesis referred to as “the climate lawsuit”). This company, RWE, is listed as one of the 90 biggest carbon producers since the industrial revolution (Griffin and Heede 2017). His hope is that this lawsuit can help force these kind of companies to change their course of energy production and keep fossil fuels in the ground. He said: “From the [flood] risk problem to the water scarcity problem; all of this is what inspired me to file a lawsuit” (Collyns 2018).

This awoke my interest and curiosity. What was his legal grounds for filing a lawsuit based on climate justice ideas, and how did the court accept this? How did he come up with the idea, and did his local community understand the causes of climate change in the same way as him? A few weeks later the court had accepted the legal grounds for the lawsuit, and decided to proceed the case to the evidentiary phase. Three months later I arrived in the hometown of the Peruvian

farmer to know more about the local background, concerning perceptions of climate change and its impacts, its causes, and who to blame for this. This was where my research started.

1.1 Research Questions and Structure of Thesis

This thesis investigates perceptions and arguments concerning causes, blame and responsibility for climate change. It focuses on investigating perceptions of climate blame in the local area of Huaraz, Peru, where climatic changes are affecting the lives of thousands of people. On the background of a climate lawsuit concerning a climate change induced risk in this area, it also investigates arguments on climate liability discussed in the German courtrooms where the trial takes place. The overarching research question is:

Which principles and world-views lie behind the perceptions and arguments of the causes of, blame and responsibility for climate change on the different structural-spatial levels associated with the climate lawsuit?

In doing so, it engages with the following research questions. Their division refers to the analytical division of the thesis, and to the above-mentioned structural-spatial levels.

- 1) Concerning the local population in Huaraz and nearby villages:
 - a) How are climate change impacts and risks experienced and understood in Huaraz and nearby villages and which factors influence this?
 - b) Which perceptions of climate change causes and climate blame exist amongst the local population, and how can these perceptions be understood?

- 2) Concerning the court in Germany:
 - a) Which principles do arguments on climate liability from the disputing parties in the German courtrooms build on?

- 3) Concerning a comparison and discussion:
 - a) How can principles and perceptions existing within the two levels be compared and understood?
 - b) Which local problems have occurred in the process of initiating the climate lawsuit and how can they be understood and acted upon?

The aim of the project is to contribute to the scientific body of knowledge concerning local perceptions of climate blame, climate change and its causes; the principles underlying the arguments for and against climate liability; and their implications for climate justice. It is crucial to understand how climate change and its causes are perceived where its consequences are felt, which is often in the bottom of the global hierarchy of power. Simultaneously, it is just as important to scrutinize on which principles climate change liability is judged upon from the top of this hierarchy. From here, decisions that will influence the lives (and survival) of many people in the bottom of the hierarchy are taken, and the climate lawsuit provides the link.

The thesis is structured after the following model: First I will provide a presentation of background, methods, and theory, where I will give a short background introduction concerning climate change in the mountains Cordillera Blanca (2); outline my methodological approach and describe the methods used in the conducted fieldwork in Huaraz and the nearby villages, as well as for scrutinizing the court documents (3); and introduce the theoretical concepts that I will use for the analysis (4). Following this, I will firstly present my findings from my fieldwork in Huaraz (5), and analyse the local perceptions of and opinions on climate change and its causes (6). Subsequently (7), I will introduce the concept of climate litigation as a tool for climate justice, present my findings from the German courtrooms concerning arguments on climate liability, and analyse the principles behind these. Through these analyses I aim to gain an understanding of which principles and worldviews lies behind the perceptions and arguments concerning responsibility and blame for climate change in the Peruvian Andes as well as in German courts. Consequently (8), I will compare these analyses and discuss the ideologies behind the presented discourses; and offer a self-reflective critique of the backdrop of the thesis, namely the climate lawsuit as a project, concerning the importance of community involvement in a socio-political

setting. I will conclude (9) by mentioning the contributions of the research, revise the conclusions on the research questions, and propose possibly future research concerning climate blame, as well as offer a discussion on the potentials of climate litigation.

2. Climate Change in The Andean Cordillera Blanca

This section will outline the effects of climate change in the Cordillera Blanca (the White Mountain Range), its most severe consequences and its connection to coal mining in Germany.



Figure 1: The Location of Huaraz in Peru (Google 2018). Peru is divided in three climatic spheres. The capital Lima is located south of Huaraz in the coastal area. Huaraz is located in the Andes, and the eastern and north-eastern part of Peru is covered by the Amazon.

The main part of the research conducted for my thesis took place in the region of Ancash in the Northern Peruvian Andes, more specifically the province capital Huaraz, and in a few nearby

villages in the sub-basin Quilcayhuanca⁴ on the mountain sides above the eastern side of the city. Further up, the snow-capped peaks of Cordillera Blanca are rising, and not far from there, Huascarán, the tallest mountain in Peru, which measures 6.768 meters. To the western side of Huaraz lies Cordillera Negra (the Black Mountain Range). Huaraz has a population of 143.415 people (MPH 2018), and is located at an elevation of 3.052 meters.

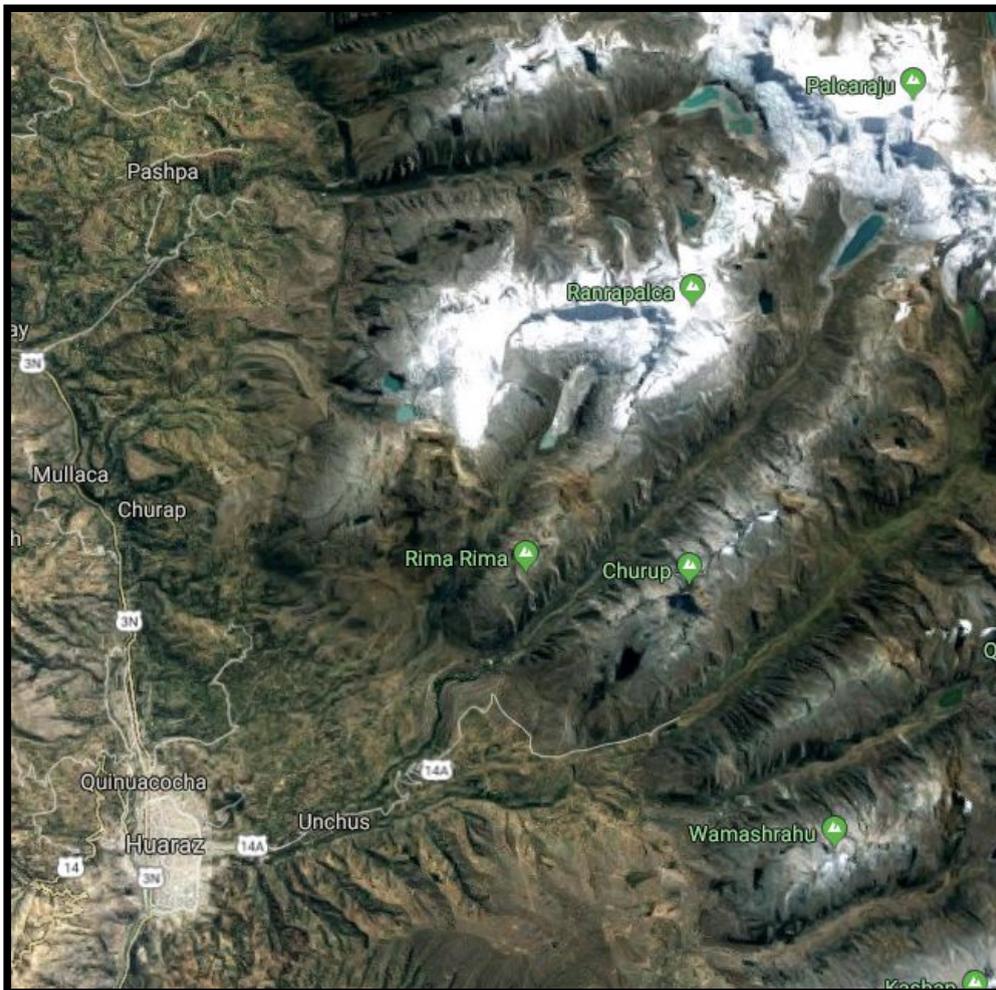


Figure 2: Huaraz Below the Glaciers (CNES 2018). The city Huaraz can be seen in the lower left corner. Following the river eastwards, you enter Sub-basin Quilcayhuanca, and just after the village Unchus, Lupa and the other villages are where I conducted interviews. Above these villages are the mountain and glacial Lake Churup, and in the top right corner is the glacier Palcaraju which feeds into the glacial Lake Palcacocha, which can be seen right below and have the form of an elongated teardrop.

⁴ These villages will in this thesis be referred to as “the villages near Huaraz” or “the nearby villages”.

70% of the world's tropical glaciers are located in Peru, and the Cordillera Blanca is the most glaciated mountain range in the tropical world (Carey et al. 2012, 738; Proyecto Glaciares 2018). Like most glaciers worldwide, the glaciers in this area have been retreating since the late nineteenth century when the Little Ice Age ended (Carey 2010, 7). But anthropogenic climate change is affecting high-elevation mountain areas faster than previously predicted, and has caused glaciers to retreat with an increasing speed (Bury et al. 2011, 180). The average temperature has increased around 0.38°C per decade between 1951 and 1999 (Bury et al. 2011, 182), and glacial coverage in the Cordillera Blanca has declined by 46% since 1930 (Silverio and Jaquet 2017, 159).

The glaciers of Cordillera Blanca represent the largest water resource, not only for the province of Huaraz, but for the entire pacific side of the mountains until the coastal areas such as the capital Lima (Silverio and Jaquet 2005, 342; Carey 2010, 147). Glacier runoff is almost the only dry-season water supply during the six-month dry season from April to September (Carey 2010, 147; Silverio and Jaquet 2005). The glacial retreat therefore represents a serious threat to the main water supply of local agriculture, farming activities, small communities and big cities in a large area (Silverio and Jaquet 2005, 342; Carey et al. 2012, 733). The latest IPCC report has ranked Peru as one of the nations most vulnerable to the impacts of climate change largely due to the threat of water resources because of glacial retreat and precipitation changes (Asmat 2017). Currently, inhabitants of rural areas are especially affected, as their agricultural livelihoods are dependant on the climatic conditions (ibid.). Nearly 50% of the populations in the Andean regions live in conditions of extreme poverty and most small-scale livelihood activities are directed towards basic survival such as livestock and seasonal agriculture as well as agroforestry, tourism services, dairy production and artisanal crafts (Bury et al. 2011, 182). Recent economic and social change such as water intensive crop production for export, mining by transnational companies, and hydroelectric power plants have further intensified the reliance on water resources from the glacial runoff (ibid., 182, 183).



Figure 3: Huascarán (Photo: The author 2018). With its 6768 meter elevation, this is Peru's tallest mountain. It is located 45 km from Huaraz, of which a central neighbourhood can be seen in the foreground.

Also historically, climate change has been particularly influential in the Peruvian Andes, and has caused the most catastrophic glacier disasters over the last century (Carey 2010, 5). When the glaciers retreat, the meltwater turns into glacial lakes, increasing in volume as the ice melts. The retreating glaciers leaves overhanging lumps of glacier, which, in case of e.g. a geological hazard such as an earthquake, can break off and crash into the lake. This can generate massive waves, sometimes big enough to burst the moraine of the lake, and it will empty into the valley as a glacial lake outburst flood. In 1970 the most deadly glacier disaster in the world's history, and the most destructive earthquake in Peruvian history, occurred (Carey 2010, 7). 97% of the city of Huaraz was destroyed and more than half the population died. In the nearby province of Yungay the earthquake triggered a glacial lake outburst flood, which killed 15.000 people (ibid.). The earthquake killed a total of 70.000 people throughout a 65.000 square kilometre area (Ericksen et al. 1970, 1). Another catastrophe, which has been imprinted in the collective memory of the Huarazians, and the Peruvians in general, happened from the glacial Lake Palcacocha, located

above Huaraz at an elevation of 4.566 meters. In 1941 glacier retreat had spawned this newly created glacial lake, filling its entire basin to the brim of its weak moraine dam (Carey 2010, 19). At dawn on December the 13th, glacial ice crashed into Lake Palcacocha, generating large waves that crushed over and destroyed the moraine dam (ibid., 20). The 14 million cubic meter of water in the lake poured out of Cojup Canyon, and blasted through downtown Huaraz (ibid.). It plowed through the city with relentless force, appearing as a 15-meter-high wall of debris consisting of water, mud, ice, trees, houses, livestock and human bodies (Carey 2010, 25, 26). It killed an estimated 5.000 people, destroyed a third of the city, and left a 220-kilometre path of destruction from its glacial source to the Pacific Ocean where it emptied (Carey 2010, 7, 27, 28).



Figure 4: The 1941 Glacial Lake Outburst Flood Path (Peruvian Servicio Aerofotográfico Nacional 1943). *An aerial photo of the route of destruction left behind the outburst flood through central neighbourhoods of Huaraz.*

Over the years the lake filled up again. In 1974 and in 2011 respectively, a dam was built and a system of siphons was installed at the lake (Proyecto Glaciales 2016). These security measures are though far from sufficient to prevent the current risk of another disastrous outburst flood. In 2016, the lake was 34 times larger than in 1974, with a depth of 71 meters and a water volume of 17.4 million cubic meters (17.403.353 m³) (ibid.). A plan of reducing the risk by installing an early

warning system, constructing a higher dam and making a V-cut in the moraine dam for lowering the level and volume of water, has been underway for years, but are all still pending. Despite local wishes for the construction of a water reservoir for securing the future water supply as well, there is currently no budgeting for such a project. A former manager of natural resources at the regional government told me that, after years of delay, the state has now assigned a budget for some further preliminary studies before assigning a budget for initiating the security construction projects (Antonio, 21.02.18).



Figure 5: Lake Palcacocha (Photo: The author 2018). The glacier Palcaraju rises above the lake. The black pipes in the lower right corner are the siphons installed as “temporary security measures” in 2011 while waiting for the initiation of the new security constructions.

In this section I have shown that climate change will exacerbate risks and losses known from the past and in the present for the populations of Huaraz, Cordillera Blanca and Peru as a nation. Scientific reports expound the climatic changes and their consequences. But what are the local

perceptions of climate change and its causes? And how is it related to German coal mining? This thesis will investigate these aspects of climate change in the Cordillera Blanca further.

3. Methods & Methodology

In this section I will describe the epistemological position of the thesis as well as the specific methods I have employed in my research, especially the methods used conducting my fieldwork. While the main focus of the research has been conducting fieldwork in Peru regarding perceptions of climate change causes from a local perspective, comparing these findings with the arguments put forward in court, has proven to give valuable insight.

3.1 Methodology: Cultural Relativism and Critical Realism

The epistemological position of the thesis is based on two distinct traditions of critical theory of science. The first is connected to ethnographic fieldwork, which is an efficient tool for investigating the life and world-views of others (de Sardan 2015, 10). When doing qualitative fieldwork, it is essential to respect and understand the population studied in their own context. This gives valuable insight into the world-views of the people studied, and has allowed me to contextualize and understand the perceptions of climate change causes as they are seen “from below”. It is an epistemology “grounded in fieldwork”, which centres on the relations between fieldwork data and the scholarly interpretations they generate (ibid., 9). The epistemological position of anthropological research is closely related to fieldwork, and the principle of cultural relativism in anthropology is a methodological one (Eriksen 2001, 8). It is a tool for investigating societies without relating them to an intellectually irrelevant moral scale; but at the same time, this does not logically imply that there is no difference between right and wrong (ibid.).

The research and analysis in this thesis have also implied a position of critical realism. As a researcher I recognize the “intransitive” dimensions of the scientific knowledge concerning climate change caused by anthropogenic greenhouse gas emissions; and the extra-discursive reality of the power relations underlying increasing emissions of the global society (Sayer 2000,

10; Bhaskar 2010, 11). The material reality with which this thesis engages, is the emissions leading to, as well as the effects of, climate change. As a social scientist I am in the modest role of construing rather than “constructing” the social world (Sayer 2000, 11), and any normative statement must build on this interpretation. This position does not constrain me from respecting and understanding the opinions and world-views of the people I interview. But it allows me to contextualize them in a framework of the scientific knowledge about climate change; within the normative theory of climate justice, which builds on these convictions; and to conduct a critical analysis of arguments on climate liability and climate justice.

Applying an approach of cultural relativism by acknowledging the lifeworlds of the people exposed to hazardous and damaging effects of climate change; and at the same time engaging in a critique based on the acknowledgement of a natural science of climate change, may seem contradicting. It can result in some cognitive dissonance and leave the readers “edgy and mildly suspicious” (Hale 2006, 115; Madison 2005, 44). Still, this “alternating endorsement” can at times be a necessary concession to the political, material, and discursive realities of the worlds we live in and seek to engage with (Hale 2006, 115). This thesis is committed to a material reality, concerning the felt effects of climate change in Peru, as well as the emissions from power plants in Germany. Simultaneously it is concerned with how this material reality is perceived, and which opinions exist as well as the arguments made about it.

3.2. Methods: Document analysis, Ethnography, Ethics

In this section I will describe the specific methods applied in the research, their applications, limitations and ethical considerations related to the research.

3.2.1 Scrutinizing Court Documents: Document Analysis

For analysing the arguments on climate liability in the German courtroom I have used the method of document analysis (Bowen 2009) by reviewing and scrutinizing documents from the court case. For making the process of analysis as rigorous and as transparent as possible, I have taken into account the original purpose of the documents, the context in which they were

produced, and the intended audience (ibid., 38). The documents have been analysed, having in mind the contexts of their production and their function as communicative devices produced, used, and reused for specific practical purposes (Flick 2010, 276). Analysing documents from the court case has given me specific and precise information on the framing of arguments from the different actors (ibid., 275). However, it is also a limited approach to the process, which does not account for the social and contextual processes also occurring during such court hearings. I did not have the chance to observe these processes, as court hearings were conducted prior to the initiation of my fieldwork. I have used document analysis in combination with other qualitative research methods to study the same phenomena (Denzin 1970 *in* Bowen 2009, 28), such as interviewing persons involved in the court case; and for studying different aspects of associated phenomena, such as the arguments on climate liability in court and opinions on climate causes in the Peruvian local community. I will outline the other qualitative research methods below.

3.2.2 Climate Ethnography and Critical Ethnography

“To do fieldwork is to engage with people to understand their way of living” and their view of the world (Hastrup et al. 2011, 26). I have conducted two months of ethnographic fieldwork in the Northern Peruvian Andes, to understand the climatic changes people in this area experience, and how they understand it. The fieldwork was an ethnographic research on climate change in the Andes, a so-called “climate ethnography” (Pærregård 2016, 250). The research has explored how people make sense of climate change by documenting how people of the Andes “experience, interpret, and respond to such environmental change as melting glaciers, unusual temperature fluctuations, irregular precipitation, and growing water scarcity” (Paerregaard 2016, 250). In my research I have focused on the perception of these consequences of climate change in the Andes, and how people account for and respond to such environmental changes (ibid., 251).

The approach of description and analysis for displaying and interpreting meaning, has also been described as conventional ethnography (Thomas 1993, 3). This differs from critical ethnography, which refers to the reflective process of choosing between conceptual alternatives and making value-laden judgements of meaning to challenge different forms of human activity (ibid.). My

description and analysis of different local perceptions of causes of climate change by understanding the cultural context, is in this sense, then, conventional climate ethnography. Simultaneously I have been inspired by critical ethnography, analysing these opinions, as well as the arguments in the courtroom, by using theories of climate justice on a basis of critical realism. This I have done with a political purpose and an emancipatory goal of separation from constraining modes of thinking or acting that limit perception of and action toward realizing alternative possibilities (ibid., 4). Conventional ethnographers study culture for the purpose of describing it; critical ethnographers do so to change it; and I have a foot in each camp (ibid.; Madison 2005, 25).



Figure 6: The Fieldworker (Photo: David 27.02.18). Potato harvest in the village Llupa. Ethnographic fieldwork requires engaging with people and their way of living to understand their view of the world.

3.2.3 Fieldwork Methods: Ethnographic Interviews and Participant

Observation

The fieldwork has included interviews as well as participant observation. Participant observation is an anthropological method, which indicates engaging with the community with whom one makes research, while simultaneously observing the activities performed in that specific society

and the conversations and statements expressed from those specific people (Hastrup et al. 2011, 62). This applies to my research in the villages and in the city, including participation in events in the villages and in the city, friendly conversations, and “deep hanging out” (Geertz 1998) – a form of participatory observation in which the anthropologist is physically or virtually present in a group for extended periods of time or for long informal sessions – with lay people, experts, and people involved in the climate lawsuit (Hastrup et al. 2011; Spradley 1979).

My main applied method was ethnographic interviews, including unstructured, semi-structured and open-ended interviews, often with an interview guide specifically adjusted to the respondent or respondent-group (Flick 2014; Turner 2010; Kvale and Brinkmann 2009). I conducted 55 interviews with residents in the city of Huaraz; residents from villages; and representatives of a selection of institutions working with glacial lake outburst risks or climate change issues (see appendix 1).

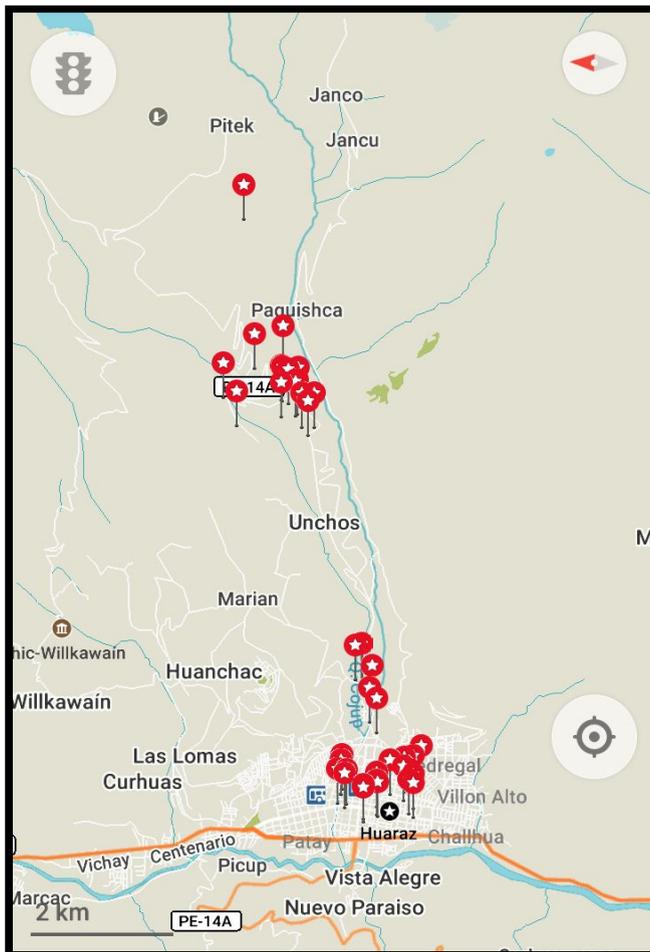


Figure 7: Mapping interviews

(MAPS.ME 2018). The two clusters of red spots inside Huaraz and going up along the river mark the interviews mainly in Cono Aluviónico and Nueva Florida. The cluster further up the river marks the interviews in mainly Llupa (and Yarush). In the top left corner, past Pitek, lies Lake Churup, and further up along the river, Lake Palcacocha.

In the rural area I interviewed seventeen inhabitants of the village of Llupa and six residents of other villages. In the urban area I interviewed fifteen residents in the neighbourhood of Nueva Florida; seven residents in the neighbourhood of Cono Aluviónico; and four residents in other neighbourhoods in the city of Huaraz. I focused on the two former neighbourhoods, because of their location in the glacial lake outburst flood high-risk zone. I interviewed six experts or representatives for different institutions. I aimed at interviewing a broad representation of these populations with regards to primarily age, gender and residence. One limitation to this choice of sampling was that I did not gather information on the perceptions of the glacial lake outburst flood risk in rural areas threatened by that risk, a reason for this being that most villagers live outside of the risk zones. On the other hand, I only interviewed a few urban residents not living in outburst flood risk zones. This misrepresentation is also due to the facts that I focused my research mainly around the communities of the farmer, David, filing the lawsuit; his village and his house in the city respectively; and only when coding my data I realized that this information would have been useful. Hence, the reader must have this reservation in mind concerning the specific findings of perceptions of the glacial lake outburst flood risk. My method for interviewing an equal amount of women, men, young and elderly people, was employing a Quechua-translator for communicating with the women and elderly in the villages, of whom many did not speak Spanish. This, as most translator-experiences, did not proceed without difficulties (Buur 1999) but proved to be very efficient, not only for translating, but also for gaining access to interviews with respondents whom I could not have spoken to otherwise.

3.2.4 Lost in Translation: Communication on the Concept Climate Change

As indicated above, all interviews have been conducted in either Spanish or with a translator from Quechua to Spanish, with only a few exceptions of interviews in English. All translations from Spanish to English are my own. As any translation is biased and subjective, reservations should be made for potential errors and personal interpretations (Temple and Edwards 2002). Other issues with the translation process are the inaccuracies inherent in translation, and the translation of specific concepts. As noted by other researchers, communication about climate change might be challenged by the potential significant difference in conceptual frameworks

between the researcher and the respondents (Eguavoen 2013, 9). The natural-scientific term of “climate change” were used by some respondents, especially experts, higher educated and younger generations. It was however a minority, and an environmental activist in Lima called it “a concept of the elite” (Laura 15.01.18). There is a direct Spanish translation (“el cambio climático”), but as far as I learned, there is no direct translation in Quechua. Only concepts referring to e.g. seasonal or daily weather change (“cambiaska tiempum”) exist. The concept of climate change can be harder to relate to than the concept of weather, which everyone experience everyday, “as most people consider themselves to be experts on the weather and do not differentiate very strictly between climate (the statistical expectation) and weather (what we get)” (Weber 2010, 4). I therefore mainly chose to pose questions on concrete climatic changes such as glacial retreat, precipitation changes and water scarcity. I did later realize that slightly more respondents knew the expression “global warming” and it could possibly have been useful to employ this term more often during interviews.

3.2.5 Ethical Considerations

Upon arrival in Huaraz I met with some of the people involved in the project of the climate lawsuit. When learning that it was my intention to focus part of my research on the local reactions to this project, they urged me to be careful. The person who is filing the lawsuit was already being exposed to more attention than he wished for, from international journalists and most recently a team of filmmakers. This attention had intensified a conflict originally created by missing information and false rumours, putting him in a disadvantageous situation (this will be elaborated in section 8.2.). I therefore had to be careful when asking questions concerning the lawsuit in order not to increase unnecessary attention to the person filing the lawsuit, which is why I only asked about my respondents’ knowledge of the lawsuit indirectly, not mentioning him by name.

A point of ethical concern in most qualitative fieldwork is: Who gets something out of this research? Ethnographic research only for the sake of academia has been called “extractivist research” (Burman 2018, 5). Most people were happy to answer my questions, but some were reluctant, and even suspicious. After each interview I usually asked if I could take a portrait of the

interviewee. One villager refused fiercely, arguing that I would sell the picture, earn “many dollars” and give nothing to her. I obviously did not take her photo, and brought some food from town to reciprocate the interview. Researchers can provide material assistance to individuals within study populations who have assisted them in their work as a form of reciprocity (Madison 2005, 324). Giving something back to the community can make the investigated population not feel like a source of extraction (ibid., 281). I am therefore creating a podcast in Spanish on the story of the lawsuit with recordings from people involved in the lawsuit, with a hope of a later translation to Quechua. It is my hope that this podcast can help clear out the misunderstandings concerning the lawsuit that have led to a unfortunate situation in the local community. By doing this, it is my aim to give something back to the local community, as well as to the German NGO that is supporting the lawsuit. In line with principles of critical ethnography, the dynamics of justice, responsibility and the people involved are always reciprocally linked (Madison 2005, 281). Within this act of reciprocity, there are however also ethical considerations: As tourism in Huaraz is a major source of income, many people do not want Huaraz to be depicted as a place in danger of a catastrophe such as a glacial lake outburst flood; but for convincingly telling the story of the lawsuit against RWE, this is a necessary condition, and I will have to find a compromise. A way to reciprocate the research done with the German NGO is to share my findings with them, as my position as an outsider is beneficial to the research and to the findings and critique they might find useful, because it allows me to look at the situation through a different lens (Flowerdew and Martin 2005, 125).

3.2.6 Coding

As mentioned, I used similar interview guides to all interviews (see appendix 2 for an example). I audio-recorded most of the interviews, while taking notes. During the coding I chose to leave out the answers from the experts (people whose profession in Huaraz is connected to climate change and prevention of the glacial lake outburst risk), partly because I only had a small amount of expert interviews, and partly because their answers would disturb the general picture of local perceptions. After transcribing the interviews, I sorted each interview after residence: Urban/rural; and each answer within each interview in categories: Climate change perception;

flood risk perception; causes of climate change; and reactions to the climate lawsuit project. Then I counted the frequency of different variables mentioned in each column, such as precipitation changes or plastic and litter. I chose to keep the numeral descriptions (e.g. 5 out of 20 or one-fourth) instead of presenting them in percentages (e.g. 25%) because of the relatively small sample size. For the same reason I cannot offer a high degree of confidence as to the generalisability of the findings, but mainly give indications of tendencies in the areas (Creswell 2007, 76).

4. Theory: Climate Justice, Responsibility and Guilt

In the following section, I will outline the theoretical concepts to be applied in the analysis. First I will outline the theory of climate justice and some related principles; the concept of “diffuse responsibility”; and finally I will describe a theory of individual guilt and collective responsibility. These theories will in an eclectic manner complement each other when analysing and comparing perceptions and arguments of climate change causes amongst the local population in the region of Huaraz and in the German courtrooms.

4.1. Climate Justice

Justice is to a large extent about attributing responsibility; climate justice, in turn, is attributing responsibility of climate change (Shue 2014). Climate justice began as a claim from social movements and communities in the global South, and has later been applied as a theory and analytical tool (Burman 2017, 923). A concept is often best described through its opposite, and the Swedish anthropologist Burman (*ibid.*) states that climate injustice is the fact that most climate change vulnerable populations are often people from the global South, who contributed very little, or not at all, to global climate change. The principle of climate justice, on the other hand, addresses issues of responsibility and debt and the uneven distribution of privileges and risks (Burman 2017, 923). Justice implies fairness, and the climate justice theorist Shue writes:

The basic issue of fairness characteristic of global warming seems to be: How should responsibility for solving the problem of global warming be divided, given how responsibility for creating the problem is in fact divided? (Shue 2014, 127).

Shue outlines here a main concern of climate justice, and the professor of political theory, Caney terms this approach “Burden-Sharing Justice” (Caney 2014, 126). Within this, he outlines three basic principles:

The principle that those who have caused the problem should bear the burden; the principle that those who have the ability to pay should bear the burden; and the principle that those who have benefited from the activities that cause climate change should bear the burden (Caney 2014, 126).

However, these three principles tend to conflate into one category of actors and not three, since those who have benefited from the activities that cause climate change also tend to be those who have the ability to pay and those, or descendants of those, who have caused the problem (Burman 2017, 924).

Climate justice is hence about attributing responsibility of climate change, as well as a fair distribution of privileges, risks and burdens in this regard. This theory lays the ground for the climate lawsuit, and we will see notions of it in both the courtroom in Germany and amongst the local population in Huaraz. I will now outline a few moral principles related to climate justice which will be relevant for the analysis.

4.1.2. Global Justice and Polluter Pays Principle

The morality of climate justice is inspired from notions of global justice. These exceeds traditional approaches to justice, in which members of a particular society or nation are mutually bound by obligations of justice, and which does not apply to outsiders of this (Young 2006, 103). Shue (2014) argues that “it is morally irresponsible to not recognize or count in others in the system of justice, just because they are not of the same nationality or generation” (ibid., 133). This especially applies if shortages or harms produced by climate change deeply affect the liveability of other people’s land and the richness of their lives in other parts of the world (ibid.)

Shue (2014) outlines and discusses a range of fairness principles of climate justice. The fault-based principles focus on how the problem arose, and are therefore “causal” or “historic” principles (ibid., 61). A well-known fault-based principle is “the polluter pays principle” which implies that those who caused the change in natural processes which resulted in the human harm are morally responsible for solving the problem, and would be expected to bear the costs of making the victims whole (ibid., 53, 752). This implies that the economic transfers should “come from those who caused the injury or harm and go to those who suffered the injury or harm” and it assigns heavier burdens to those who have contributed more heavily to the problem, regardless of ability to bear those burdens (ibid., 61, 129). The “macro-version” of the polluter pays principle is when several actors are responsible for the pollution, and the sum of their action creates the problem (ibid.). Caney (2005, 753) applies this to the issue of climate change, or, as he writes, “global warming”:

If actors X, Y, and Z perform actions which together cause pollution, then they should pay for the cost of the ensuing pollution in proportion to the amount of pollution that they have caused. (...) Even if one cannot say that [X] has caused this particular bit of global warming, one can say that this increase in global warming as a whole results from the actions of these actors [X, Y and Z].

Thus, according to the polluter pays principle, each polluter must pay her fair share, also when it comes to global warming or climate change. Caney continues: “If one had all the relevant knowledge about agents’ GHG emissions it would be possible to make individualistic assessments of just how much each agent owes” (ibid.). This approach to responsibility allocation is seen in the scientific basis for the climate lawsuit, namely the Carbon Majors Report (Heede 2014) (will be elaborated in section 7.2.1).

These principles will be used to analyse some perceptions of climate change responsibility amongst the local population in Huaraz, as well as the grounds and arguments of the lawsuit, discussed in the German courtroom.

4.2. Diffuse Responsibility

The professor of environmental science and philosophy Jamieson (2010) argues that morality is traditionally connected to feelings of indignation: That if someone hurts someone else, it is morally wrong. He argues that this paradigmatic view on individual morality does not apply to climate change because the dynamics happens on such a big scale, where “a big diffuse group of people hurt another big group of people in the future and in different parts of the world” (ibid., 13).

The professor of law Weisbach (2012) argues that in law, “responsibility-based arguments normally require a close connection between victims and injurers” and that this does not apply to past generations who have created climate change, and future generations that will suffer from climate change (ibid., 526). It is only a very loose connection, he reasons, because the ones who are responsible are everyone who ever used and is using fossil fuels, and therefore liability cannot be attributed (ibid., 557, 558).

The conception of the impossibility of attributing climate change to specific actors, I will in this thesis term “diffuse responsibility”; referring to responsibility attribution to no-one in specific, but to e.g “a big diffuse group of people” or various anthropogenic and non-anthropogenic factors. It can be compared to the philosopher and political theorist Arendt’s (1987, 44) dictum: “Where all are guilty, nobody is”; and I would argue that where no one is held responsible, no one will take the responsibility. It is different from Arendt’s concept of “collective responsibility”, which I will describe below, because the responsibility is not allocated to any group in specific. The concept is inspired by the professor of geography Huber (2017) who states that “we are often told that responsibility for climate change is diffuse”; and the professor of sociology Fontenelle (2013) who writes that this hegemonic discourse produce what she calls “the responsible consumer” by creating guilt in individuals. Huber (2017) argues that in reality responsibility is highly concentrated with few actors who “controls and profits from material production in our society” and that “the most obvious producers of climate change are the fossil fuel producers”.

I will use the concept of diffuse responsibility when analysing the arguments exchanged in the German courtrooms, as well as perceptions found amongst the local population in Huaraz.

4.3. Collective Responsibility Versus Guilt

Arendt defines a divide between moral, legal, and personal guilt – concerning the self – on the one side; and the political, collective responsibility – concerning the world – on the other (Arendt 1987, 46, 47).

A person is responsible for the actions she did, and must stand in court before them, even if she did it as a member of a group (Arendt 1987, 45). But she can also be held responsible for actions that she did not participate in but which were done in her name, in virtue of being part of a group (ibid., 48). This special kind of responsibility, Arendt calls “collective responsibility”, and it can, according to her, be applied to those who “take part or support the system or ideology of power which creates the wrongdoing” (Arendt 1945, 125, 127). For Arendt, members of a political community bear this collective responsibility equally in virtue of belonging to that community, and no personal, moral standards of conduct can excuse the individual from that responsibility (Arendt 1987, 45).

Arendt argues that in contrast to responsibility, guilt can never be collective but is strictly personal. Only in a metaphorical sense a person can feel guilty for deeds she has not done, although the collective may feel the consequences (ibid. 43). Guilt implies the consciousness of guilt and relies on an affective or reflexive recognition; as either an internal feeling of guilt or the recognition that one should be treated as guilty by the legal system (Arendt 1945, 127). The saying “we are all guilty” is, she argues, “actually a declaration of solidarity with the wrongdoers” (Arendt 1987, 44).

Legal guilt is settled by court. But how is moral guilt attributed? Arendt argues that moral rules can only be absolute in a religious setting. Her example is the Judeo-Christian Ten Commandments which “were absolute because of their divine origin”, and their sanctions consisted in “future rewards and punishments” (Arendt 1987, 47). Secular moral rules are, however, generally not provable. The only way to validate them “is the activity of thinking” (ibid.,

50). Moral rules can therefore only be validated either by religion or by the process of thinking – or in other words, by culture. I will use these concepts of guilt and collective responsibility when analysing the perceptions of climate change causes amongst the local population in Huaraz.

5. What is And Who Causes Climate Change: Andean Experiences and Opinions

This section will present the empirical findings from the fieldwork in Huaraz, concerning the Peruvian local communities' experiences of climatic changes and their perceptions of causes for these changes.

Climate change is intertwined with other environmental problems. It is a global environmental phenomenon which interacts with already existing environmental problems, by enhancing them or changing them. Therefore it is a complex phenomenon, which can be hard to distinguish from other environmental problems, both phenomenologically and mentally. That is one of the reasons why, in the responses from local residents, local environmental problems such as pollution of rivers by local mines are confused with local effects of the global phenomenon of climate change. In the first category of experienced climatic changes (5.1.), I have focused on the climatic changes of rainfall, glacial retreat, and increasing temperatures. In that section I have left out other environmental problems such as mentions of water pollution. As an example of how the categories still intertwine, local mines were sometimes allocated responsibility of local water pollution, sometimes of glacial retreat, and sometimes both simultaneously.

I have chosen to categorize the responses in two groups. Some Peruvians refer to the residents of rural highlands as the “indigenous” Quechua-speaking populations, and the city residents as the “mestizo” and “chulo” Spanish-speaking populations (Carey 2010, 55). These are though simplified divisions, as in reality people move around, and as an example some urban areas are also populated by Quechua-speaking populations. In this thesis, I have chosen not to engage deeply with concepts of ethnicity, and therefore I have chosen more ethnically neutral terms. I use the term “urban residents” for referring to respondents living in the city, of whom the majority live in the high-risk zone for a potential glacial lake outburst flood in the

neighbourhoods Nueva Florida and Cono Aluviónico. I use the terms “villagers” or “rural residents” for referring to people living in the rural areas and villages in the highlands in sub-basin Quilcayhuanca, of whom the majority of the respondents live in the village Llupa, and fewer in Yarush and other villages. While being aware that many other factors (such as age, education, income, etc.) have an influence, I have chosen to mainly use this division throughout the findings presentation for being able to investigate to which extent urban and rural ways of living, and the different exposures to climate change related risks and impacts, influence local residents perception of climate change and its causes.

This section outlines the empirical findings concerning the responses from the villagers and urban residents concerning experienced climatic changes (5.1.), climate change related impacts (5.2.) and responsibility and blame attribution of climate change and its impacts (5.3.).

5.1. Experienced Climatic Changes

The villagers and the urban residents mention the same climatic or environmental changes when asked about these changes in their local area, but there is a tendency that more villagers mention these changes than urban residents. As an example, precipitation changes were mentioned by the majority of the interviewed villagers (16 out of 20), and more than half of the interviewed urban residents (13 out of 24). Many people said that there was a “lack of rain,” and that it was unusually dry – it should be noted here that I conducted my fieldwork during the rain season. An urban resident said: “Compared to 10 years ago, it almost does not rain now in January and February” (Martha 18.02.18). Another said: “This year there has been a lot of scarcity of rain. Twenty to forty years ago it rained much more. But now there are less clouds” (Elias 22.02.18). When I was finishing the fieldwork, torrential rains began. One elderly woman from the village of Llupa said: “The weather changed. It is very hot now, and the rains are torrential. (...) Before it rained a little, and now it comes with thunders. It makes me sad that this crazy rain comes” (Silvia 24.02.18). Increasing temperatures, “warmer weather” or increasingly “intense sun rays” was mentioned by three-fourths (15 out of 20) of the villagers and one-third (8 out of 24) of the urban residents. An elderly man from the village of Yarush told me: “The world is in pain. There is too much heat and too much cold” (Enrique 24.02.18). Glacial retreat, deglaciation or “less

snow on the mountains” (terms that were often used interchangeably) were mentioned by three-fourths (15 out of 20) of the interviewed villagers and almost half (11 out of 24) of the urban residents. A villager expressed his worry of the deglaciation and told me: “I do not know when the glacier will disappear. Earlier, when I was ten or twelve years old, the glaciated mountain of Churup, which you can see from here, was white and full of snow. Now it is just a lot of rocks and stones” (Gabriel 12.02.18). Also some urban residents noticed these changes, and a print-shop owner told me: “I went to Pastoruri [tourist site for glacier hiking] when I was a child, and there is much less ice now” (Alvaro 28.01.18).



Figure 8: Churup (Photo: The author). Two Huarazians descend from an urban hill from where they have been watching the sunset paint the remaining snow on Mount Churup pink.

5.2. Climate Change Impacts

In Huaraz, the main socio-environmental problems connected to climate change are the risk of a glacial lake outburst flood as a consequence of retreating glaciers; and water scarcity as a consequence of precipitation changes, which have direct effects on agricultural lands, and as an indirect effect on rivers and melt-season-streams because less glacier mass is accumulated during rain season. The water scarcity has a range of consequences, and the increased difficulties of irrigating farm lands are immediately felt by especially the rural population.

5.2.1. Water Scarcity and Agricultural Impacts

Water scarcity is one of the absolute most important climate change related problems in the Andes, and has been the object of several studies in the area (Bury et al. 2011; Rasmussen 2015; Carey 2010; Asmat 2017). The increasing problem has also been documented in other parts of the Andes, and as an example, Paerregaard and his respondents in a village in the Southern Peruvian Andes observes that: “The snow that falls and lies (...) lasts only for short periods of time and (...) produce less melt water than previously” (Paerregaard 2016, 254). Also precipitation changes and retreating glaciers reduce the water supply, and the problem is as well connected to a lack of sufficient irrigation systems due to political, institutional and social issues, which I will not have space to unfold here (see Rasmussen 2015; Carey 2010).

In Huaraz, the experience of already existing water scarcity, or the risk of future water scarcity, was mentioned by roughly one-fifth (5 out of 24) of the urban residents and almost one-third (6 out of 20) of the villagers. One villager told me: “When it does not rain here, people suffer from drought. (...) In the future when there is no more ice, there will be no more water, and we will have water scarcity. We will suffer” (Edgar 21.02.18). The experience of the changes already happening was told by many respondents. One of them, an elderly woman from a village told me: “Now there is not a lot of water. Because it does not rain. And the glaciers are melting” (Diana 24.02.18). She connected water scarcity to precipitation changes and glacial retreat, which is in line with scientific accounts. There was an interesting opposite tendency amongst some urban residents: Roughly one-fifth (5 out of 24) of the urban residents said that no water scarcity exists

in the area, and a few of these were of the opinion that there was plenty of water in the Cordillera Blanca because the glaciers supply the water, as opposed to Cordillera Negra on the other side of the valley, where there are no glaciers. This view does however not correlate with scientific accounts.

The impacts of these climatic changes on livelihood situations were also more frequently mentioned by villagers than by urban residents. A villager told me: “Sometimes a lot of hail comes instead of rain and it ruins the plants. It kills the plants and the pastures, all of it” (Gabriel 12.02.18). Several of the villagers I interviewed also mentioned problems of new types of crop diseases related to the climate change, which in turn generated a lower production level. Therefore many had to begin using pesticides to maintain production. Other consequences of climate change were mentioned less frequently, such as biodiversity loss, where mainly disappearing populations of frogs and trout were mentioned.

Several climate change impacts were thus mentioned, but water scarcity and its negative impacts on agriculture were stressed the most, and especially by villagers.

5.2.2. Glacial Lake Outburst Flood Risk

Another severe problem in Huaraz related to climate change is the risk of a glacial lake outburst flood, and I asked people about their perceptions of this risk. I will first outline the results from the urban areas, and then the answers from the villagers allowing for a later comparison.

5.2.2.1. Flood Risk Perception In the Urban Risk Zones

I primarily interviewed urban residents in the risk zones of Huaraz, namely Nueva Florida (The New Flower Area) and Cono Aloviónico (The Cone of the Outburst Flood). The latter got its name after the outburst flood in 1941, in which it was completely destroyed. I was interested in the risk perception of the residents living in these areas, immediately exposed to the flood risk. It turned out that around half (11 out of 24) of the interviewed residents in the risk zones were worried about the risk to a lower or higher degree; and the other half (13 out of 24) were not worried at all, either because they were convinced that the risk was not present, or that the security measures taken at the lake were already sufficient. It surprised me that so many residents

in the high-risk zones were not worried about the risk, even when living right next to the river coming from the Lake Palcacocha. I will explain the reason for this finding later.

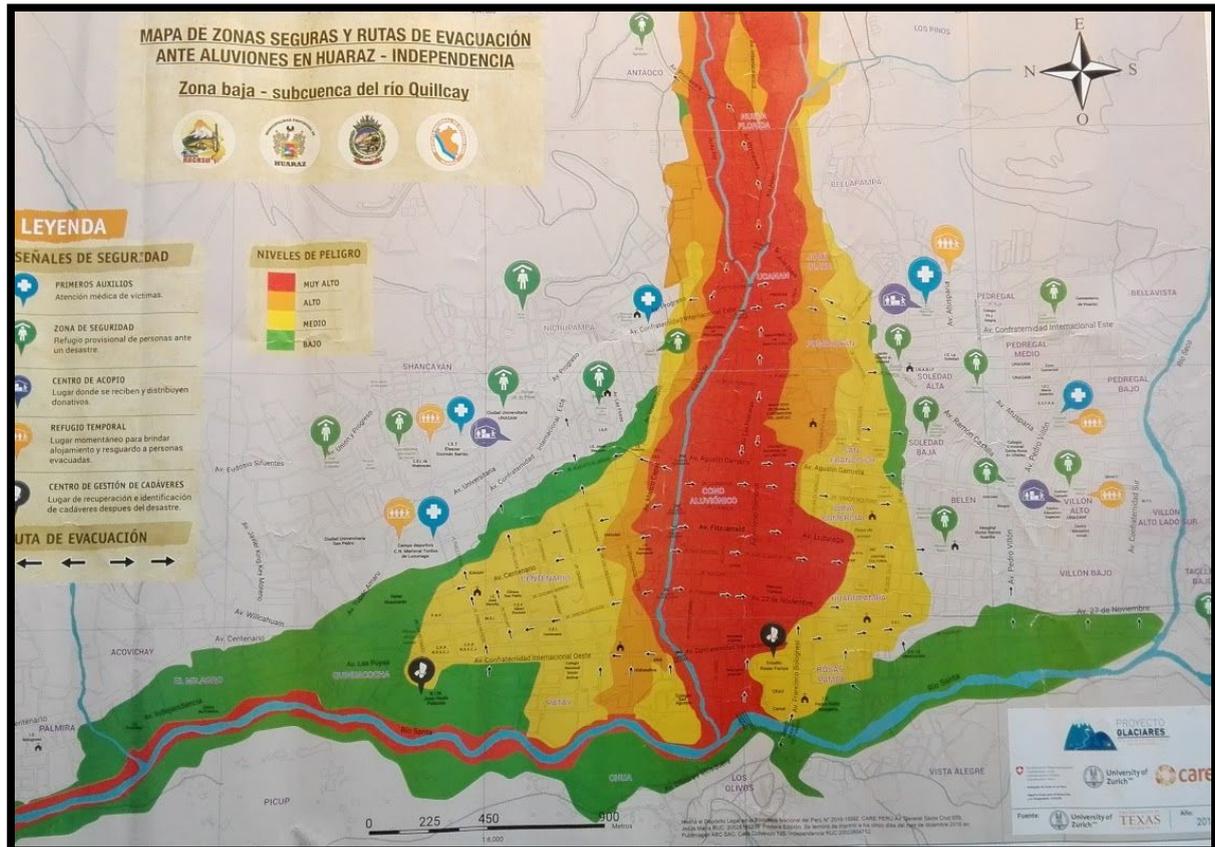


Figure 9: Map of Safe Zones and Evacuation Routes Before a Glacial Lake Outburst Flood in Huaraz and Independencia - Lower Zone (University of Zurich and The University of Texas 2016). This urban risk map is hanging in many shops, restaurants and private homes. The red zone is the “very high-risk” area; the orange is the high-risk area; the yellow is the medium risk area; and the green is the lower risk area. Nueva Florida and Cono Aluviónico are both situated in the red zone. The green dots show safe places to take shelter in the case of an outburst flood. The black dots show where to gather corpses after a disaster.

Out of the people who are worried about the flood risk, some would prefer living elsewhere, but stayed for social or economic reasons. Many had moved there because they did not have the means to move elsewhere. One resident in a high-risk zone told me: “We are afraid (...) that a flood could happen. When we bought the house we knew about the risk. But the houses in other

zones were very expensive – here in the flood zone it was cheaper” (Miguel 18.02.18). People who buy houses in these areas do generally have less means, and their mobility is therefore also limited. One of the residents who wanted to move was the 16-year old Flor, living with her 1-year old baby next to the riverbank. Flor moved to the house when she got married to her 18-year old husband, who grew up in the house. I asked her if she was worried: “Yes. Particularly in the nights: What if it comes when I sleep and I will not see it coming? And especially when it rains a lot I get really worried. (...) When there is more rain, there is more water in the lake – and it can create an outburst flood” (Flor 22.02.18). When asked about which climatic changes she experienced, she referred to both the intensified rain and the meltwater from the glaciers as causes of a potential outburst flood.



Figure 10: Living With Risk (Foto: The author). Flor and her 1-year old daughter Fernanda living 20 meters from the riverbank. “When people say that [the outburst flood] will come, I want to move to another house. Here I get really afraid” (Flor 22.02.18).



Figure 11: Evacuation Route (Foto: The author). The house of Flor, her husband and their daughter in Cono Aluviónico. Their front door can be seen on the left. On the side of their house an evacuation painting says: “IN CASE OF FLOOD FOLLOW THE ARROW. EVACUATION ROUTE”

5.2.2.2. Villagers’ flood risk perceptions

In comparison to the risk perception of a glacial lake outburst flood in the risk zones in the city, it was my general impression that most villagers worried more about rainfall changes and water scarcity than the risk of a glacial lake outburst flood. This can be explained by the fact that even though the villagers live closer to the lake, most of them are situated above the flood path.

Furthermore, as mentioned (in section 3.2.3.) I mainly interviewed villagers living outside of the outburst flood risk zones. However, many villagers have relatives in the risk zones. An elderly woman told me: “I am worried about the flood risk, I get a headache from it. My children tell me not to worry, they say it makes me sick (...) I am worried because I have family in Huaraz. My

5.3. Causes of Climate Change: Findings

The residents in Huaraz and the nearby villages had a range of perceptions of the causes of, blame and responsibility for climate change and its impacts, which I will present in the following findings sections.

5.3.1. Nature Makes the Climate Change – or Do We?

First I want to mention that there were a few urban residents (2 out of 24) and one villager (out of 20), who answered that the changes are part of a natural process. Of these, only one urban respondent said that the changes were completely because of natural changes. I asked him: “Why does the rain patterns change?” and he answered: “It is [because of] natural cycles. Now the scientists say that it is “climate change” – but [I know] it is natural cycles” (Elias 22.02.18). This point of view was however not widespread in the area of Huaraz, where the impacts of climate change are vividly felt. When asked who is to blame for the climatic changes they experience, more than a third (7 out of 20) of the urban residents and one-fourth (6 out of 24) of the villagers answered “ourselves” or “humanity”. One of them said: “We are responsible, each of us. We have to take care of what we have. No God will come and fix everything. We are responsible; there is no Christ or devil. We are all devils [ourselves]” (Alvaro 28.01.18). Some referred to litter and local pollution from forest fires and others had more religious and moral misdeeds in mind.

5.3.2. Stolen Mobile Phones Make the Climate Change

One reason for saying that “we are to blame” was due to religion. Catholicism is important in the Peruvian society and influences many people’s perception of climate change causes. One fourth of the villagers (5 out of 20) and nearly one-eighth (3 out of 24) of the interviewed urban residents answered that the environmental and climatic changes happen as a punishment from God for the sins of the people, and God was seen as powerful in changing the weather. An 11-year old boy told me: “We are also responsible, because we do bad things: We steal things like mobile phones and we kill people. God punishes us. He can do whatever. He can make it rain a lot” (Fernando 20.02.18). An elderly woman mentioned torrential rainfall and its negative effect

on the agricultural production, as well as the glacial retreat, and told me why these changes are happening:

It is the punishment of God. He will decide if it rains or not. (...) But it is our fault that there are bad changes, because we fight and discuss. (...) Disasters and different kind of tests will come. There will be no food and the money will not have any value (...) When there is no rain and snow, the glaciers do not accumulate. The end of the world will come soon and all the people will die (...) Hell will arrive. There will be no water, the people will suffer from heat and lack of water (Rosa 18.02.18).

Interestingly, this evangelistic doomsday prophecy touches upon the future climate related problems for the local population in the Cordillera Blanca such as water and food scarcity as results of rainfall changes and glacial retreat. The reasons for these changes are in this conceptual framework given to God's punishment as a consequence of morally inappropriate conduct such as quarrels.



Figure 13: The Evangelist (Photo: The author). 87-year old Rosa said: “The sun will come down and burn everyone. We will all disappear. (...) The ones who believe [in God] will survive. (...) If you do not believe, you will suffer. You will not be saved” (Rosa 18.02.18).

Catholicism is common in Andean society, but also traditional beliefs exist, and have an influence on some people's perception of causes for climate change, as we will see in the next paragraph.

5.3.3. Living Mountains and Enchanted Lakes Make the Climate Change: Calm Them with Beers

A range of different Peruvian societies from the pre-Columbian era to the present have viewed, and still view, Andean rivers, streams and lakes as enchanted or spiritually significant (Carey 2010, 46). Some lakes are seen as life-giving as productive sources of water and power, while others are potentially dangerous and life-taking, as “fearful forces to treat properly according to local beliefs and rituals” (ibid., 47). Many Peruvians therefore continue to perform rituals and ceremonies to tame Andean lakes and mountains to preserve a good relationship with the them (ibid.). A local shaman explained to me that the term “apu” or “apujirka” describes mountains as living beings who give life and water, and who should be respected. Even though people call him “the shaman” he prefers to call himself “a man of pulse” because he recognizes sicknesses and body malfunctions of his patients by laying two fingers on the veins of their wrist. Apart from taking care of people's health, he calms Lake Palcacocha by keeping a good relationship with the lake. He does so by bringing gifts to the lake and to the mountains. Every third or fourth week he has a dream where the lake tells him what it wants. The next day he brings gifts like alcohol, coca leaves, cigarettes, corn, beer, and pig to the lake in order to calm it. According to himself, when he does so the “level of the lake goes down” and “it is happy and calm” (Edgar 27.02.18); the water volume in the lake decreases, and consequently the risk of flooding becomes smaller (Edgar 21.02.18). If he does not offer gifts to the lake, it will become angry and dangerous, and the risk of flooding will increase.



Figure 14: The Man of Pulse (Foto: The author). Edgar brings gifts to the lake every month to calm it and make sure it will not burst and create a flood. He lost his eye by being too exposed to sun reflections from the glaciers, as he also works with security measures at Lake Palcacocha.

In this view the risk of a glacial lake outburst flood is not only attributed to a consequence of climate change, but to the will of nature itself. A will that can be tamed if humans understand to enter into, and maintain, a reciprocal relation with nature. An elderly woman in Llupa told me that the rainfall changes occurred due to missing ceremonies from local authorities. She told me: “The [current] authorities do not act properly. (...) When I was a child, the authorities went to remote places and brought medicine-men with them to make ceremonies and messes for making it rain. The authorities did more” (Diana 24.02.18). Diana expresses her opinion of the lack of understanding from the authorities about the crucial maintenance of reciprocal relationships with lakes and mountains, and that this causes the changing climate.

When the Lake Palcacocha in 1941 burst into a flood, which killed thousands, there were different interpretations of why the disaster had happened. One of my respondents gave me a collection of folk stories recorded by the Huarazian writer and poet Yauri Montero (1979). One story depicts the origin of the flood to the enchanted lake:

A farmer is tending his livestock near the Lake Palcacocha, when he hears an ear-splitting sound of rocks falling from the mountains. He sees a small, but extremely muscular man with burning hair, red skin, carrying a big glistening machete. The little monster is throwing big rocks and boulders into the water of the lake continuously until the lake becomes angry with foaming waves. Then the little monster jumps into the lake and appears again, mounted on a giant black horse with shiny jaws, which gallops out of the lake, bringing the floodwaters through Huaraz, smashing everything on its way (Yauri Montero 1979, my summary and translation).

This story gives an impression of the local mythology: The lake is enchanted, it has feelings and a will, and becomes angry when misdeed is done towards it. This echoes the words of Edgar, who says that the lake becomes angry if gifts are not offered to it. The story is also interesting for its blend of folk beliefs and scientific accuracies (Carey 2010, 49). It depicts the flood as a consequence of an avalanche creating big waves, which eventually broke the lake bed. This corresponds largely with scientists' assessment of the outburst flood's origin (*ibid.*). But it also describes the origin of the avalanche – the cause of the outburst flood and the following destructions and killings – to a mythical creature, appearing from the enchanted lake.

In this logic, nature's will – depicted as lake monsters or beer-drinking mountains – is the cause of climate change, and those who are to blame are humans not respecting these living beings.

5.3.4. Scientific Equipment Makes the Climate Change

While some fuse folk beliefs and scientific conviction, others are sceptical towards scientists and scientific equipment. A prominent engineer of many security projects in the area told me that a group of scientists had installed an early warning system at another lake in the area of Callejón de Huaylas, known as Lake 513. Soon after, two hundred villagers gathered and destroyed the newly installed equipment at the lake, because they were convinced that it prevented the rainfall. The

engineer told me that people believed that the instruments were “pushing away the clouds” and creating drought (Santos 26.03.18). Just after they broke the equipment, the phenomena of el niño happened, and massive amounts of rain arrived. “A terrible coincidence” the glaciologist said, “they are manipulated” (Santos 26.03.18). According to the glaciologist, a local leader had convinced the villagers to destroy the equipment because he was in political conflict with a local mayor. The local leader had told the glaciologists that he was against the project because he suspected the scientists and authorities of wanting to make profit. The project was set on hold, and since then, the local community have been guarding the entrance to the lake, stopping groups of tourists and others to check that they do not carry scientific equipment with them. This happened, to my knowledge, last time in December 2017 – a few months before I conducted my fieldwork in the area. Also other examples of these kinds of conflicts have been seen in the area earlier. In 1996 a confrontation erupted over a rain gauge, which glacier experts had installed to monitor precipitation patterns below the glaciers (Carey 2010, 177). Local farmers complained that the instruments caused the drought and removed it. When the scientists returned to install new equipment, they were taken hostages, and forced to negotiate not to install other equipment (ibid.).

5.3.5. Plastic Makes the Climate Change

Others mentioned local pollution as a cause of climate change. Three out of twenty villagers and five out of twenty-four urban residents mentioned litter or plastic trash in rivers and on streets as a source of general environmental problems as well as of climate change. One urban resident said: “We ourselves are to blame for the global warming. We ourselves have to learn how to recycle and not throw trash which affects our environment and the planet” (Rosa 24.02.18). Another respondent answered: “Pollution comes from humanity (...). We are throwing trash, we buy plastic, we drink from plastic, we buy a biscuit and we throw away the plastic. I think the plastic have caused pollution, and this have caused deglaciation and climate change” (Miguel 18.02.18). An urban resident from the area of Cono Aluviónico, was also under the opinion that plastic causes deglaciation and depletion of the ozone layer, and he explained his theory:

The problem is that the plastic ruins the environment. It leads to higher temperatures, which goes to the ice. It is because the ozone layer have been broken by the plastic and all the trash that exists on earth. The heat that the plastic generates goes to the mountains or to the ozone layer. When the sun rays touch the plastic, it reflects the heat from the sun until the mountains and glaciers or to the ozone layer, which then open (Carlos 22.02.18).

The confusion of the depletion of the ozone layer and climate change is not uncommon, and was also mentioned by a few other local residents. Plastic and litter are blamed for causing both ozone depletion and deglaciation, and is a visible type of environmental pollution in the area. Even though signs from the local authorities ask people to “protect nature” by not littering, many people throw trash directly into the rivers. The waste sorting system in Peru is not well functioning and plastic and other types of litter are ubiquitous.

5.3.6. Cars and Fires Make the Climate Change

Some respondents mentioned different sources of local pollution such as car exhaust and fires as causes of climate change. A 13-year-old urban resident had learned about climate change and environmental protection in school. He told me that climate change is created from exhaust from cars in the city, and the smoke made the city seem darker (Rafael 20.02.18). Traffic noise and air pollution from cars are very present in the Peruvian cities, including in Huaraz, and also local authorities stress that glacial retreat happens partly as a consequence of soot created by local activities such as fires and car exhaust (INAIGEM 2018).



Figure 15: Car Exhaust (Photo: the author). Traffic noise and air pollution from cars are major problems in Peruvian cities.

There was a tendency that villagers blamed urban residents for driving cars, and urban residents blamed villagers for making fires. Villagers more often than urban residents mentioned car exhaust as a source of pollution (one-fourth of the villagers and one-eighth of the urban residents), and urban residents more often than villagers mentioned forest fires or burning of agricultural waste products (1 out of 20 villagers and 3 out of 24 urban inhabitants). An urban resident who worked as a primary school teacher in the subject of Science & Environment told me: “We have the responsibility: We burn the forest, and it is a custom that they do that once a year, in June” (Alfredo 27.01.18). The teacher referred to the yearly tradition of San Juan, where villagers burn agricultural and forestry waste products as a ritual for securing the arrival of the rain. A university student living in the city, who had family connections in a village, told me about the prohibition of this tradition of burning agricultural waste products and its implications:

On June 24th, during the San Juan [celebration day], there is a tradition for burning roots of corn and stuff like that to make the rain come. But now [the authorities] have forbidden people to do that. It was a tradition. Maybe it is good to prohibit it, but maybe the farmers are right – they have experienced [that the rain comes when they burn stuff], they did not read it somewhere. They live more with nature, because they live in the countryside. We [urban residents] buy everything [and therefore we are less connected to nature]” (Francisca 22.02.18).

The university student Francisca indicates a division between the rural and the urban population, and their supposed connection and disconnection to nature. Thus, different types of local pollution is perceived as a cause of climate change, for which residents blame themselves and each other.

5.3.7. Local Mining Makes the Climate Change

In the region of Ancash, where Huaraz is located, a great number of both legal and illegal mines are operating, including inside the national reserve Huascarán National Park which encompasses the mountain range Cordillera Blanca. The mining is primarily for extraction of silver, zinc, lead and other minerals. The mines contaminate the environment and some rivers in the area, which sustains Huaraz and the villages. The presence of these mines and the visibility of the pollution of water and environment these mines cause, influence many local people’s perception of pollution

sources. From the city of Huaraz the goldmine Pierina from the company Barrick⁵ is clearly visible, appearing as a yellowish skull as if the mountaintop had been shaved off. The company has been the target of protest from local residents both in Huaraz and worldwide (ProtestBarrick 2013). In 2012, a protest against the water contamination from this mine led to four injured civilians and one dead, due to confrontations between protestors and police (La Razón 2012). When I arrived in Huaraz, several minor demonstrations against the water pollution from the gold mine were taking place. The participants were mainly rural inhabitants, and on the way to a meeting I passed a gathering of 50-100 rural men and women protesting in the centre of Huaraz.



Figure 16: Pierina Gold Mine (Photo: The author). Located in the Cordillera Negra, the gold mine is clearly visible from the villages in Sub-basin Quilcaybuanca in Cordillera Blanca.

When asked about causes of the climatic changes people experience, one-fourth (5 out of 20) of the villagers, and one-sixth (4 out of 24) of the urban residents mentioned mining activities.

⁵ In Peru, the Canadian mining company Barrick began operations in 1998 with the Pierina mine, located in the Cordillera Negra, in the district of Jangas, Huaraz, in the Ancash Region. Barrick's production has contributed to Peru being one of the world's leading gold producers (Barrick 2018).

Sometimes the connection between mining activity and climate change seemed mystical, as when a villager told me: “There is an instrument at the mine Pierina that when it turns on the light, the next day, the rain disappears” (Miguel 18.02.18). But most often the mining activities were related to climate change more generally:

Before the climate was not like this. But now there are mines all over. All the mines pollute. Here in Huaraz there are many mines, but also in other places (...) For me, it is all the mines in all parts of Peru. (...) They all affect the mountain area (Juvénio 24.02.18).

For Juvénio, who lives in the mountain area, climate change is equal to changes in the local mountain environment – and he primarily blame the local and national mines for this. A student of environmental science living in an urban area, explained why mines contribute to climate change: “The mines use machinery like drilling machines and this is where the [greenhouse] gasses come from. And it will make the temperature rise. They use fossil fuels to run these machines” (Kiara 18.02.18).

But mines were blamed for both global pollution associated with climate change and immediate environmental pollution. Many villagers, and a few urban residents, associated the local mining activity with water shortage, pollution of rivers, changes in precipitation patterns, and biodiversity loss. Pollution of rivers is an obvious consequence of mining activity, and I observed severe cases of pollution where entire rivers had been discoloured and the water undrinkable due to toxic waste products from a nearby mine. An urban resident with close family in the rural area told me that “the water is so contaminated by mines that the trouts are gone – and you cannot drink the water, it looks like paint because of the rust. We have to boil it before we can drink it” (Felipe 18.02.18).

Mining activity was hence seen as a cause for both climate change and immediate environmental pollution, and people did not blame themselves, but the mines and the owners of these. Also other industries were mentioned, as I will outline in the final paragraph.

5.3.8. Industries in Other Countries Make the Climate Change

Apart from local or national mines, one-fourth (6 out of 24) of the urban residents mentioned national or foreign industries, factories or companies. In comparison, almost half (9 out of 20) of the villagers mentioned one or more of these actors as causing climate change. As well as many respondents mentioned locally operating mines or national industries when asked about attributing responsibility or blame for the climatic and environmental changes, some also mentioned industries in other countries. One-fourth (5 out of 20) of the villagers, and one-fifth (5 out of 24) of the urban residents attributed, amongst other factors, responsibility for climate change to industries or countries outside of Peru.

A 12-year old school student told me: “The factories have a bigger part of the blame. Because they emit smoke, and that is what pollutes the earth (...) In the United States they have more factories than here in Peru, and this cause more pollution” (Rafael 18.02.18). Some also had other ideas of why foreign countries were to blame: “I think the pollution from other countries can also arrive here by air. Now a lot of countries have bombs, this can also pollute here” (Miguel 18.02.18). A student of environmental science living in an urban area attributed more responsibility to foreign actors: “I think the main part of the ones who use these [greenhouse] gasses are the industrialised countries: USA, Japan and others. Compared to the industrialised countries, Peru’s use is very small” (Kiara 18.02.18). The student also mentioned Peruvian mines and the subsequent Peruvian responsibility, but she stressed that foreign industrialised countries have a bigger part of the responsibility. A villager agreed, saying that there is “a lot of pollution” from the industrialised countries. He said that the industries are to blame the most because they “invoke droughts and glacial retreat” (Gabriel 12.02.18). The farmer who is filing a lawsuit against RWE also agrees that industries bear the responsibility: “The companies are polluting day and night (...) Regrettably, we live in a world where the power lies with the economy. And the big companies have a lot of economic power” (David 26.02.18).

The pollution from industries were by these respondents seen as the primary cause for climate change, and industries inside and outside of Peru, as well as other countries, were blamed.

We have hence seen a range of factors perceived to cause climate change, and different actors were blamed. In the following chapter I will analyse these findings, concerning perceptions of climate change, its causes, and who to blame.

6. Blame for Climate Change: Analysis

Knowledge on climate change is assembled from a variety of sources, and the immediate environment, other people, and information from other parts of the world are all coming together to form perceptions and knowledge production of climate change (Hastrup 2016, 43). People respond to climate change not only based on their scientific knowledge of environmental processes but also on their worldviews and social relations, which are influenced by cultural and political-economic factors (Carey 2010, 5; Norgaard 2011, 10).

Before moving on to analyse the perceived causes of climate change amongst the local population in Huaraz and the nearby villages (in section 6.2.), I will therefore first (in section 6.1.) mention a few factors for understanding the climate change perception which I presented in the findings section.

6.1. Factors Influencing Perceptions of Climate Change

As mentioned in the introduction of the findings section (5.) many different social, cultural and political-economic factors influence people's perception of climate change, its impacts and causes. Throughout the findings section I have chosen to focus on the factor of residence, which I will elaborate on here. I divided the responses into urban and rural residents aiming to investigate the influence residence related factors have on perceptions of climate change and its causes. I will now analyse these factors in greater detail, without claiming to present and exhaustive explanation. Then I will more briefly analyse the influence of education on climate change perception and the probability of engaging in action against climate change.

6.1.1. Urban and Rural Climate Impacts: Residence, Economy and Personal Experience

Poor and marginalized populations are generally the most vulnerable to natural disasters and climate change (Carey 2010). Vulnerability is in this context defined as the exposure of populations to livelihood stress as a result of the impacts of climate change (Adger 1999). The majority of households in the rural areas depend on seasonal irrigation to cultivate agricultural products on small parcels of land (Bury et al. 2011, 197), and are therefore directly affected by the weather. Their livelihoods are dependent on precipitation and meltwater from glaciers for their crops and livestock. They are therefore more vulnerable to climate change than people whose livelihood is based on an income in the city. A villager told me about the influences of climate change related to this difference:

The major part of what we live from is agriculture. There is not a lot of income in the countryside for us. Because we do not have an income, we gather products from the field for breakfast, lunch and dinner. But for those who have an income, who work and earn money, it does not matter so much for them. But for the poor people, it affects more. When you do not have money you can not just buy from the market [when the crops do not produce] (Gabriel 12.02.18).

The villager depicts the difference in vulnerability towards climate change between those with an income: Mainly the urban residents; and those without: The majority of the rural population. However it should be noted that some rural residents have a secondary occupation such as mountain guiding, which gives some households increased economic flexibility. There was though a tendency that more urban residents stressed the consequence of higher *prices* on agricultural products, and rural residents stressed the impacts on *production* of these, which hints to a division between the *consuming* and *producing* segments of the population.

As seen in the findings section (5.1. and 5.2.) there was a tendency that villagers more often than urban residents mentioned climatic changes such as precipitation changes, increased temperatures and glacial retreat. Impacts such as problems for agricultural production and water scarcity were more often mentioned by villagers. A few urban residents even claimed that no water scarcity exists in Cordillera Blanca. These findings imply that the increased vulnerability, direct

dependency on the weather and climate, and the positioning of being the food producing segment, have an impact on their attentiveness to climatic changes.



Figure 17: Village House (Photo: The author). Most rural residents are small-scale farmers and livestock-owners

The advantageous placement of the majority of the villages outside the possible flood path of a glacial lake outburst in general makes them less worried about a flood risk. This generalization does not cover the section of villagers who have family connections or secondary houses in the outburst flood risk areas in Huaraz⁶. Around half of the urban residents living in the high-risk zone of a potential glacial lake outburst flood were worried about the risk because of the placement of their residency. The other half was not, and many of them were convinced that the security measures already existing at the lake were sufficient. As I observed during the fieldwork and interviews with residents as well as with local authorities and organisations working with the outburst flood risk, this is due, amongst other things, to an insufficient information flow from these authorities and organisations to the population living in the high-risk zones. Another reason

⁶ Neither does it cover the villagers living in lake outburst risk zone, whom I did not interview.

is that the population had experienced false glacial lake outburst flood alarms, and stopped believing in the truthfulness of the risk (see also Carey 2010, 179). Some argued that politicians and authorities were corrupt and wanted to install the security measures as a way of taking money for themselves. This echoes stories I heard in Lima of corrupt politicians who took large amounts of money for themselves when investing in national infrastructure or rebuilding projects after the recurring phenomena El Niño. Corruption is widespread in Peru (Albán 2018), and this creates general distrust towards politicians and authorities. But personal experience also plays a role. A segment of the elderly generation still remembers the flood that happened in 1941. Some were children when the outburst flood happened, and only have bits of memory such as where the bodies were gathered. Others had more vivid traumas from the experience, and lived in constant fear that it would happen again. Some elderly also expressed frustration that their children and grandchildren did not take the risk seriously. A resident in the high-risk zone Cono Aluviónico told me: “My trauma will follow me to my grave. My grandchildren know nothing about earthquakes or floods. They are building new houses [in this high-risk area]” (Elias 22.02.18).



Figure 18: Children Playing with Old Tire In High Risk Zone (Photo: The author). The river is behind the wooden fence. Residents in the neighbourhoods Nueva Florida and Cono Aluviónico are living where the risk of an outburst flood is the highest.

From this we can draw the conclusions that changes in the climate are mostly noted by people directly exposed to the physical as well as economic consequences of these changes. Climatic changes such as precipitation changes and glacial retreat are therefore mostly felt by rural residents, and the risk of a glacial lake outburst flood more often mentioned by urban residents living in high-risk zones. This risk assessments are to a certain degree dependant on the exposure to this risk, in relation to residence and personal experience. But socio-political factors, such as information flow and corruption levels, also play a crucial role.

6.1.2. Climate Knowledge and Climate Action: Education and Inspiration

As mentioned above, the flow of information concerning risks such as a glacial lake outburst flood is important in shaping people's risk assessments. Also general education has an influence in the perception of climate change and "better environmental science and statistics education can (...) move the risk perception of the general public and its officials closer to that of climate scientists" (Weber 2010:22). Concerning the perception of the glacial lake outburst flood risk, I found a tendency of increased worry the higher the education level was and the more information on the situation of the Lake Palcacocha people had. Between the urban residents I talked with, the young people who were studying at the university had a fairly good, or very good, idea of global climate change, its origins and impacts. Urban residents with less education were generally less worried about climate change, water scarcity and outburst flood risks. Many children knew concepts such as "climate change" and could give impressively correct descriptions of the dynamics of global pollution. This was mainly due to a subject on "science and environment" which was recently introduced in the public schools.

Action on climate change may also be more likely if local populations adapt the concepts and explanations used in the global discourse on climate change. As an example, the farmer who filed a lawsuit against the German coal mining company, had in connection with his education as a mountain guide followed courses concerning the local environment and the changing climate. A combination of the information from these classes about the global causes of climate change, as well as his personal observations and experiences of the glacial retreat and problems of water scarcity made him motivated to file a lawsuit against the German coal mining company:

The teacher told us that the tropical glaciers of Peru were going to disappear because of climate change, which makes the temperature rise. This was also what I observed here in the area, and I was looking for answers [for why this happened]. Our teacher told us that it happens because of the global pollution, and this made me think that those being responsible are someone very irresponsible (David 31.01.18).

The combination of observing and living with the disappearing glaciers; and the information that the cause of this is to be found with polluting industries, made David want to take action. He then met a former anti-mining activist from the city Cajamarca, where a gold mine had been operating and continuously met with major protests from the local communities because of local water pollution from the mine for twenty years (Stern 2016). The former activist mediated contact between David and the NGO Germanwatch, who had been working with the themes of climate change and climate justice, and had contact to lawyers who had been investigating legal ways to confront the polluting companies (Noah 23.01.18). The German NGO then supported the Peruvian farmer David in filing the climate lawsuit against the company RWE. The former anti-mining activist said: “Why do we sue this company? Because this company have become millionaires by producing carbon, which is one of the big contributors to the greenhouse effect. And this effect is what is making the glaciers disappear in Peru” (Manuel 07.04.18).

Information as well as formal education can help move the general population’s conceptions of and knowledge on climate change, its impacts and causes closer to that of climate scientists, and it can inspire people to take action. As I will later show (in section 6.2.2.1 and section 8.2.), it is though important to take into account local cultural and political-economic contexts when initiating projects for climate change adaptation and mitigation.

Now we will move on to analyse the local populations’ perception of who is to blame for climate change.

6.2. Analysing Blame

People outside academia do not only “observe” their environment, they also theorize about their present and future environment (Hastrup 2016, 41, 54). This section will analyse the responses from the local population in Huaraz and the villages concerning their perception of climatic

change causes. I will first analyse the religious and culturally conditioned moral explanations with the help of Arendt's guilt concept, in the section "Blaming Me" (6.2.1.). Then I will review the responses blaming humanity as a whole, often connected to specific local management practices in the local community in the section "Blaming Us" (6.2.2.). I will do so by applying Arendt's notion of collective responsibility, the notion of diffuse responsibility, and the term "environmental blame displacement" (Burman 2017). In this paragraph I will also analyse blame conflicts, where the "Us" of the local population is split into "They" and "We" of rural and urban communities (6.2.2.1.). Then I will examine responses concerning mines and industries and compare them to notions of climate justice in the paragraph "Blaming Them" (6.2.3.). Finally I will conclude on these analyses (6.2.4.).

6.2.1. Blaming Me (or You): Guilt and Religious Misconduct

According to Arendt, guilt is strictly personal and appears when moral rules of conduct are not complied (Arendt 1945, 125), or said in other words, when individual acts exceed culturally or religiously conditioned rules. When looking at the responses from the local population in Huaraz and the nearby villages in this framework, it appears that notions of guilt connected to blame apply to a range of them. Firstly, there is the blame of individual actions, which exceeds the moral religious rules. This can create guilt in individuals. In the context of conservative Catholicism, which many residents ascribe to, it is e.g. morally wrong to have discussions and fights with your neighbours, to steal, and to have abortions. As a villager told me when asked about the causes of the climatic changes: "Because of the sinful man! The man is to blame! We steal, we kill, we adulterate, we trade" (Enrique 24.02.18). When the "sinful man" exceeds these moral rules it makes God angry, and he punishes by changing the rain patterns, creating droughts and floods, releasing glacial lake outburst floods and letting doomsday come nearer: "It is the punishment of God" (Rosa 18.02.18). These are examples of the present and "future punishments" from God because of exceeded moral rules with a "divine origin" (Arendt 1987, 47), which implies guilt in individuals.



Figure 19: Kissing Jesus (Photo: The author). Elderly woman dressed in traditional Andean clothes kisses the foot of Jesus, while others wait in line in the Church of Soledad, Huaraz.

As we have seen, also other beliefs exist in the area. According to traditional local beliefs, it is necessary to maintain a positive reciprocal relation with mountains and lakes. Respect is shown by offering gifts, holding ceremonies, or by keeping a distance. Failing to comply with these moral rules of conduct towards the beings of the mountains and lakes will make the deities angry and they will punish the communities by creating droughts, glacial lake outburst floods, or other climatic consequences. In Catholic thought moral misconduct of the individual creates guilt and is to blame for the climatic punishments. Different from this line of thought, in the logic of traditional beliefs, the moral misconduct of the *community* – or representatives for it – are to blame

if a reciprocal relationship with the lake and mountain deities is not maintained. The lack of the strictly personal misconduct does hence not create guilt in individuals, but rather make them blame representatives from their community, e.g. authorities.

Hence, catholicism produces guilt in individuals, while traditional beliefs make people blame representatives for their community.

6.2.2. Blaming Us: Humanity and the Local Community

“The global warming is because of humans who pollute” (Oscar 18.02.18)

When asked about who is to blame for climate change, many respondents answered: “We are”. But this “we” encompassed many different ideas of who this “we” is, and different reasons for why this “we” is responsible. I will outline a range of examples here, and with the help of the concepts of “collective responsibility” and “diffuse responsibility” (see section 4.), I aim to depict a deeper understanding of the local ideas of attribution of responsibility for climate change. The community for which an individual can bear a collective responsibility (Arendt 1945, 127) will here be interpreted as respectively the immediate local community; the national community; and a global community such as “humanity” – in the latter we get closer to my concept of “diffuse responsibility”.

In Arendt’s original texts, this community or “system or ideology of power” (Arendt 1945, 125) was thought as the entity of the nation-state and its dominating ideology. The idea of the national state as responsible is also present amongst some respondents: “The whole country is responsible – also the industries, especially on the coast (...) Climate change comes from Peru, and not from outside of the country” (Rosa 24.02.18). The wrong-doing is here seen as being limited to the national borders of the state, and the responsibility limited to these borders. But more frequently, the respondents attributed responsibility to themselves in virtue of belonging to the global community of “humanity” – hence closer to the diffuse responsibility. However, in most answers there was an interesting link between the idea of “the polluting global humanity” and specific, often local, sources of pollution: “We ourselves are polluting. (...) Pollution comes from

humanity: it is humanity that makes mining” (Miguel 18.02.18). In this example, the villager takes on responsibility for pollution from mining in virtue of being a human. There were also several examples of this in relation to different local sources of pollution, such as plastic and litter. An urban resident said: “We ourselves are to blame for the global warming. We ourselves have to learn how to recycle and not throw trash which affects our environment and the planet” (Rosa 24.02.18). She connects littering with global warming, and she feels the collective responsibility for the littering of other people in a community she feels part of. When asked about who to blame for climate change, a 12-year old school student said: “We have the responsibility, the human. Here we pollute with trash” (Rafael 18.02.18). Also in this example, the global humanity and the specific local pollution are set equal to each other. It echoes notions of diffuse responsibility, as the non-specific group “humanity” is targeted; and simultaneously he blames his own community. I have shown that many local residents in Huaraz and the nearby villages blame themselves or their local community for causing or being co-responsible for climate change, blaming local activities such as littering and agricultural burning. This finding is similar to that of the Danish anthropologist Paerregaard, who found that in the small village of Tapay, situated in the Southern Peruvian Andes, most residents agreed that “climate change is produced in their own surroundings and not elsewhere in the world” and that “climate change is a phenomenon that occurs locally, not globally” (Paerregaard 2016, 257, 259). The Swedish anthropologist Burman has similar findings in the Bolivian Andes, where agriculturalists and working-class people are blamed for causing climate change (Burman 2017, 923). This has been termed “environmental blame displacement”, because these people have in fact contributed very little to climate change and are some of the most vulnerable to climate change (ibid.). The same can be said about the local population with whom I did research. They blame themselves, which is proportionally very exaggerated for a global phenomenon that they in reality have very little responsibility for. This blame displacement arise as a combination of diffuse responsibility, collective responsibility and individual guilt – we are (all) guilty, hence I am guilty.

6.2.2.1. Blame Conflicts: We and They

But within this “we” of the local community, there is sometimes more than one “we”. In relation to the banning of the tradition of burning agricultural and forestry waste products (described in

section 5.3.6.), a division between the rural and urban perceptions were outlined. The prohibition was made from authorities based in the city, and their arguments were made on the ground of a “scientific model of blame”: The burning creates carbon particles which contribute to climate change and deglaciation (Eguavoen 2013, 19). The arguments for resistance against the prohibition – from villagers or from urban residents agreeing with them – were based on the “cultural model of blame”, informed by cultural and religious knowledge and by rules of the community: the rain patterns were affected negatively if the rituals for maintaining the reciprocal relation with the beings of mountains and lakes were not conducted (Eguavoen 2013, 19; Paerregaard 2016, 257). A similar division was seen in the conflicts concerning installations of scientific equipment near lakes (see 5.3.4.). Here, the division was also one between a rural community and representatives of the city: scientists and authorities from the city. In the view of the local communities, lakes have a will, and some of them are dangerous if you go near them or do not comply with the local traditions. The scientists and experts had installed the equipment in order to monitor and avert the consequences of climate change for, in their eyes, to help the local communities. As already stated, there is a widespread culture of corruption in the Peruvian society, as well as a general mistrust of authorities, and this could be a cause of the local community’s distrust of the project. But the local communities also saw the equipment as a cause of climate change, because they did not comply with local traditions of keeping a distance from the enchanted lakes. To my understanding a lack of addressing these cultural dimensions had occurred. Information meetings had been conducted, but it seemed like a proper community involvement in determining the goals of the adaptation implementation (Adger et al. 2013, 112), as well as sufficient Quechua-translators, were lacking. It has been pointed out that “if the cultural dimensions of climate change are ignored, it is likely that both adaptation and mitigation responses will fail to be effective because they simply do not connect with what matters to individuals and communities” (ibid.). The division between the “we” and “they” within the same local population, which we have seen applied to both the division of rural and urban residents, and the division of understandings informed by science or by traditional beliefs, ended in this instance with an open conflict, where each part blamed the other.



Figure 20: Lake Churup (Photo: The author). According to traditional beliefs, some lakes are enchanted, and disturbing them or not offering them gifts can make them angry.

6.2.3. Blaming Them: Industries and Industrialised Countries

Apart from blaming oneself, each other, one's local community and humanity as a whole, many respondents also blamed "them" in the form of local, national, or foreign industries and industrialized countries.

Mines were blamed for local environmental degradation as well as for climate change. Many referred to the mines operating in the local area, others also to mines in other parts of the country. The mines were blamed for both immediate environmental pollution as well as climate change. These answers can be compared with theories of climate justice, and more specifically, the polluter pays principle (see 4.1.2.). Some respondents mentioned several polluters as

responsible for climate change such as the villager and print shop owner Alvaro: “We have a lot to do as a country [but] the big companies have the biggest responsibility in the world (...) And the US do not want to sign the climate agreement” (Alvaro 28.01.18). The villager here mentions Peru’s responsibility in terms of a national collective responsibility, but also the responsibility of other states like the United States, and that of major global companies. This resembles the macro-version of the polluter pays principle concerning “global warming, where the emissions of many actors in combination have resulted in the problem” (Caney 2005, 752), and where those who are responsible should compensate for the problem. As another villager expressed it: “It would be good if the big polluters would pay: The big factories, the big industries; for causing this pollution. In my opinion they should repair this damage that they have caused” (Jorge 29.01.18). The villager, who worked with security at the Lake Palcacocha, referred to the planned security measures at the lake. This villager also knew about the lawsuit and it is possible that this knowledge inspired his way of thinking. Another of the few villagers who knew about the lawsuit had a similar argumentation: “It is said that the industrialised countries are the ones that pollute the most. And the ones to blame the most are the industries, because they cause the droughts, the glacial retreat” (Gabriel 12.02.18). This could indicate that some people’s awareness of the lawsuit and the principles on which it is based, inspire them to view causes of and blame for climate change in line with the principles of climate justice.



Figure 21: The Guardian of Lake Palcacocha (Photo: The author). *A handful of villagers take shifts to report on the condition of the lake to the city every half an hour, around the clock. This guardian was in the opinion that major industries “should pay for the damage they have done” (Jorge 29.01.18)*

Thus, perceptions of climate change causes and climate blame in line with theories of climate justice exist in the local area, and are mainly inspired by visible local pollution from mining, from education and information, and can be inspired by climate justice actions and projects.

6.2.4. Who To Blame: A Partial Conclusion

We have throughout this analysis seen different responses concerning guilt, blame, and responsibility: blame on oneself as an individual, as a community, as a human being, or blame on others. In Catholic interpretations, the moral misconduct of individuals was blamed for climatic changes, which harm the whole community. Also in the view of traditional beliefs of mountain and lake deities, the community is punished by deities, but the blame for this was rather attributed to the failure of maintaining a reciprocal relation with the deities of nature – either because representatives of the community do not comply with their duties to the deities, or because intruders disrespect the relation. Other groups in the local community, namely specific scientists and urban residents, had other perceptions of the causes of climate change. Due to these differences, a lack of proper information and involvement, and a general distrust, conflicts arose in situations such as banning of traditions and installations of scientific equipment.

We also saw how a diffuse blame attribution towards the global community, in the shape of the “the polluting humanity”, was tightly linked to specific local management practices such as litter and agricultural burning, in a perception closer to that of collective responsibility. We saw that this blame towards their own community is a form of environmental blame displacement because the mentioned actions of these individuals and communities in reality contribute very little or not at all to climate change. A social anthropologist, who had similar findings in Northern Ghana, proposed that “poor rural farmers should be made aware of the actual causes of global climate change and not left believing that their management practices are responsible for causing climate

change” (Eguavoen 2013, 21). I believe that this is a valuable point, but that such information should be transmitted with a thorough pre-understanding of and respect for the cultural context of the specific local context, including local beliefs, religion, political and ethnic conflicts, economic situations, etc. I want to stress that my thesis is not reductionist: The intention of my analysis is not to reduce nature to pure objectivity (Adorno and Horkheimer 1995, 42). It is rather to encourage a dialectical communication and understanding, as well as an acknowledgement that in order to mitigate the worst consequences of an already advanced climate change, it is necessary to engage with notions of climate justice. I have shown that not everyone blames themselves or their local community for climate change. Some answers indicate an awareness of causes that originate from other parts of the world, or from entities outside of the local residents’ communities. Industries, local as well as foreign, and industrialised countries have been mentioned as the “big polluters” who are to blame for climate change. These opinions and the climate lawsuit represent a dialectical sprout of climate justice in the local community.

7. Courtroom Crossfires: Climate Liability

With the local Andean-Peruvian perceptions of climate causes and climate blame outlined and analysed, I will now proceed to the lawsuit filed by the farmer from the local area. I will scrutinize arguments put forward in the court case concerning who to blame for climate change – or rather, using the correct terminology for court cases, arguments of climate liability⁷. I will outline my normative reasons, related to climate justice, for this shift of focus below.

7.1. Climate Litigation as a Tool for Climate Justice

Cultural relativism is a very valuable methodological and theoretical approach for allowing anthropologist and other researchers to thoroughly engage with and understand the lifeworlds of the people and societies they study. However, its lack of normativity is its strength as well as its

⁷ Liability means responsibility by law, and in terms of climate liability, the concept has been described as when “law provide redress or remedy to those who are or may be adversely affected by climate change, and control (or provide compensation for) the behaviour of those public or private actors who may be directly or indirectly responsible for it” (Brunneé et al. 2011, 4).

weakness. Engaging with question of (climate) justice implies a certain normativity, judging what is just and what is unjust; right and wrong. Some anthropologists attempt to overcome this by arguing that resistance should be formulated from other ontologies (see e.g. Burman 2017). However, in power centres where definitions of justice are settled, not much room are available for other ontologies. As an example, indigenous people did not, despite a widespread organization within and engagement in the UNFCCC, have extensive influence in these meetings, and claims such as “the Earth is a living being with rights that should be recognized” did not gain broader recognition in the negotiation discourse (Ciplet, Khan, and Roberts 2015, 191-195). As another example, religious rules and reciprocal relations to mountain deities are not discussed in secular law, on which justice systems builds. These aspects of culture and different ontologies are not accepted as valid in these spaces. Therefore, I argue, when aiming to achieve climate justice, it is not enough to formulate resistance from different ontologies. It is necessary to engage with the ontology in power, and formulate resistance from within these, with the tools and language accepted as valid in these spheres. Four lawyers with expertise in climate liability say that “the law is a tool; it may variously be a sword, a shield and the rock on which societies are built” (Brunneé et al. 2011, 3). According to Hale (2006, 17) the “master’s tools” are often the best available tools for challenging the people in power, and it can be argued that law is a such. Thus, law can function as a tool, used by the people exposed to the risks, damages and losses caused by climate change against those powerful entities who profit from producing and emitting greenhouse gases. These tools may not, as Lorde (1987, 3) points out, enable profound systemic changes of e.g. the economic system on which climate injustice is based. However, as argued by Hale (2006), these tools might still prove efficient; they may allow enforcement of crucial changes in the energy sector on which mitigation of the most dangerous and devastating climate change depends.

For these reasons I have chosen to go more in depth with the climate lawsuit filed by the Huarazian farmer David, as I see this lawsuit as a resistance from the climate change affected global South, formulated within the ontology of power with the language of law. David told me that he and the German NGO supporting him (Germanwatch) decided to file a lawsuit for strategic reasons, namely to make companies change their methods of energy production from lignite into sustainable energies (David 31.01.18). A consultant for the lawsuit project (known

within Germanwatch as “The Huaraz Case”) told me: “Our aim is that there should be political solutions” (Stefanie 07.08.18). This view is interestingly also the view of the coal mining company that they sue. In contrast, the opinion of the company is that they cannot be held liable, exactly *because* it is a “political challenge”: They argued that “climate change is a global political challenge that cannot be addressed by holding individuals liable under civil law” (Sterniczuk and Klein 2016, 5). The four climate liability lawyers commented on this as well:

Few would dispute that regulation is a more appropriate response to climate change than litigation. At present, however, there is a huge gap between what is politically possible to deliver and what science tells us is necessary to avoid significant and long-term damage (Brunneé et al. 2011, 36).

Therefor focus turns increasingly to what has been termed liability for climate change, and climate lawsuits are increasingly common (ibid., 4, 6). Many climate lawsuits are filed against states for not conducting policies that correlate with the scientific warnings of dangerous climate change, like we have seen recently e.g. in Holland (with success) and in Norway (without success) (see Hodgetts 2018; Schiermeier 2015). But recent lawsuits have also drawn attention to the responsibilities of major emitting industries, “particularly in transportation and electric power generation” (Osofsky 2012 *cited in* Frumhoff et al. 2015, 158)”. To give a few examples, in January 2018 New York city filed a lawsuit against five oil majors, and most recently, in July 2018 the state of Rhode Island filed a lawsuit against fourteen major oil companies (Kusnetz 2018; Klein 2018). However, as to my knowledge, David’s lawsuit against RWE is the only existing climate lawsuit filed from a climate affected individual in the global South targeting a carbon major in the global North. If this lawsuit is won, it will not only set precedent for similar climate lawsuits, but will signal an important win for climate justice for people in the global South affected by climate change. The four climate lawyers state that “if direct liability will be imposed on those “responsible” for climate change to pay compensation to those who suffer its consequences, it will have immense consequences” (Brunneé et al. 2011, 5).

Climate litigation can those prove to become an important strategy for climate change affected people for approaching or achieving climate justice. I will in the following sections scrutinize the

arguments concerning climate liability exchanged in the German courtrooms during the climate lawsuit.

7.2. Arguments on Liability: Findings

I will in the following sections present and analyse the arguments of climate liability during the lawsuit against RWE⁸. I will begin by presenting the latest decision presented by the Higher Regional Court in Hamm, Germany, concerning gathering of final evidence, and the plaintiff's (the Peruvian farmer and his lawyer) argument for the liability of RWE (7.2.1.). Then I will present the defendant's (RWE and their lawyer) counter-arguments (7.2.2.); then the verdict of the District court in Essen (7.2.3.), and finally the appeal to and statements by the Higher Regional Court in Hamm (7.2.4.). Consequently I will move on to analyse these arguments in the context of climate justice.

7.2.1. Plaintiff: You Are Causally Responsible

Following the liability model, responsibility is assigned to a defendant or a particular agent “whose actions can be shown to be causally connected to the circumstances for which responsibility is sought. This agent can be a collective entity, such as a corporation” (Young 2006, 116). In November 2017, the Higher Regional court in Hamm stated in a press release that the legal grounds for the lawsuit are potentially valid, and that evidence must be gathered. This evidence will answer a range of questions to prove or disprove a potential causal link between RWE's emissions and the flood risk of the Peruvian farmer's house. The evidence concerns the local consequences of global warming in Huaraz concerning the risk of an outburst flood; that global warming is caused by emissions of greenhouse gases; and to which extent the share of emissions by RWE can be measured⁹. The court is currently deciding on which experts to choose

⁸ I will present these arguments with the reservation in mind that the main parts of the court documents I use for presenting this data, are translated and made publicly available by the organisation (Germanwatch e.V.) who support the defendant, and that it is in their interest that the case is widely known (Bowen 2009, 38).

⁹ In greater detail, the questions are 1) Whether there is an actual risk of flooding from the Lake Palcacocha and 2) Whether RWE is partly responsible and to which degree. The latter includes a range of questions, namely: a) Whether the emissions released by RWE's power plants lead to a higher density of

for answering these questions. The plaintiff could not have hoped for a better statement. In their first claim to the District court in Essen, Germany, they state that RWE is co-responsible for the flood risk towards the farmer's house as a causal consequence of global warming:

The impairment of the claimant's estate is the consequence of an active external influence, the enrichment of the atmosphere with GHG emissions for which the respondent is partly responsible. (...) The endangerment is therefore a result of a chain of causation (co-) started by the respondent's action (Verheyen 2015b, 27).

The plaintiff base their claim on a law on the protection of private property. This law states that if "one party's use of its property leads or contributes to an unacceptable impairment of the other party's property" then the former party is liable for that impairment (Verheyen 2015b, 26). In this case the former party is RWE and their use of property is their coal burning in the power plants; and the latter is the farmer, and the impairment of his property refers to the flood risk of his house. They claim that the private property – David's house – is in danger of damages because an "increase of the average temperatures in the area of the glaciers" which happens through the accumulation of the greenhouse gases (Verheyen 2015, 26). The reason for the plaintiff to choose to focus the court case on a single house, and not e.g. the entire outburst flood risk area of Huaraz, is a strategic choice from the plaintiff, using the tool of law to target a carbon major. The German law in question applies to the impairment of a single person's private property – and not a group of persons – by another person's (or entity such as a company) property.

The scientific base of the lawsuit is the Carbon Majors Report (Heede 2014), which attributes responsibility for climate change to major carbon producers. The report outlines the carbon dioxide and methane emissions attributable to the 90 largest oil, gas, coal and cement producers from 1854 to 2010 (ibid., 5). It does so by quantifying and tracing historic and cumulative emissions to these producers (ibid., 8)¹⁰. According to the report, RWE is the 6th largest coal

greenhouse gases in the atmosphere; b) Whether greenhouse gases result in increased temperatures globally; c) Whether this results in an increase in temperature locally, and the consequent retreat of the Palcaraju glacier above the Lake Palcacocha, and an increase of water volume in the lake to a degree that its natural moraine can no longer keep it; and finally d) Whether the "defendant's share of the co-causation to the causal chain identified under a) to c) can be measured and calculated" (Nubbemeyer 2017, my translation).

¹⁰ Nearly two-thirds, or 63%, of global industrial CO₂ emissions since the industrial revolution, "can be traced to fuels and cement produced by only 90 specific entities" (Heede 2014, 16).

producer globally and has produced 4.7 million tons of coal since the Industrialisation. They have consequently, according to Heede's theory, attributed to more than 6.8 million tons CO₂ emissions (Heede 2013, 22, 27). This makes up 0.47% of the total global carbon production from 1751 to 2010 (ibid., 27). The aim of the report is to “invite consideration of the suggestion that some degree of responsibility for both cause and remedy for climate change rests with those entities that have extracted, refined, and marketed the preponderance of the historic carbon fuels” (Heede 2013, 231).



Figure 22: Lignite Mine (Photo: The author). One of RWE's giant lignite diggers in the Hambach Mine in North-Rhine Westphalia, Germany, with Ende Gelände activists in the foreground.

Liability presupposes that the actions have been voluntary and “performed with adequate knowledge of the situation” (Young 2006, 116). The plaintiff therefore also stressed that the company declared itself “Europe’s largest single emitter of CO₂” twenty years ago, that the company has known about the consequences of their choices for decades, and still chose to do it to gain profit (Verheyen 2015b, 22, 26, 30, 37). The plaintiff also notes that the company is the

owner of a range of electricity generating coal plants and is therefore in both respects responsible for the production and burning of fossil fuels and emissions of greenhouse gases into the atmosphere (Verheyen 2015, 16).

7.2.2. Defendant: We Are Not Responsible, What About the Others?

Despite these statements, the defendant RWE claimed that they are not liable. Firstly they stated that they are not responsible because they did not do anything illegal, and are not obliged to care: “In the absence of a duty of care, no illegality can be established” (Sterniczuk and Klein 2016, 11). The defendant furthermore claimed that the Carbon Majors Report, the scientific base on which the lawsuit is built, was simplifying things. RWE claimed that “the study is misleading, because it only considers industrial emissions of CO₂ and CH₄” and that “other anthropogenic and non-anthropogenic emissions and relevant greenhouse gases are not addressed” (Sterniczuk and Klein 2016, 5). Followingly they presented a range of natural factors and anthropogenic activities which also contributes to the climatic changes (Sterniczuk and Klein 2016, 3). They mentioned natural phenomena such as the UV-radiation and the fluctuations of cosmic rays in the sun’s magnetic field; contributing to warming from high clouds; and fluctuations in temperature and precipitation in the region from ocean cycles (*ibid.*, 3, 4). They also mentioned other anthropogenic activities such as deforestation and cattle farming and other local sources of pollution (deposits from transport, industry, land use, agriculture, biomass burning, and slash-and-burn farming) which create soot and dust deposits on the glaciers and affect the albedo effect (*ibid.*, 4). Furthermore they claim that because of “natural sinks and chemical degradation processes, it is impossible to determine which emitter is responsible for which GHG emissions in the atmosphere”, and that due to the complexity of the earth’s climatic system and the many factors and sources of emissions involved, “it would be impossible to isolate individual contributions or attribute climate change to individual emitters” (*ibid.*, 1, 2). In other words, RWE seeks to renounce their responsibility by establishing the argument that their own contribution, amidst multiple polluters, is so small that if it did not exist, the problem would still be there.



Figure 23: Livelihood management (Photo: The author). A small-scale farmer is spinning yarn from his sheep. Agriculture and land use are mentioned as sources of carbon emission by the German coal mining company.

7.2.3. District Court: They Are Not Liable, It Is Too Complex

In December 2016, the District Court in Essen rejected the claim from the plaintiff. They based this verdict on the precedent of forest damage caused by the so-called “acid rain” that initiated a broad debate on liability law in Germany and elsewhere in the 1980s (Verheyen 2015b, 164). A considerable part of German forests had been damaged due to air pollutants, particularly sulphur dioxide and nitrogen oxide emissions from a long range of emitters such as power stations, industrial plants, heating industry and traffic (ibid.). But as it was impossible to attribute specific loss of forest to specific polluters, liability could not be ascribed to any polluter (ibid.). The District Court used this case as precedent, and agreed with the defendant in the view that it is “impossible to determine which emitter is responsible for which GHG emissions in the atmosphere” (Sterniczuk and Klein 2016, 3) because “the emission contributions of the defendant are also indistinguishably merged with those of all other emitters” (Siepmann 2016, 6). They argued that it is impossible to attribute specific damages and impairments to individual causers, because of the many polluters involved: “The pollutants, which are emitted by the defendant, are merely a fraction of innumerable other pollutants, which a multitude of major and minor emitters are emitting and have emitted. Every living person is, to some extent, an emitter” (Siepmann 2016, 6). On this ground the District Court disclaimed that RWE could be held responsible for the flood risk of the farmer’s house, because there are so many contributors to global climate change that a linear causation could not be established – even though, as they stated, a disturber is in principle obliged to pay for the impairments of the owner’s property (ibid.,5).

7.2.4. Higher Regional Court: They Can Still Be Liable

The plaintiff appealed the case to the Higher Regional Court in Hamm, on the grounds that “in logical, scientific terms, a condition is “causal” if it leads to an outcome; a condition is therefore a “partial cause” if it contributes to that outcome” (Verheyen 2017, 12). The Higher Regional court accepted the appeal and stated that “it is in accordance with the legal system that even those who act lawfully must be liable for property damages caused by them. That fundamental legal concept also applies to the arguments of the parties in the present case” (Nubbemeyer 2017, 1; Meyer et

al. 2017, 2). Thus, it is not relevant whether or not RWE's emissions were illegal: They are still responsible for the consequences of their actions.

The Higher Regional Court stated that: “In the case of multiple ‘disturbers’, each participant must eliminate its own contribution” and furthermore states that whether or not RWE is capable of eliminating the disturbance is not relevant (Sterniczuk and Klein 2016, 4). They stated that: “Contrary to the opinion of the defendant, the claim is not too imprecise in light of the facts of the matter” (Higher Regional Court - 5th Civil Senate 2018, 3). The Higher Regional Court rejected RWE’s claim that the law does not cover climate change since it is too “complex” and since everyone emits greenhouse gases (Germanwatch e.V. 2017).

The plaintiff argued that the case of acid-rain, on which the District Court based their decision, is different than the case of global warming or climate change. It is so because in case of the latter each molecule of greenhouse gas contributes to climate change. It is therefore “cumulative causation”, because the level of GHG concentration in the atmosphere is a cumulative result of present and historic emissions (Faure & Peeters 2011, 202). The Higher Regional Court also accepted this argument, and thereby dismissed the verdict of the District Court (Verheyen 2015b, 164).

7.3. Principles of Climate Liability: Analysis

In this section I will analyse the outlined arguments on climate liability for understanding which principles lie behind the statements, and how they can be interpreted. I will examine three different groups of arguments: The arguments on legality and awareness (7.3.1.), the argument concerning the property law (7.3.2.) and the argument on cumulative causality (7.3.3.). Finally I will conclude the chapter with a comment on the prospects of climate justice in court (7.3.4.).

7.3.1. Legal, Aware and Liable?

One argument of climate liability concerned the legality of coal mining and -burning and the awareness of its consequences. The defendant argued that the company RWE is not responsible

for climate change and the flood risk of the farmer's house, because it did not do anything illegal (Sterniczuk and Klein 2016, 11). The Higher Regional Court declared that this does not question their liability (Meyer et al. 2017, 2). That statement builds on the principle of strict liability, where an agent is responsible for the consequences of an action even if there was no illegality or malign intention, such as when one person's property accidentally causes damage to another person's property (Jamieson 2010, 11; Young 2006, 116).

However, following the principle of liability, if an agent can successfully show that she is "excusably ignorant" about the consequences of her actions, then her responsibility is usually mitigated or dissolved (Young 2006, 116). The defendant therefore presented a range of reasons casting doubt on anthropogenic climate change as well as their share of responsibility for it. The plaintiff counter-argued this and said that they have known about the causes and consequences of climate change for a long time, but still chose to continue producing and burning coal (Verheyen 2015b, 22, 26, 30). The Higher Regional Court also noted that despite their emissions, the defendant had "consistently failed to take protective measures that would at least reduce the risk of flooding" (Meyer et al. 2017, 3). Thus in relation to the principles of liability and strict liability the plaintiff counter-argued the defendant, and the Higher Regional Court accepted these arguments as valid.

7.3.2. My Property, Your Property

As stated above, the plaintiff's argument builds on a German law against impairment of private property. The defendant claimed that there is no legal basis for the allegation, because "individual liability under civil law cannot be applied to global environmental impacts" and that there was no "duty of care" (Sterniczuk and Klein 2016, 11). This statement builds on the nationality-restricted notion of justice, where only people under the same constitution are mutually bound by obligations, which they do not have to outsiders (Young 2006, 103). The District Court disclaimed this and accepted that the law on property is not limited to national borders, thereby also accepting the plaintiff's argument that "the norm also protects the claimant's property when it is located in a foreign territory" (Verheyen 2015b, 26; Siepmann 2016, 6). The morality behind this norm and argument is in line with theories of climate justice and global justice (see 4.1.), as

RWE's use of their property, by digging and burning lignite, is co-producing a harm which "deeply affects the liveability and richness" (Shue 2014, 133) of the farmer's life, since it threatens his property, namely his house. Hence it is in line with the principle of global justice concerning recognizing others, and the harms done to them, regardless of their affiliation to any particular constitution (Young 2006, 103). In this instance, this principle was accepted by both courts.

7.3.3. Denial, Diffuse and Differentiated Responsibility

Establishing causation in law is to track a particular relationship between a certain behaviour and a loss or injury (Verheyen 2015a, 163). The principle of causality is central in climate cases to determine the liability or non-liability of a defendant (Faure & Peeters 2011, 267; Verheyen 2015a, 163). It is also important for obtaining climate justice, and correcting climate injustice, because moral responsibility must track causal responsibility (Shue 2014, 132).

The defendant, backed up by the District Court, stated that RWE could not be held liable, because there was no linear causality from their activities to the flood risk of the farmer's house. They present various reasons why this is so, and here we will analyse the principles behind them. First, they perform different varieties of climate denialism: When confronted with the consequences of climate change, one of their arguments is that climate change is not completely anthropogenic, and state that there is no correlation between greenhouse gas emissions and global temperature increase (ibid., 2), and that "in fact a slight cooling has been observed despite an increase in GHG emissions at higher altitudes, including the location of the relevant glacier" (Sterniczuk and Klein 2016, 2, 3). This is a type of "literal climate denial", because the defendant asserts that anthropogenic climate change is not true (Norgaard 2010, 8). They also perform "interpretive climate denial" (ibid.) because they *understate* the importance of emissions from energy producing companies in the question of climate change: "The emissions contributed by power plant companies are so small that they are completely swallowed up and undetectable" (Sterniczuk and Klein 2016, 3). This is an understatement, because contributions to greenhouse gases in the atmosphere from power plant emission are fairly large (Heede 2013). They are also attributed a third type of climate denial by the plaintiff, who points out that they have acknowledged the problem of climate change and declared their intentions of acting upon it,

amongst other places in their “Responsibility Reports” (Rentz et al. 2016, 42), but have failed to do so adequately (Verheyen 2015, 30). This is “implicatory climate denial” (Norgaard 2010, 8) because they have failed in pursuing and acting upon the political implications of these responsibilities, namely redesigning their business strategy to rely on sustainable energy production. They have failed to “do the right thing” with their knowledge on climate change (ibid., 9).

We also saw that the District Court agreed with the defendant on the point that liability cannot be attributed to specific emitters, because of the innumerable emissions “of major and minor emitters” (Siepmann 2016, 6). This interpretation of moral and legal blame is what I call “diffuse responsibility”: Everyone is to blame, hence no one can be blamed. The plaintiff however argued that it is possible to attribute responsibility to specific emitters. They did so on the basis of the Carbon Majors Report (Heede 2014). The plaintiff argues further that the case falls into the category of cumulative causation, and that this applies “when the action of one party could not bring about damage by itself” but only in combination with other actors, and that this does not exclude them from liability for their action (Verheyen 2015a, 32). As we saw, The Higher Regional Court accepted these arguments and stated that the fact that there are many emitters does not take away the proportional responsibility from the defendant. This argumentation is in line with theories of climate justice, as it is comparable with the polluter pays principle in macro version, where the emissions of many actors in combination have resulted in the problem of global warming (Caney 2005, 753) and where “each emitter must be responsible for their contribution to global climate change and pay for the cost of the ensuing pollution in proportion to the amount of pollution that they have caused” (Caney 2005, 753), and the harms that this pollution entails.

7.4. Climate Justice in Court: A Partial Conclusion

That the Higher Regional Court dismissed the majority of the verdicts concerning climate liability taken by the District Court, shows that there is some flexibility of interpretation of laws and arguments. Questions of causation are the most important hurdles in climate liability trials, and

defendants see their best chances of defence in this area (Faure & Peeters 2011, 267; Verheyen 2015, 164). But, as it has been commented:

Even though causation still remains a difficult issue, it is no longer considered to be impossible to prove causation in climate liability trials, at least if courts are willing to interpret this broadly as a link between the damage and actions of particular defendants (Faure & Peeters 2011, 267).

Hence, applications of laws are also about the willingness to interpret situations and laws in a way that allows global climate justice. I have shown that the main part of arguments put forward by the plaintiff, dismissed by the District Court, and accepted by the Higher Regional Court, are in line with theories of climate justice, such as the polluter pays principle and global justice. I have also shown that the majority of the arguments put forward by the defendant, accepted by the District Court, and dismissed by the Higher Regional Court, build on traditional understandings of justice such as a nationality-restricted justice, and that they were furthermore based on discourses of diffuse responsibility and different varieties of climate denial. These interpretations of justice do not take into account the global challenge of climate change. To achieve climate justice in the court, which by definition is the judicial power ensuring justice, it is therefore necessary that courts are willing to interpret the laws, situations and argumentation with the principles of climate justice in mind.

With these two analyses outlined, I will now move on to the discussion. Here I will compare these analyses and provide a critique.

8. Climate Blame, Climate Justice and Community

Involvement: A Comparisons and A Critique

In the following discussion I will compare and critique the findings from the two analyses, and propose a critique of the premise of the thesis. In the first section (8.1.) I will compare the perceptions and arguments of responsibility for and causes of climate change amongst the local Andean population and in the German courtrooms, and discuss their political implications. Then

I will present a critique of the climate lawsuit project, concerning community involvement on the basis of an understanding of the social and political-economic contexts including concepts such as abandonment and the politics of urgency (8.2.).

8.1. Comparing Arguments and Perceptions of Climate Change

Causes

Notions of traditional justice limited to the nation-state were present in the court as well as amongst the local population. Where some Peruvian residents said that Peru as a nation is causing climate change and is responsible for its local impacts; the defendant in the German court claimed that RWE is not responsible for the global impacts of their actions, in other words that their obligations of justice limits to the national state of Germany. As argued (see 7.3.2) this nationality-restricted view of justice cannot meet the challenge of climate change which is caused globally and has global consequences. The District Court accepted most of the defendant's arguments, however they dismissed this one. When the case was appealed to the Higher Regional Court, this court dismissed the far majority of the arguments which the District Court had accepted, and thereby re-opened the possibility of attributing climate liability to RWE. It was argued (by the plaintiff) and accepted (by the Higher Regional Court) that specific major emitters can be attributed climate liability, and that the defendant's responsibility is one of cumulative causation. This, as argued, can be compared to the climate justice related polluter pays principle. Apart from the farmer filing the lawsuit, amongst the local population, this perception was present as well, as some respondents mentioned industries, factories and major polluters as those being "most responsible", and those, who should repair climate change damages (such as paying for the construction of security measures at Lake Palcacocha). This echoes notions of global justice and climate justice. However, opposing trends were apparent in the court as well as amongst the local residents.

For different social and political-economical reasons, a surprising amount of the Huarazian residents living in the high-risk areas of a glacial lake outburst flood were not worried about the risk they were living under. For excusing the German coal mining company of its climate liability, the defendant claimed that there is no relation between greenhouse gas emissions and global warming. Some deny the realities of climate change as a way to cope with its threats, others deny these realities in order to avoid being held accountable. In Huaraz and the villages, however, an insignificant minority denied the existence of climate change, as everyone living in the area experienced and acknowledged some impacts of climate change such as glacial retreat, precipitation changes or water scarcity. Many different explanations for the causes of these changes did exist though, linking the changes not solely to pollution or greenhouse gas emissions, but also to God, litter, and lake deities, in relation to culture, religion, tradition, and political-economic situations. Some ideas of climate change causes were repeated in both the court in Germany and amongst the local population in Huaraz. The German coal mining- and electricity company argued against their climate liability, among other arguments, by listing a range of natural factors and other anthropogenic activities also contributing to climate change. Many of the anthropogenic activities referred to were also mentioned by some respondents in the local population in the Andes. As examples, soot-creating activities such as agricultural burning and transport which affects the albedo effect on the glaciers were mentioned. The problem of soot was also stressed by local authorities in Huaraz, and echoed by a number of residents. The latter often blamed themselves or their neighbouring communities for climate change because of these activities. As far as these activities do create pollution, and to the extent that black coal or soot deposits on glaciers are contributing to glacial retreat, these problems should be addressed. However, to claim that people engaging in such activities are equally responsible for climate change as Europe's biggest carbon emitter, is an unequivocal exaggeration. This environmental

blame displacement creates unnecessary guilt in individuals engaging in livelihood management practices, and distracts attention from blaming entities with much bigger environmental impacts.



Figure 24: Cooking Over Fire (Photo: The author). Most rural residents cook their food over fire, and here lunch is being prepared at a shed next to a small field. These livelihood management practices have a negligible impact on climatic changes and yet they are blamed for having a negative impact.

Another perception diverting attention and creating individual guilt was the perception that “humanity” is to blame for climate change. As argued, this perception was often closely linked to either the above-mentioned local management activities, or to the perception of being co-responsible for e.g. mining- and industrial activities, simply in virtue of being a human. This internalized diffuse responsibility diverts the responsibility attribution away from major emitters.

In the District court in Germany, a similar perception was presented, when it was argued (by the defendant) and accepted (by the District Court) that an innumerable range of emitters are responsible. This argument of diffuse responsibility not only diverted the attention away from blaming major emitters, it was accepted a valid reason for disclaiming RWE's climate liability. This discourse of diffuse responsibility which diverts the blame onto small-scale livelihood management strategies is similar to the guilt-generated responsibility attribution to "the responsible consumer" (Fontenelle 2013). However, not consumption, but local livelihood management strategies are here targeted as the problem and solution of the environmental crisis. Redemption from consumer guilt is buying the "right" products (Fontenelle 2013), while redemption from "farmer guilt" is banning local traditions and blaming the neighbour. The corporate world co-creates the discourse of the environmentally responsible consumer through media, attributing responsibility to the individual by making her feel guilty (ibid., 353). It does so with the aim of encouraging enhanced consumption for profit, avoiding questioning consumer society (ibid., 362). Also here, the company RWE co-creates the discourse of blaming individual and community practices with the aim of escaping responsibility and avoiding questioning their business strategy of profiting from fossil fuels. Individualized responsible consumerism is accompanied by "feelings of guilt, ambivalence, compromise and inconsistencies in addressing environmental issues at the personal level" (Connolly and Prothero 2009 *in* Fontenelle 2013) and it diverts attention and "mitigates against political action" (Jorgensen and Phillips 2002 *in* Fontenelle 2013, 342). In a similar way, diffuse responsibility attribution for climate change, which redirect blame to local livelihood management strategies, creates guilt in individuals, conceals the insignificance of their emissions relative to major emitters, and prevents them from taking action from their submissive position.

The disclosure of this power relation can only happen with a critique of the prevailing discourse on diffuse responsibility, introducing and enhancing theories of climate justice which builds on a

knowledge of the material dynamics of climate change. An unfair environmental blame displacement on people in the bottom of the global hierarchy is part of a discourse which benefits the corporate power and produces guilt in individuals, standing in the way of political action. A change of this discourse is necessary, on a local as well as on a court level. On a local level it can remove individual guilt and redirect perceptions of responsibility attribution to major emitters, and this can create the grounds for taking action against these. Here, it is simultaneously necessary to recognize the local political-economic contexts and respect the local beliefs. In court settings this discourse change, which is already happening in some courts who interpret laws in terms of climate justice, can open the possibility for holding those accountable who are “responsible but very irresponsible” (David 31.01.18).

When initiating climate justice projects, it is similarly important to take into account the local cultural and political-economic contexts, and to inform and involve the local community. Failing to do so can have unfortunate consequences. I will finish this thesis by proposing a critique of its premise and inspiration, namely the project of the lawsuit.

8.2. Critique of The Climate Lawsuit Project: The Village Should Know

This paragraph will outline the villagers’ (David’s local community), negative experiences associated with the lawsuit project, scrutinizing the roots of, and suggest possible solutions for, this problem.

In spite of its potentially positive prospects for climate justice, the project of the climate lawsuit has had some negative local impacts, which I have mentioned briefly (3.2.5.). I will here elaborate this further, aiming to understand the dynamics behind this situation. When I first met David in Germany, a film-team was following him around, recording for a documentary about him and the climate lawsuit, which is in some media known as the “David versus Goliath-battle” (see e.g.

AFP 2017; Redacción BBC Mundo 2017; Sonne 2017; Agence France-Presse 2017; Redacción La República 2018). When I told the filmteam that I considered doing fieldwork in Huaraz, they advised me not to focus on the project of the climate lawsuit, because, as they said “David was exposed to so much attention already”. Upon my arrival in Huaraz, an anthropologist involved in the lawsuit advised me not to mention David’s name when interviewing people because of some “negative experiences in the villages with journalists creating problems” (Lukas 23.01.18). These pieces of information made me concurrently uneasy and intrigued. I sensed that I had to be careful not to cause any (further) harm. Simultaneously I wanted to find out what this problem was about.

I asked local residents indirectly about their knowledge of the climate lawsuit, simultaneously revealing potential rumours or conflicts. I found that very few residents knew about the climate lawsuit, and not all of them agreed with or understood the aim of it. Some heard about it through the media, others because they knew David personally. One villager expressed her disappointment of not hearing about it from her local community, and said: “The village should know” (Rosa 24.02.18). Some of those who knew about the lawsuit agreed with the baseline of the project and hoped that David would win the case. However, others were more negatively tuned towards it. This was mainly due to a problem concerning false rumours. One neighbour was convinced that “the Germans” had given David a lot of money: “They did not clarify how much money, how many millions, David and his father were given, but people say that with this money he is improving his own house!” (Miguel 18.02.18). Another rumour was that David intended to sell the Lake Palcacocha to “the Germans”. These rumours could indicate that in these neighbours’ experience, they had either been overlooked or exposed to “negative reciprocity” (Sahlins 1972, 195), because they felt that something (the lake) was being taken from them, instead of something (potential adaptation aid) given to them. Another factor that could enhance these neighbours’ feeling of being overlooked is what Rasmussen (2015, 11) terms

“abandonment” in relation to marginal Andean communities. Abandonment is described as “a term for living on the margins [of a] country renowned for its centralized political structure” (ibid.). Peruvians in the highlands live far from the political centre of the coastal capital Lima; and also in the highlands, rural inhabitants live on the margins of the political centres, the cities, which are often placed in the valleys. The rural part of the population often feels abandoned by the state, “being ignored and excluded” from access to resources (ibid.,12; Isbell 2005). In Huaraz, many villagers felt excluded from political interventions because of poor infrastructure (e.g. an aperture gravel road leading from Huaraz to the villages, and a general lack of sufficient irrigation systems). The anthropologist working in the area told me: “The rural Andean people have been separated and minoritized from the rest of the Peruvian society for a long time” (Lukas 02.02.18). This separation is also connected to the fact that the majority of the rural residents speak Quechua as their mother tongue, and only a minority speaks Spanish as their second-language. Spanish is the primary language in the cities, and the only language used in official contexts, and thereby the language of power. Also socially, the “rural class” have in the last centuries been seen as of a lower social status: “Especially the coastal ruling classes in Lima believed that the higher someone lived, the lower his or her social position” (Carey 2010, 55). This social division adds to the feelings of exclusion from the political-economic power centres. These elements have possibly also influenced the villagers’ belief that the project of the lawsuit was yet another project decided without their influence, and which would not benefit them as a community.



Figure 25: Abandonment (Photo: The author). *Small-scale farmers in the highlands in Peru often feel excluded from political decisions taken in the cities.*

But would the climate lawsuit actually benefit the community of the villagers if won? An urban resident involved in the lawsuit said: “Even if we win the lawsuit, the money will not go to the local population – it would go to the regional government [for the security measures at the lake]. So [the community] would still be there, feeling abandoned” (Manuel 28.01.18). As mentioned (see section 5.2.), most villagers were more concerned about water scarcity than the risk of a glacial lake outburst flood, and wished for the construction of a water reservoir (see section 2.). A few of the villagers who knew about the lawsuit and supported it believed that the potential obtained funds from the lawsuit would support the constructing of a water reservoir, or improve irrigation systems in the local village. This was though a misunderstanding, as the project of the

lawsuit is focusing on the outburst flood risk. It only addresses other climate change related problems indirectly by aiming to mitigate climate change through forcing coal- and oil companies like RWE to change business strategy and stop extracting fossil fuels and emitting greenhouse gasses. As a strategy, it focuses on the risk of an outburst flood, because legally, it is easier to prove a causal link to this immediate threat than to water scarcity and a future water crisis. Furthermore, the fact that a governmental plan for constructing security measures to avoid an outburst flood is already available, means that the precise cost for this adaption matter is too. This allows for knowing the precise amount to demand from the German coal company. However, even though the political intention of the lawsuit is to push further political solutions for climate mitigation and adaptation strategies, the immediate consequence of a potential trial win will not aid the local community. Only in long-term, it might.

As mentioned, part of the reason for the lawsuit to focus solely on avoiding a possible outburst flood is that the governmental construction plans also do so. But which mechanisms lie behind this situation? The social and political organization of highland Peru is influenced largely by the state and by political and economic processes on the national level (Rasmussen 2015, 11). This was also expressed in the governmental plans for mitigating the consequences of climate change in the area of Huaraz. Expressing his discontent with the “politics of urgency” (Medd and Marvin 2005) of the Peruvian government, David said: “People have to die before something happens, and water is not emergency yet” (David 15.02.18). Referring to the catastrophe in 1941, he said that the only reason that some security measures had been taken at Lake Palcacocha was because a lot of people had lost their lives. This type of politics is a reflection of the dynamics of slow environmental violence (Nixon 2011). The water scarcity and a future severe water crisis is a slow pace calamity, which does not gain the same attention as a catastrophic event such as a sudden outburst flood. Politically and emotionally, these different kinds of disaster possess unequal heft (ibid.). This is due to a variety of factors such as the “high-speed television age”, short electoral

periods (ibid.) and widespread corruption (Albán 2018). The result is that projects securing livelihoods of people just a few decades ahead are hardly obtainable. Governments of climate threatened nations should be pressured to involve concerns of rural populations and move towards a governance of preparedness, prioritizing strategies to build resilience in the short- and long-term (Medd and Marvin 2005, 44). They should be pressured to address slow pace environmental calamities such as water scarcity and a potential future water crisis, which will affect not only rural populations but entire nations. Furthermore, these political factors are important to take into account when formulating and communicating a climate justice project, and local residents should be informed about the strategic and possible long-term effects which will not necessarily have an immediate influence on their everyday lives.

The level to which a local community has been informed and feels involved in a project such as the climate lawsuit against RWE is essential in their perceptions and opinions on the project in question. The local community in the villages did not have proper information about the lawsuit from the beginning of the project. In combination with mistrust, rumour spreading, and rural residents' social and political-economic experiences of abandonment, this has had negative consequences for some community members' experience of the project. It also had negative consequences for David who said: "When you sue a very, very powerful company, and tell them that they are responsible for the damages that they have caused, then you have an enemy. But the result is that I have not just one, but several enemies" (15.02.18), referring to the neighbours who turned against him. For these reasons it is important to gain a thorough understanding of the social, cultural and political-economic local context in order to properly inform, engage with and involve the local community¹¹. Early involvement with and information to the local community is

¹¹ The people working with the case in Germanwatch are generally aware of these dynamics though and intend to solve the problems: They have supported the initiation of local climate adaptation NGO (see Wayintsik 2008), and are currently planning a project for informing the local community about the lawsuit (Stefanie 07.08.18).

crucial for avoiding misunderstandings from and harms to the local community when initiating a project like the climate lawsuit. In this way disadvantageous situations can be avoided and a more just local treatment of climate justice project initiators can be secured.

9. Conclusion

With the fast advancement of anthropogenic climate change, related impacts and risks become increasingly dangerous and problematic. It is therefore crucial to investigate how these problems are perceived and reacted upon amongst marginal populations in the global South, who are often the first to feel the severeness of these problems. Simultaneously, it is critical to search for solutions for these problems and to investigate initiatives aiming towards climate justice. As a consequence of insufficient political action on climate change, climate liability has become increasingly important.

It is hence vital to critically examine the phenomenon of climate blame amongst communities affected by climate change and simultaneously to scrutinize the prospects for climate justice in courtrooms, as these might become the arena where the destiny of these communities will be decided.

9.1. Contribution of Research

This thesis brings about an important contribution to human ecology as it examines crucial aspects of climate change and climate justice which are yet considerably understudied. Through a combination of ethnographic fieldwork, critical ethnography and document analysis I have investigated how climate blame is attributed from a local population at the bottom of the global hierarchy, and simultaneously, on which principles its causal connection to a carbon major is judged upon, from the top of this hierarchy. I have done so by addressing questions of climate blame and climate justice in German courtrooms and Peruvian mountains, linked by a climate lawsuit filed by a Peruvian farmer against a German coal and electricity company. By answering the question *which principles and world-views lie behind the perceptions and arguments of the causes of, blame*

and responsibility for climate change on the different structural-spatial levels associated with the climate lawsuit, I have found that principles of climate justice exist in the local communities as well as in the court rooms, but are contested and accompanied by a range of other principles and perceptions, which I will outline below.

9.2. Research Question Revisited

The first research question concerned *perceptions of climate change impacts and risks* amongst the local population in Huaraz and the nearby villages. By answering this, I have found that perceptions of climate change are influenced by a range of social, cultural and political-economic factors, of which I have focused especially on aspects connected to residence. I have found that rural residents are generally more attentive to and worried about climatic changes because of a higher vulnerability towards these changes in virtue of being directly dependant on agricultural production. However, urban residents in the glacial lake outburst flood risk zone are more worried about this specific risk. Furthermore, by investigating people's *perceptions of the causes of and blame for climate change*, I have found that a variety of perceptions of causes for climate change exist in Huaraz and nearby villages, including moral and religious misconduct, non-harmonious relationships with mountains and lakes, litter, car exhaust, agricultural burning, mines, and other industries. By applying theories of guilt, responsibility and climate justice I have identified three main types of blame: Blaming oneself, blaming one's own community, and blaming entities outside one's own community. Many residents internalize the problems connected with climate change and this creates individual guilt. This guilt is associated with not complying with religious or secular moral rules of conduct, or with the idea of belonging to "humanity". I develop the concept of diffuse responsibility in order to analyse how the notion of "we are all guilty" is tightly linked to notions of collective responsibility, where individuals and communities blame themselves. I argue that this represents environmental blame displacement, as these individuals and communities in fact have contributed very little or not at all to climate change. Other responses resemble theories of climate justice, and blame entities outside of their own community such as industries or industrialized countries.

As for the second research question, concerning *principles behind arguments on climate liability* of the German coal mining company in court, the study has shown that this has been debated on at least three parameters, opposing or agreeing with theories of climate justice. Principles of legality by awareness, global justice, and polluter pays principle were opposing notions of climate denial, national justice and diffuse responsibility.

Answering the third research question concerning *a comparison and discussion between the two levels*, the study has shown that these opposing notions exist in the dispute of climate liability in the German courts as well as amongst the local Andean population. Environmental blame displacements exists both places, and many Andean residents' perceptions of climate blame resemble the arguments from the coal- and electricity company. I argue that a guilt-producing discourse on diffuse responsibility, co-created by industry, attributes blame for climate change to local livelihood management strategies while concealing major emitters' climate responsibility. A disclosure of this discursive mechanism is necessary for resistance from the bottom of the global hierarchy and for courts to judge according to climate justice.

As a concluding remark addressing my last research question, concerning an investigation of the local problems occurring in the process of initiating the climate lawsuit, I offer a critique of the North-South alliance of the climate lawsuit against RWE. I show that early community involvement, based on an understanding of political-economic and cultural contexts, is crucial for securing a successful local reception. A failure of this aspect when initiating the project of the lawsuit against RWE has, in combination with rural Andean feelings of political abandonment, led to an unfortunate local situation. Climate justice projects such as the climate lawsuit must involve the local community to secure its credibility as a project locally as well as internationally.

9.3. Future Research and Potentials of Climate Litigation

If this research had been of a bigger scale, it would have been interesting to conduct interviews with a much larger section of the Andean population, comparing to greater depths different factors' influence on perceptions of climate change and climate blame, such as education, age, income, urban residence outside of the outburst flood risk zone, and rural residence in the flood

risk zone. This would give a deeper understanding of the reasons for Andean people's perception of climate change and its causes, and a bigger sample size would allow for more generalisation. It would as well be interesting to conduct a survey for the whole country, comparing different climatic regions, or for making it comparable to large-scale research on climate change perceptions in other countries (see e.g. Wang et al. 2017). However, a majority of this type of research does not address questions of responsibility attribution apart from whether people believe climate change is anthropogenic or not (ibid., 14). I believe it is crucial to start asking this type of question and challenge the discourses attributing responsibility to "everyone". It is necessary for avoiding a situation where responsibility is not attributed to anyone in specific, and everyone waits for someone else to act, while the severeness of the climate crisis grows.

Therefore, I argue that it is necessary to engage with questions of specific responsibility, in the civil society as well as in politics. The primary instrument to mitigate climate change should be political and market-controlling solutions. However, as a result of lobbying efforts by industry, political regulatory standards for climate mitigation remain too weak, and substantial damage can still emerge even if regulation is complied with (Faure and Peeters 2011, 272). In absence of sufficient political action, climate litigation can function as a strategy applied by North-South and other climate justice alliances. Climate lawsuits can assist in changing local, national as well as global discourses from blaming individuals and communities towards attributing responsibility to industries and corporations who profit from "business as usual" and choose to ignore scientific knowledge on the causes and consequences of climate change. As "the main goal of climate change litigation is to affect behaviour of emitters" (Faure and Peeters 2011, 273), climate litigation may eventually force carbon majors to change business strategies, as climate lawsuits can represent "an investment risk" in fossil fuels, similar to the aim of the climate justice action *Ende Gelände* (Vansintjan 2016; *Ende Gelände* 2016). The threat of litigation against carbon majors, the chance of "being sued to hell", may in this way achieve positive results (Jaap Spier 2011, 48). It may push industry in the absence of political action, and fulfil a modest, but highly important complementary role in supplementing regulatory efforts (Faure and Peeters 2011, 272).

Simultaneously, climate lawsuits from the global South have the potential to redirect global attention to climate injustices in affected areas such as Huaraz, where slow-pace and risks of climate related cataclysmic events do not otherwise draw global attention. The specific climate lawsuit discussed in this thesis can, if the Peruvian farmer wins the case, set a precedent for other cases concerning targeting major emitters and fossil fuel corporations from the global South. It can potentially inspire others to file lawsuits, and it can pressure courts to judge according to the principles of climate justice, as classical notions of justice and discourses of diffuse responsibility are still prevailing in many courts. Changing the discourse in these places is to a certain extent dependent on the willingness of courts and lawyers to interpret and understand laws, situations and argumentations with principles of climate justice in mind.

However, regulatory standards cannot be changed by courts, as they do not have the political power to approve new laws. For solving this problem, more political will is needed in climate change negotiations, and less corporate power should be allowed in these places. National and global climate laws should be adopted in order to limit the power of industry, protect the human right to a liveable planet, aiming to mitigate the most dangerous consequences of climate change, and adapt to those which are already inevitable.

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Figure 26: Drying Corn

(Photo: The author)

Appendix 1: List of Respondents

The list includes synonyms of interviewees, age, gender, occupation, place of residence and date of interview. In the thesis they are referred with synonym and date of interview.

Rural areas

This group consist mainly of interviews from Llupa (a village consisting of 242 households or 1340 persons); and a few interviews from other nearby villages. Some villagers have an extra house in town, often for the sake of being closer to urban education opportunities. In case of an extra house in Huaraz, the neighbourhood is indicated.

First name	Age	Gender (M/F)	Occupation(s)	Residence: Village + neighbourhood in town	Interview dates
David	39	M	Mountain guide; small scale farmer; filing a lawsuit against the German company RWE.	Llupa + Nueva Florida	31.01.18; 15.02.18; 26.02.18; 27.02.18
Gabriel	46	M	Carpenter, small-scale farmer	Llupa	12.02.18
Miguel	67	M	Small scale farmer	Llupa + Nueva Florida	18.02.18
Hugo	53	M	Mayor of Llupa	Llupa	20.02.18
Sebastian	68	M	Small scale farmer	Llupa	20.02.18
Martha	42	F	Small scale farmer	Llupa	20.02.18
Felix	13	M	School student	Llupa	20.02.18
Edgar	82	M	Guardian of Palcacocha, “man of pulse” and vendor of medical plants.	Llupa	21.02.18; 27.02.18
Diana	66	F	Small-scale farmer	Shinua Cancha (higher than Llupa)	24.02.18
Silvia	75	F	Retired small-scale farmer	Llupa	24.02.18
Elsa	26	F	Small-scale farmer	Llupa	24.02.18
Rosa	21	F	Engineer at local gold mine and shopkeeper for grandparents	Cono Aluviónico + Llupa	24.02.18
Jesus	78	M	Small-scale farmer, assisting his son David in the lawsuit case	Llupa	27.02.18
Paola	54	F	Small-scale farmer, house keeper	Llupa	27.02.18
Luis	70	M	Small-scale farmer	Smaller unidentified village in 3747 meters elevation	13.02.18
Jorge	52	M	“Guardian of Palcacocha”, mountain guide	Unchus	29.01.18

Rolando	56	M	Small-scale farmer	Yarush	24.02.18
Beatriz	70-80	F	Housemother, small-scale farmer	Yarush	24.02.18
Rosaria	69	M	Small-scale farmer	Yarush	24.02.18
Sergio	-	M	Translator, tourist guide, student	Yarush	24.02.18
Angelica	61	F	House holding, small-scale farming	Llupa	27.02.18
Anthony	66	M	House holding, small-scale farming	Llupa	27.02.18

Urban areas

This group consist mainly of interviews from the glacial lake outburst flood risk zones, the neighbourhoods Nueva Florida and Cono Aluviónico. Many residents in Nueva Florida also have a house or family in the villages, and this is indicated under residence.

Name	Age	Gender (M/K)	Occupation(s)	Residence: neighbourhood + village	Date(s) of interview(s)
Alfredo	42	M	Primary school professor in Science & Environment	Independéncia (lower GLOF risk zone)	27.01.18
Alvaro	53	M	Owner of printer shop in central Huaraz	Unidentified village	28.01.18
Tereza	98	F	Retired	Soledad Bajo	05.02.18
Kiara	25	F	Student of environmental science	Nueva Florida + the village of Yanuko	18.02.18
Ivan	88	M	Retired	Nueva Florida	18.02.18
Sofia	89	F	Retired	Nueva Florida	18.02.18
Ana	55	F	Works in the city	Nueva Florida + Llupa	18.02.18
Hector	87	M	Pig owner	Nueva Florida + Unchush	18.02.18
Rosa	86	F	Retired	Nueva Florida	18.02.18
Oscar	11	M	School student	Nueva Florida	18.02.18
Rafael	16	M	School student	Nueva Florida	18.02.18
Marco	12	M	School student	Nueva Florida	18.02.18
Raúl	42	M	Shop owner and postgraduate student	Nueva Florida	18.02.18
Martha	39	F	Shop owner	Nueva Florida	18.02.18
Margarita	45	F	Handicrafts vendor	Nueva Florida	18.02.18
Graciela	49	F	Housemother	Soledad + Llupa	20.02.18

Fernando	11	M	School student	Soledad + Llupa	20.02.18
Nancy	42	F	Fruit vendor	Cono Aluviónico	22.02.18
Alex	62	M	Vendor of recycled metal in Cono Aluviónico	Bellavista (not risk zone)	22.02.18
Flor	16	F	Housemother with 1-year old baby	Cono Aluviónico, right next to river	22.02.18
Julio	50+	M	-	Cono Aluviónico right next to river	22.02.18
Ana María	30	F	Lemon vendor	Cono Aluviónico right next to river	22.02.18
Francisca	26	F	Food industry engineer student and book seller in Cono Aluviónico	Centenario ('yellow' risk zone)	22.02.18
Elias	65	M	Bookshop owner & primary school teacher	Cono Aluviónico, next to river	22.02.18
Carlos	67	M	Driver for tourists	Cono Aluviónico, Southern Part	22.02.18
Jhon	20	M	Student in business administration + Helps grandmother with farming in Llupa	Nicropampa	24.02.18
Felipe	-	M	Quechua translator, mountain guide	Nueva Florida + Yarush	18.02.18

Experts and representatives of institutions

Name	Age	Gender (M/K)	Occupation(s)/ Institution	Residence	Date(s) of interview(s)
Julio	-	M	President of the National Park Huascarán	Soledad Bajo, Huaraz	25.02.18
Santos	46	M	Civil engineer, high expertise in glaciology	Soledad Bajo, Huaraz	08.02.18; 15.02.18; 26.03.18
Lukas	26	M	Anthropology PHD student researching climate change impacts in the villages near Huaraz, and involved in the climate lawsuit project.	Soledad Bajo, Huaraz	23.01.18; 02.02.18; 28.04.18
Manuel	38	M	Directing a local NGO working with climate adaptation and involved in the climate lawsuit project.	Soledad Bajo, Huaraz	28.01.18; 07.04.18; 02.04.18
Jhon	-	M	Specialist in Meteorology at INAIGEM	Huaraz & Lima	25.01.18
Antonio	-	M	Former governor at the Regional	Outside	21.02.18

			Government of Ancash	Huaraz	
Laura	-	F	Activist in the NGO TierrActiva, a part of Climate Justice Network	Lima	15.01.18
Omar	-	M	Anthropologist investigating climate change in the Andes near Cuzco	Lima	12.01.18
Miguel	-	M	Spokesperson for INAIGEM at "Technical conference of wetlands and actions against climate change"	-	08.02.18
Stefanie	-	F	Consultant for the "Huaraz case" for Germanwatch	Germany	07.08.18

Appendix 2: Interview Guide

The following interview guide is an example to show how I conducted my interviews, and this specific one I used while interviewing the residents of Llupa and other villages in the sub-basin Quilcayhuanca. The interview guides for the neighbourhoods in the city are only slightly adapted to the rural setting; and the interview guides for the representatives of the institutions were formed specifically for each of their expert area. The main part of the interviews were conducted in Spanish, and therefore the original Spanish version is attached below.

Interview Guide Example: Llupa

Introduction

- Could I ask you some questions about the weather, the glaciers, the water and the Palcacocha lagoon? It is for my master's thesis in Human Ecology in Sweden.
- Do you mind if I use the recorder?
- Could you introduce yourself to the microphone?
- What is your name? + How old are you?
- What do you work with?
- Do you have an education? Which?
- Where do you live?
- How long have you lived there?
- Do you have children? How many? How old are they? Where do they live?
- Do you still have your parents? Where do they live?
- Does your family have a house in the city as well? Where in the city?
- With what purpose do you use the house in the city?
- How long did you have it?

On weather, melting glaciers and feelings about the changing climate

- How is the weather in this era? Is it normal for this time of year?
- Is there less or more rain?

- Was it different when you were a child? Was it different a few years ago?
- How does it make you feel?
- How does it affect you during the day?
- Do you experience that there is less water to use?
- How does it affect you during the day?
- How are you handling that?
- How does it make you feel?
- Was there more snow and ice on the mountains when you were a child?
- How does it make you feel?
- Does it make you feel worried, sad, angry, or don't you worry so much?
- Which influence does the melting of the glaciers have on your life?
- Are you worried about the risk of flooding (from Laguna Palcacocha)?
- Does it make you worried, sad, nervous, afraid, angry, or do you not worry so much?
- In your opinion, what is the probability that a new flood will occur and what would be the magnitude of this disaster?
- Which problem is the biggest: The risk of flooding, or the shortage of water?
- Are the problems related?

Climate change, guilt, and climate change responsibility

- In your opinion, why is there a shortage of water?
- And because the glaciers are melting?
- Could you explain how the time is changed? What is the cambiaska tiempum for you?
- Could you explain what climate change / climan cambiaska means to you?
- In your opinion, who has the responsibility and blame for the shortage of water?
- ... and the melting of the glaciers?
- ... and by climate change / or the change in time?

(Ideas for answers if you have no idea: Spirits of the mountain, all human, people who throw garbage, gold mine, large coal industries, consumers in the rich world, or others?)

Palcacocha and the lawsuit

- What do you know about the Palcacocha lagoon?
- Have you heard anything about the security works in Palcacocha?
- What would be the optimal work by the authorities to avoid a disaster caused by the lagoon?
- ... And to avoid water shortage?
- Have you heard about the Laguna Palcacocha in the media?
- Have you heard anything about a coal company in Germany that is related to the problems of melting glaciers and the risk of a flood from Palcacocha?
- Have you heard anything about a lawsuit from Huaraz to this company in Germany?
- If you've heard about this, what do you think about it?
- Do you also know the German NGO called Germanwatch?

Thank you very much for your answers and your time!

Paijaa! [Quechua for thank you]

Guía de las entrevistas en Llupa (Version Español)

- ¿Podría hacerle unas preguntas sobre el tiempo, los glaciales, el agua y la laguna Palcacocha? Es para mi tesis de maestría Ecología Humana en Suecia.
- ¿Te molestan si utilizo el grabador?
- ¿Podrías presentarte para el micrófono?
- ¿Como te llamas? + ¿Cuándo años tienes?
- ¿Cual es tu trabajo(s)?
- ¿Tienes un educación? ¿Cual es?
- ¿Donde vives?
- ¿Por cuando tiempo has vivido aca /allí?

- ¿Tienes hijos? Cuando? Cuando años tienen? Donde viven?
- ¿Tienes padres? Donde viven?
- ¿Tu familia tiene un casa en la ciudad tmb? ¿Donde?
- ¿Para que utilizáis ese casa en la ciudad?
- ¿Por cuando tiempo lo tenías?

El tiempo, los glaciales, y sentimientos

- ¿Como es el **tiempo** en este época? Es normal para esta época del año?
- ¿Hay menos / más lluvia?
- ¿Fue diferente cuando eras niño/a o hace unos años?
- ¿Come te hace sentir?
- ¿Como te afecta durante el día?
- ¿Experimenta que hay menos **agua** para utilizar?
- ¿Como te afecta durante el día?
- ¿Que haces para manejar eso?
- ¿Come te hace sentir?
- ¿Había más nieve y **hielo** por las montañas cuando eras nina/o?
- ¿Come te hace sentir?
- ¿Te pone preocupado, triste, con cólera, o no te preocupes tanto?
- ¿Cuál es la influencia que da a tu vida el derretimiento de los glaciares?
- ¿Estás preocupado por el **riesgo de inundación** (de la Laguna Palcacocha)?
- ¿Te pone preocupado, triste, nervioso, asustado (bange), con cólera, o no te preocupes tanto?
- ¿En tu opinion, cual es la probabilidad de que ocurra una nueva inundación y cuál sería la magnitud de este desastre?

¿**Cual problema** es el más grande: El riesgo de inundación, o el escasez del agua?

¿Los problemas son relacionados?

El cambio climático, responsabilidad y culpa

- En tu opinión, ¿**Porque** hay escasez de agua?
- ¿Y porque los glaciales están derritiendo?
- ¿Podrías explicar como el tiempo esta cambiado? ¿Que es el cambiaska tiempum para ti?
- ¿Podrías explicar que significa el cambio climático / climan cambiaska para ti ?
- En tu opinión, ¿Quien tiene la responsabilidad y culpa por el escasez del agua?
- ...¿ y el derretimiento de los glaciales ?
- ... ¿y por el cambio climático / o el cambio en el tiempo?

Palcacocha y la demanda

- ¿Que sabes sobre la laguna Palcacocha?
- ¿Cuál sería la labor optima de las autoridades para evitar un desastre ocasionado por la laguna?
- ¿.... Y para evitar escasez del agua?
- ¿Has escuchado algo sobre los obras de seguridad en Palcacocha?
- ¿Has escuchado sobre la laguna Palcacocha en los medios?
- ¿Has escuchado algo sobre un compañía de carbon en Alemania que es relacionada con las problemas del derretimiento de los glaciales y el riesgo de un aluvi3n desde Palcacocha?
- ¿Has escuchado algo sobre una demanda judicial desde Huaraz a este compañía en Alemania?
- Si has escuchado sobre este, ¿Q piensas de este?
- ¿Conoces también el ONG Alemán que se llama Germanwatch?

Paijaa! / Gracias!

Muchas gracias por tus respuestas y tu tiempo!
