

“We don't eat batteries. Without water there is no life”.

A queer-ecology approach to lithium extractivism in the context of the
energy transition: the case of South America.

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ABSTRACT

All over the world, state and non-state actors have been making efforts to answer to the demand for reducing their carbon footprint and greenhouse gas emissions. Fossil fuels are being replaced by renewable sources of energy, products by more sustainable alternatives and vehicles by electric ones. Hence, the extraction of certain minerals needed for this energy transition is often overlooked by policymakers. Argentina, Bolivia and Chile comprehend the so-called Lithium Triangle and host more than 58% of the world's lithium reserves, a key mineral in the energy transition towards a fossil-fuel-free future. Scholars have been contributing to the analysis of the consequences of this mining industry but overlook its gender dimensions. Therefore, this dissertation addresses the gendered aspects of lithium mining by looking at the intersections between extractivism, gender and climate change. Using a queer-ecology approach, this research seeks to deconstruct a binary bias existing among ecofeminist scholars and environmentalists, bringing essentialist notions of gender and nature into question. Through interviews and an extensive literature review, I elaborate on the main gendered consequences of this mining industry in the Andean population as well as people's reasons, motivation and forms of resistance. Finally, this dissertation argues that essentialist notions of femininity, nature and masculinities need to be deconstructed in order to fully claim an inclusive environmental reproductive justice movement that liberates nature, women and queers.

Keywords: Queer-Ecology, Ecofeminism, Lithium Triangle, Mining, Energy Transition, Argentina, Bolivia, Chile

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Figure 1 A woman protesting in Jujuy, Argentina: "We don't eat batteries. Without water there is no life"

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1. INTRODUCTION

In the current context of increasing awareness of climate change, “green development” or the outrageous search for economic growth while trying to decarbonize our society, dominates different policy levels and creates new dichotomies. States, policymakers and other non-state actors have been demanding and producing low-carbon-emission products and services while renewable sources of energy have been increasingly stimulated. For instance, in 2018, Costa Rica achieved 300 days of 100% renewable energy generation using mainly hydroelectric resources (Presidencia de la República de Costa Rica, 2018). Within the European Union, Portugal performed three entire days using only renewable sources of energy (Murgeira, 2018). An even interesting case is one of the policies seeking to mitigate our carbon footprint by banning fossil fuel vehicles and replacing them with electric cars, something that has already occurred in large urban areas as Madrid and Paris (Harvey, 2016). The president of the 26th UN Climate Change Conference (COP26), Alok Sharma, has formed a “Zero Emission Vehicle Transition Council”, a committee of ministers and car sector representatives intended to accelerate the global transition to zero-emission vehicles (Department for Business, Energy & Industrial Strategy, 2020). Electric vehicles (EV), wind turbines and solar panels – but also laptops, smartphones and other electronic devices – require lithium-ion batteries to store energy. In that sense, entire countries, cities, companies and the “Green New Deals” of the EU and US depend on the extraction of lithium to make a “fossil fuel-free” society, as hoped by the Nobel prize awardees Goodenough, Whittingham and Yoshino, co-creators of the lithium-ion battery (Sheikh et al., 2019).

In that sense, scholars have signalled the geopolitical value that lithium has been acquiring in the current energy transition to mitigate climate change (Bruckmann, 2015; Göbel, 2013; Fornillo, et al., 2015; 2019). This geopolitical aspect is predominantly present in the Andean regions of Argentina, Bolivia and Chile, the so-called “lithium triangle” that hosts more than 58 % of the world’s identified lithium resources, according to the latest U.S. Geological Survey in 2021¹. The legislation of the three countries recognizes the importance of this mineral. Already In 1979, during the Cold War, the dictatorial government of Chile had declared lithium as a national strategic resource for its use in nuclear energy. More recently, on March 2nd 2011, the governor of the province of Jujuy, in the north of Argentina, signed an executive order by “need and urgency” to

¹ Other scholars use cyphers between 50 and 80% but vary on the used sources. For this research, I used the most recent available data from the U.S. Geological Survey (2021).

declare the lithium reserves “strategic natural resources for the socioeconomic development of the province” (Decreto-Acuerdo N° 7592, 2011), while the province of Catamarca has presented a bill to the Congress to declare itself as the “capital of lithium” (Congreso de la Nación Argentina, 2017). Likewise, the national Constitution of Bolivia declares in its article 369 II that “the non-metallic natural resources existing in salt flats, brines, evaporitics, sulfurs and others, are strategical for the country” (Bolivia Constitución Política del Estado, 2009).

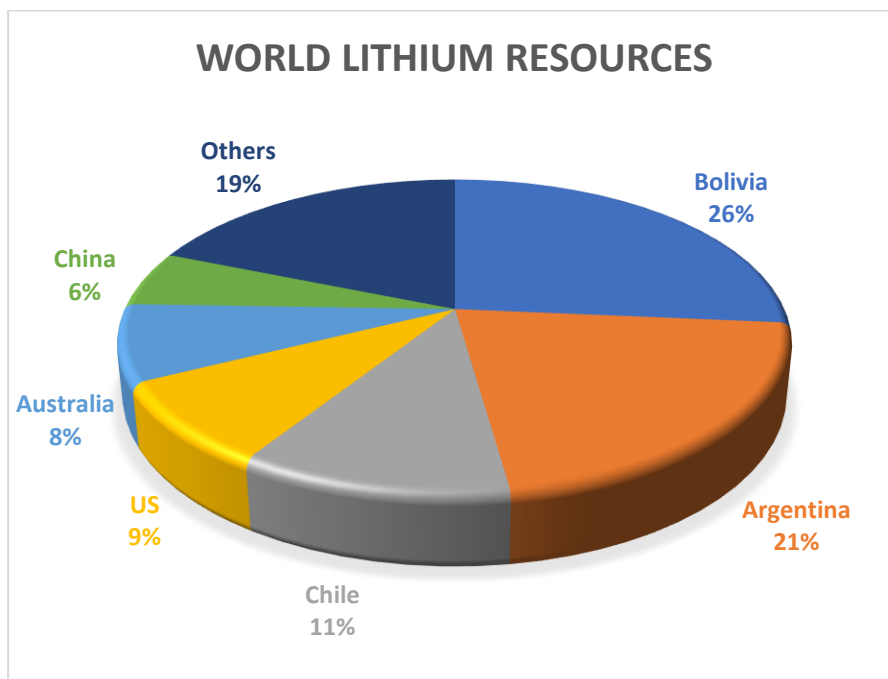


Chart 1 Own elaboration based on U.S. Geological Survey (2021)

The extraction of lithium has been constantly framed by corporations and businessmen as “modern”, “cleaner” and “sustainable”² because it does not require detonations or open-pit mines, as other mining industries do. In that sense, they have been promoting lithium as a greener alternative to hydrocarbons, focusing on the economic potential for green development. Scholars have been following this trend as well, focusing on its importance for the energy transition (Bradley & Jaskula, 2014; Calvo, 2019; Heredia et al., 2020; Smith, 2020). In spite of these altruistic intentions in the name of a “green economy” and climate adaptation/mitigation interventions, social groups that have been historically marginalized may face the risk of being further oppressed and injured (Marino & Ribot, 2012).

² See for instance: <http://huellaminera.com/2017/10/mineras-litio-sintonia-politicas-productivas-nacionales-e-internacionales/>

Therefore, it remains important to understand how lithium is extracted and what the consequences of this process of extraction are. This light mineral is mainly found in closed-basin brines or granitic rocks (Azevedo et al., 2018). For instance, in Australia, Brazil, Portugal and China, lithium is predominantly extracted through hard-rock mining from granitic pegmatites. The scope of this research is, however, limited to the context of the “Lithium Triangle” in South America, where this mineral is mainly extracted from the brines of the salt flats. This extraction involves the drilling of holes on the surface of the salt lakes to pump the salty brine. This allows lithium carbonate to be extracted through a chemical process that demands between 12 and 18 months of letting the water evaporate (Ahmad S., 2020). For each tonne of lithium extracted, approximately 2 million litres of water need to be evaporated (Gallardo, 2011; Katwala, 2018). Hence, Argento and Puente (2019) call lithium mining a “mining of water” and “a mining on salt flats” (P.183). Concerned with the consequences of this extractivist industry in the last decennia’s, other scholars have been increasingly paying attention to the socio-environmental impacts of lithium extraction, production and industrialization in the Andean Salt Lakes (Agusdinata et al., 2018; Anlauf, 2015; Argento, 2018; Argento & Puente, 2019; Gundermann & Göbel, 2018; Kaunda, 2020; Marchegiani et al., 2019; 2020; Perreault, 2020; Puente & Argento, 2015; Revette, 2017; Sanchez-Lopez, 2019).

The Uruguayan novelist Eduardo Galeano wrote in 1971 in his book “The Open Veins of Latin America” that:

Latin America continues to exist at the service of others' needs, as a source and reserve of oil and iron, of copper and meat, of fruit and coffee, the raw materials and foods destined for rich countries which profit more from consuming them than Latin America does from producing them (p. 1).

Therefore, as soon as we move into the extractivist front of this transition to renewable energy, a new question arises: Is the Global South paying the price of the new North’s green conscience? Galeano’s book may probably be considered as a child of the Dependency Theory. At the core of this theory, the extraction and export flows of raw materials from the peripheral or underdeveloped countries to the wealthy industrialized states are detrimental to the former and enrich the latter (Ahiakpor, 1985). In the present context of the so-called “Green Capitalism”, Galeano’s words do not seem to be outdated. It is not surprising then that a Polanyian double movement is formed, wherein communities in the Andean region affected by these new extractivist industries resist large-scale mining and “development” projects that put their own environment in danger (Polanyi, 2001, p. 136). As it may be observed, anti-mining protests and movements have become a typical feature of the Latin American socio-political landscape during

the 20th and 21st centuries (Bebbington, 2009; 2012; Bebbington et al., 2018; Martinez-Alier & Walter, 2016, pp. 65-77; McNeish, 2018)

However, it is striking that despite playing an important role in the defence of the environment and being disproportionately affected by climate change and extractivist industries (Mies & Shiva, 2014), (indigenous) women from Latin America remain widely unrecognized in Bebbington's (2012) analysis of social conflicts with extractive industries in South America as well as in other scholars (De Echave, 2005; Gordon & Webber, 2008; Kuecker, 2007; van Teijlingen & Hogenboom, 2016). Jenkins (2015; 2017), Jenkins and Rondon (2015), Muñoz and Villareal (2019) and Deonandan et al., (2017) are some of the few scholars who focus on women's resistance to mining industries in the Latin American context. Notwithstanding the progress done by the latter mentioned scholars in an attempt to overcome the shortages of a gender approach to the political ecology studies of Latin America, no single analysis has so far been adapted to the context of lithium extractivism, considered as vital for the energy transition and the use of renewable sources of energy (Bradley & Jaskula, 2014; Heredia et al., 2020). On the global level, Clancy, et al. (2020) reflect in the book "Engendering the Energy Transition" how gender has been taken into account in different energy policies and frameworks. However, as Maryse Helbert (2020) indicates in her contribution to the book, they fail to address the oppressive structures of our society. As a way of example, she refers to the extraction of lithium to call for a further revision of the concept of "energy transition" since this mainly addresses the decrease of carbon emissions in the consumption but not in the production process. Therefore, there is an urgent need for further research into the gender aspects of lithium extractivism to avoid further inequalities and injuries framed as climate mitigation and adaptation interventions (Marino & Ribot, 2012). Furthermore, despite efforts to mainstream gender among scholars of political ecology in Latin America, much of the existing literature on the intersections between gender and mining remain focused almost exclusively on women.

This exploratory and descriptive dissertation's research aims to overcome scholars' shortages by exploring the political ecology of lithium extractivism in South America from a queer ecology approach and subsequently by breaking the existing dualisms. Therefore, I formulate the following guiding research questions:

- I) What is the added value of using a queer ecology approach to analyse the gender aspects of lithium mining?
- II) What are the gendered consequences of lithium extractivism experienced by people of the Andean region of South America?
- III) Why do people resist, and which strategies do they use?

Therefore, this dissertation will be structured as following: In the sections 2 and 3 I will elaborate on the relation between gender, coloniality and extractivism. Section 4 will explain the existence of certain dualisms and will offer a queer ecology approach to deconstruct them, answering the first research question of this dissertation. Section 5 will focus on the present energy transition and lithium's uses and process of extraction. In section 6 the importance of the Lithium Triangle, our case study, will be addressed. Afterwards I will contribute to other scholars reuniting the socio-environmental consequences of lithium mining in the three countries of the Lithium Triangle in section 7. In section 8 I will explain the used methodology while section 9 will answer research questions II and III by analysing the findings of this research. Finally, I will provide a discussion of the main findings in section 10, before giving a final reflexion of the importance of this research and approach (Section 11).

2. GENDERED EXTRACTIVISM

Vandana Shiva (2014) had already mentioned in her first edition of Ecofeminism that the “marginalization of women and the destruction of biodiversity go hand in hand” (p. 164). Mies and Shiva (2014) link women and nature in the sense that both are similarly threatened by men and science: they are oppressed and exploited by the tools of violence and technology. The roots of this devaluation of nature and those on the frontline defending the environment are founded in dualistic modern ideas, where both are seen as passive “others” that lack any agency, therefore enabling capitalism to exploit them (Plumwood, 1993). Gender divisions of labour corner women to be responsible for reproductive labour roles as caregivers of the household, bringing them in close relation and dependency on natural resources (Federici, 2004). Environmental impacts have therefore a direct repercussion on women’s roles and responsibilities. It is not surprising then that they will be on the frontline against extractivist industries that negatively affect their environment. Classical ecofeminist scholars such as Shiva (2014, p. 168) refer to indigenous women as “custodians” of the biodiversity, moving them away from the sole position of victims. Although it is important to highlight the agency of women and their ways of resistance, we must avoid assigning another responsibility to women as defenders of the environment (MacGregor, 2014). Their fight must not be romanticized, doing so would neglect the complexity of their struggles. For instance, the Global Witness report (2020, p. 10) states that one out of ten environmental defenders killed in 2019 was a woman while half of the countries with assassinated leaders are from Latin America.

Mies and Shiva (2014) propose therefore an alternative way of development based on self-sufficiency, self-provisioning, re-ruralization, cooperation and focus on people. Mies (2014, p. 297) calls this the “subsistence perspective” and demand avoiding “catching up” development (p. 55), something that we nowadays see happening in light of the present boom of “green capitalism”, supposedly environmentally friendly capitalism. What they suggest is a non-exploitative, non-colonial and non-patriarchal relation with nature, where the latter is respected by its *own* agency and subjectivity.

It is striking that despite early mentions of the role of women as defenders of biodiversity by classical ecofeminists, and the global attention to women’s mobilizations and struggles, many scholars have been overlooking the gender aspects in their analysis around mining and conflicts in Latin America. For Instance, women remain invisible for some scholars in their works on anti-mining resistance movements in Ecuador (Kuecker, 2007; Van Teijlingen & Hogenboom, 2016),

Bolivia (Bebbington D. H., 2012; Canessa, 2012; Le Gouill, 2016), Argentina (Carrasco & Ramirez, 2015; Murguía & Böhling, 2013; Renauld, 2016, Walter & Martinez-Alier, 2010) and Peru (Arellano-Yanguas, 2011; De Echave, 2005; Taylor, 2011; Muradian et al., 2003). In Peru, Muradian et al. (2003) even notice that most of their respondents are men because “women are mostly housewives” (p.781). Although this misrepresentation may influence their conclusions, they chose to omit a further analysis about the agency of women and other possible forms of resistance.

Having said that, it is worth noting that on the international level, scholars have been making efforts to move in the right direction by exploring the gender domain in different forms of mining. Scholars have explored, documented and analysed in different mining contexts of the world how women are being displaced from the productive sphere to reproductive and domestic roles (Ahmad & Lahiri-Dutt, 2006), how their remarkable resilience vis-à-vis threatens, violence and conflict with and within their families, communities and against the large-scale mining companies is experienced (Jenkins, 2015; 2017; Jenkins & Rondón, 2015; Muñoz & Villarreal, 2019), how they are constantly excluded from negotiations between the mining companies and indigenous communities (Deonandan, Deonandan, & Field, 2016), how their perceptions of the impacts of mining on their livelihoods on environmental, social and economic levels are (Arana Zegarra, 2012; Deonandan, Deonandan, & Field, 2016; Deonandan, Tatham, & Field, 2017; Jenkins, 2015; 2017; Jenkins & Rondón, 2015), how women fulfil a leading role against mining industries (Arana Zegarra, 2012; Jenkins, 2015), how their strategies of resistance are gendered and adapted to the context (Arana Zegarra, 2012; Deonandan, Tatham, & Field, 2017; Jenkins, 2015; 2017), how mining companies have been (although incompletely) trying to mainstream gender within their corporations (Lahiri-Dutt, 2006); and how women have historically worked in the mining sector while being restricted and invisibilized (Lahiri-Dutt, 2007; 2019).

Lately, some scholars have been also contributing to the gender mainstreaming trend on the Latin American landscape and its political ecology by focusing on women’s resistance against the mining industries and how they are affected by them. For instance, Muñoz and Villarreal (2019) highlight the harmful effects of extractivist industries on women and how they resist based on a database of 259 cases of socio-environmental conflicts in Latin America. Likewise, Jenkins (2015; 2017) and Jenkins and Rondón (2015), have also contributed to the scholarship by focusing on the Andean regions of Peru and Ecuador, addressing the increased violence against women in the setting of mining industries and the strategies used by women in their everyday resistance. Deonandan, Tatham, & Field (2017) offer a similar analysis but focused on a mining conflict in Guatemala. In her turn, Rodriguez Fernandez (2020) addresses the gendered forms and effects of accumulation by dispossession and the struggles of indigenous women in the Bolivian Altiplano,

while Velásquez (2017) examines how mestiza women challenge sexism within the anti-mining movement in Cuenca, Ecuador.

Certainly, more relevant for this discussion has been the work of Cirefice and Sullivan (2019), hitherto the only scholars that provide an explicit link between the switch to renewable energy, women's resistance and ecofeminism in the Latin American continent. They consciously highlight the risk of assimilating renewable energy in the neoliberal agenda by merely switching the energy source consumptions rather than addressing the intricacies of the capitalist, patriarchal and extractivist system that brought us to this point within the Anthropocene. This critique of the "energy transition" is also expressed by Helbert (2020) in the book "Engendering the Energy Transition" (Clancy et al., 2020), where she uses the example of lithium extractivism to reflect that the concept of "Energy transition" should be revisited since this mainly addresses the decrease of carbon emissions in the consumption, rather than in the production process. By doing so, she argues that policymakers that consider gender aspects in their energy frameworks fail to address the oppressive structures of the system (Helbert, 2020). Surprisingly enough, Cirefice and Sullivan (2019) briefly developed their case-studies around (indigenous) women's resistance in the Americas but do not focus on mining industries that are key for the energy transition. In that sense, I find this a missing chance to provide more validity to their argument of addressing the oppressive structures that are intrinsic to the energy transition.

From this position, despite the progress done by scholars, research into the gender aspects of lithium mining, which is essential for the energy transition, is urgently needed to avoid injuries and injustices by climate mitigation and adaptation interventions (Marino & Ribot, 2012). Argento and Puente (2019, p. 191) analyse the "defence of life, water and territory" against the lithium mining projects in the Atacama region (Chile and Argentina) but strikingly only dedicate a footnote to the role of FRUTCAS-FSUMCAS, a women's organization known by their hunger strikes against lithium companies in the 90s. Furthermore, particularly interesting from the above-mentioned contributions to a gender analysis of mining and extractivism, is the fact that on the base of these works lies a binary bias, where the socially constructed category of women has not been called into question. Moreover, it seems that a "gender analysis" is being reduced to a solely "women's analysis", neglecting the diversity and fluidity of gender and sexualities in our societies and indirectly maintaining other oppressive dualisms.

3. COLONIALISM AND COLONIALITY OF GENDER

The history of extractivism, binarism and heteronormativity also share a history shaped by the process of colonization. In his book “History of Homosexuality in Argentina”, Osvaldo Bazan (2010), collects documentation of how Christianity already in the 3rd century condemned any sexual act that does not have procreation as a goal, being “homosexuality” banned by the Roman Emperor Justinian I between the years 538 and 544 AC. Homosexuality as a term, however, was not coined yet until the XIX century for the first time (Blank, 2012). In Ancient Rome and during the period of colonization in America it was spoken of “sodomy” to refer to the sodomitical acts rather than to an identity in itself (Bazán, 2010, pp. 13-15). Bazan (2010) claims that the Spanish conquerors have used the accusation that native Americans had sodomitical sexual practices contrary to the Christians tenets to legitimate their suppression and therefore conquer the territory in order to extract gold. Theodore de Bry illustrated this in a painting were Vasco Nuñez de Balboa and other conquerors condemned sodomites to be eaten by dogs.



Figure 2 De Bry, T. (1594). Balboa throws Indigenous people, accused of sodomy, to the dogs.

Archaeological and historical documentation evidence the presence of “homosexual” practices in Ancient Andean Peru among the Moche³ and Chimú civilizations (Bazán, 2010, p. 45).

³ The Moche culture is one of the greatest exponents of “erotic” ceramics in America, developed in Peru, between the years 50 B.C. and 600 A.D. Among the main sexual acts represented by the mochicas artisans are the coital acts (anal and vaginal) and “homosexual” relations.

Furthermore, in the Patagonian Mapuches⁴, gender and sexuality used to transcend the binary boundaries. The “Machi Weye” were identified nor as male nor female and enjoyed great sexual freedom since they conceive sexuality as something that must be constructed rather than a natural adaptation of the bodies’ anatomy (Bazán, 2010, p. 61). It is again important to mention that such sexual practices and ‘gender identities’ from the pre-Columbian civilizations were and cannot simply be labelled as “homosexual”, “trans” or “queer”. This would neglect the complexity of their indigenous cosmovision and would rely on a euro-centric approach to sexuality and gender. Moreover, it has been evidenced that pre-Columbian civilizations as the Incas and even the Mapuches, formed their empires based on blood, conquering other indigenous people, as the Collas and Atacaman in the case of the Incas, and finding in the ‘sodomities’ an enemy to colonize (Bazán, 2010, pp. 46-48; González Arena & Gamboa, 2015). The sexual freedom and gender fluidity of the indigenous people in pre-Columbian time must not be romanticized. Sexual acts between men and other non-binary conceptions around “gender” did exist in the Andean civilizations, but this does not mean that they were all accepted. González Arena and Gamboa (2015, p. 374) conclude that “prejudice, discrimination and homophobia in general were by no means practices initiated with the arrival of European conquistadors but existed in America since long before their arrival”⁵. They do offer a critical view into the generalization among scholars that homophobia was something brought from Europe and the fact that the acceptance of different sexual orientations among indigenous people has been romanticized. However, both authors refer multiple times to the concept of homosexuality – even when this term was coined in the 19th century – as if this would refer to gender identity. Bazán (2010, pp. 13-15) rather explained that at the colonial time “sodomy” referred to the sodomitical acts and not to a certain identity.

What is important to remind is that colonialism did irrupt and altered the indigenous identities, cosmovision and gender relations. In essence, colonialism was a gendered act carried out mainly by men, using brutality, violence and oppression (Connell, 2014), exercising power and control over the native civilizations and imposing European notions and understandings of race, gender and sexual identities from which women became subordinate to men (Oyěwùmí, 1997, preface p. X). There, where “sodomitical” acts were not condemned became places ruled by the coloniality of binarism and heterosexuality. This is what Maria Lugones (2010) called “the coloniality of gender”, building on Anibal Quijano’s (2000) analysis of the “coloniality of power” and modernity. In that sense, gender and sexuality (and thus not the sexual practices *an sich*) and

⁴ The Mapuches are a group of indigenous people that live in south-central Chile and southwestern Argentina.

⁵ However, they based on historical sources of the 16th and 17th century written by Spanish colonists and writers rather than in archaeological findings to conclude that “homophobia” existed in the pre-Columbian civilizations.

other hierarchical distinctions, between human and non-human or men and women, must be seen not only as a result of the colonization but rather as a key normative tool used to colonize the bodies, minds and behaviours of the indigenous people, as well as their territories through exploitation, sexual violations and terror (Lugones, 2010, p. 744; Oyěwùmí, 1997, pp. 122-124). However, Segato (2013, p. 82) partially disagrees with Lugones (2010) and Oyěwùmí (1997), claiming that there is enough evidence that in tribal and Afro-American societies existed “nomenclatures of gender”, although she later calls those structures as “similar to what we nowadays gender relations call”. Therefore, following this point of view, gender, as known in current societies, is a product of colonial times. Calling the -although hierarchical- relations of pre-colonial times in terms of modern western concepts neglects the different cosmovisions present at the time.

Lugones (2010, p. 745) further connects the different dots of the colonial project: “the normativity that connected gender and civilization became intent on erasing community, ecological practices, knowledge of planting, of weaving, of the cosmos, and not only on changing and controlling reproductive and sexual practices”. Silvia Federici (2004) builds on the intersections of colonialism, patriarchy, capitalism and the witch trials of the 16th and 17th century to argue that war, religion and the enclosures were used as tools to dispossess women of their means of (re)production and social creativity, and to build the modern capitalist state. Capitalism has been able to separate productive and reproductive labour from each other, making the latter unpaid and framing it as “love” instead of work (Federici, 2004). In order to subsist, capitalism requires (unpaid) reproductive labour, namely the reproduction of the workforce. According to Gaard (1997) not only gender, but also sexuality and erotic practices could lead to be accused of witchcrafting. Women were in fact “burned with men who had sex with men”(P. 132). It is at the intersection of these constructs of gender, class and race where the coloniality of gender (still) lies (Lugones, 2010, p. 746).

The effects that more than 500 years of heterosexual coloniality may have on the present indigenous communities and their cosmovision must not be overlooked. People embrace the “purity” of nature due to their cultural interpretations of gender and sexuality, ergo the coloniality of gender. Hereby, queer ecology as a critical analytical framework may be used as a tool to deconstruct the meaning of the term “natural” and acknowledge the value of sexual and gender diversities.

4. QUEERING THE DEBATE

Indigenous women in Latin America tend to use traditional notions of femininity and women's connection to nature to frame and legitimate their involvement in anti-mining resistance (Jenkins, 2015; Deonandan, Tatham, & Field, 2017). This celebration of an essentialist and biological connection between women, nature, care and emotions is embraced by cultural ecofeminists but widely criticised and rejected by socialist ecofeminists who point to social and cultural constructions as the cause of those gender differences (Carlassare, 2000). Further than collecting the experiences and strategies of women in anti-mining movements in Latin America, scholars have however not discussed yet whether these strategies may be able to proclaim an inclusive and broad environmental justice movement that breaks the oppressive structures that confine women and nature to be exploited. Hereby I am not suggesting that the use of essentialist notions of nature and its association with women as a legitim strategy for their environmental justice movement is not a politically valid argument to be used by indigenous women in this specific context since this might be one of the only possibilities for them to be heard. However, in the following paragraphs, I will argue that these observations and experiences are built on a very colonial binary division of the world that consequently ends up reinforcing the dualisms and the oppression of nature, women and queers. If scholars and indigenous women want to fully claim environmental justice within an intersectional approach, queer ecological theory should be integrated to break down the oppressive and heteronormative imaginary of nature (Gaard, 1997; Plumwood, 1993). I believe this will increase the political force of the movement in the long term.

4.1 *The Oppressive System and its Contradictions*

At its core, ecofeminism argues that the relationship between the degradation of women and the exploitation of nature are interconnected and mutually reinforcing (Mies & Shiva, 2014). However, as Val Plumwood (1993, pp. 8-9) revises, ecofeminist scholars differ in many areas, such as whether and how women are connected to nature and whether men share this connection as well; moreover, they differ in the strategies to appeal against the exclusion of women from culture and how to re-evaluate the connection of women with nature.

Indigenous women are not the only ones nor the first to rely on traditional forms of femininity to legitimate their struggle against climate change. Within the literature, early cultural ecofeminists have relied upon essential, "spiritual", "natural" and biological differences between women and men to claim that women are inherently less exploitative, harmonious and somehow

connected to nature (Longenecker, 1997; Sandilands, 1997; Mies & Shiva, 2014, p. 18). These ideas of women as closer to God and nature might be rooted in the Victorian era when women were depicted as “angel[s] in the house”⁶, and therefore cornered to fulfil their care and reproductive work at home. These cultural, essentialist notions of women connected to nature were later criticized by other social(ist) ecofeminist scholars who see the experiences and roles of women in relation to nature, as a result of the patriarchal oppressive system rather than due to biological differences with men (Gaard, 2011; Plumwood, 1993, pp. 36-37). Social Ecofeminists have therefore highlighted how the “naturalization” of women and the feminization of nature have been used as instruments to oppress and dominate women and nature. For instance, Roach (1991) argues that the discussion over closeness to nature reinforces the existence of the nature-culture hierarchical dualism by “encouraging the belief that culture and humanity are quite apart from nature” (P. 54). Furthermore, Mies and Shiva (2014, p.18-19) agree on these critiques to the essentialist aspect of some ecofeminists, arguing that this “spiritual ecofeminism” can be co-opted by the capitalist system, transforming these cultural and spiritual resources into commodities. Something we can already see in the commercialization of alternative health practices, yoga or even “Pachamama’s”⁷ dolls. On the other hand, however, Mies and Shiva (2014, p.19-20) recognize that for women of the Global South, who fight for the conservation of the environment, this spirituality and “sacredness of the earth” and their refusal for the commodification of it represent the base of their subsistence perspective wherein the Earth is seen as a living being.

Needless to say, women – or rather, gender – are not the only social constructed category in this discussion. The idea of “nature” as something upheld and closer to God, is also socially constructed and barely represents the real “nature” in itself. This historical and constantly devaluation and domination of women and nature can be traced in the homogenisation of the “other” in the construction of a binary system, based in a normative hierarchical dualism, wherein each side is opposed and othered, and therefore placed in a superior or inferior position (Plumwood, 1993, pp. 53-59). In this binary system, reason has always been presented as superior and in opposition to nature. We tend to conceive someone rational as strong while cornering in a weaker position whomever we consider irrational and natural. Consequently, all the vertically associated “others” of nature within this dualistic system share the fact that they are being othered, feminized and naturalized: women, animals, the body, slaves, emotions and reproduction, among others, to mention some of the dualistic sets that Plumwood (1993, p. 43)

⁶ The Angel in the House is a narrative poem by Coventry Patmore (1854).

⁷ Mother Earth.

enumerates⁸. As already mentioned, early cultural ecofeminists have embraced these associations while devaluing the patriarchal male culture; a strategy rejected by social ecofeminists who consequently reject the normative dualisms that characterize the ideological framework of the Western world.

Greta Gaard (1997) recognizes that ecofeminists overlook some important contradictions within the binary system that denotes its oppressiveness. In this dualism, reproduction is supposed to be the only form of sexuality allowed. It has been historically used to corner women into the role of mothers but also queers into the category of “unnatural” or against nature (Mortimer-Sandilands & Erickson, 2010, pp. 6-12). However, if queers are seen as unnatural, such an argument would imply that nature would be valued within the binary system, yet nature has been always dominated and oppressed, as it has been already argued (Gaard, 1997). Queers are even much devalued as nature, women and BIPOC⁹ are. Queerness is seen as unnatural, while heterosexuality is conceived as “natural”. But how can heterosexuality be “natural”, when the concept itself was not even developed until the late 19th century¹⁰? Furthermore, if heterosexuality would be natural, after all this time of heterosexual coloniality, why are there so many queers around? The arguments against queerness mostly rely on the association of procreation with nature. By doing so, not only queerness but also any technology of birth control and/or any refusal to childbearing is seen as “against nature”.

Heterosexuality is considered natural because it is a reproductive form of sexuality. But if this would be so, heterosexual people would not have sex unless this is intended to conceive a child (Sturgeon, 2010, p. 106). This argument denies not only the sexual complexity and diversity in humans but also the long existence evidence of sexual diversity in other species that conform to “nature”, such as plants, insects and animals (Alaimo, 2010, pp. 51-54). Moreover, evidence has already demonstrated that some species sexually interact with each other without any procreation goal (pp. 60-64). This is not only a manifestation of the presence of homophobia in our society but also of erotophobia, the fear of the erotic, of sexuality without reproduction. The idea of nature as outdoorsy, extroverted, heterosexual, able-bodied, and its wholeness and coordinated valued that some environmentalists try to make, does not reflect nature itself (Morton, 2012, p. 81).

The binary dualistic system and the more specific already-mentioned dichotomy between the oppression of queers based on their “unnaturalness” and the simultaneous exploitation and oppression of nature by extractivist industries, has been exported outside of the western world by

⁸ Plumwood does not claim completeness for this list.

⁹ Black, Indigenous and People of colour.

¹⁰ For a review of the history of this term see Blank (2012) “Straight: The Surprisingly Short History of Heterosexuality”.

the expansion of colonialism (Gosine, 2010, p. 156). For instance, during the World People's Conference on Climate Change and the Rights of Mother Earth¹¹ in Cochabamba, Bolivia, the former president of Bolivia, Evo Morales, who has claimed to be the first indigenous president, attempted to legitimate the fight against genetically modified food by claiming that homosexuality is a consequence of the ingest of genetically manipulated chickens (Gabbatt, 2010). Ergo, queerness is framed as deviant while heteronormativity is once again seen as closer to nature. I have already argued that this is a social construction and a contradiction from and within the existent dualisms since nature is as much oppressed as queers are. Moreover, if we frame genetically modified food as unnatural then so are dogs, pigs, cats and barley (Morton, 2012, p. 86). Even more, by this time, there is no form of cultivation that is completely natural, all have been modified and adapted to human production and consumption (François, 2003; Morton, 2012, p. 86). Unnaturalness as an argument reinforces the dualistic systems of oppression.

Jenkins (2015) explores the mobilization and legitimation strategies of indigenous women in the Andes in their fight against large-scale mining projects. Not only their holistic, cosmic connection and closeness to nature is invoked but also the safeguarding of future generations' livelihoods is justified by their condition as mothers, claiming that their concern with future generations is, therefore, greater than the one man could have¹². Nevertheless, the US Harris Interactive poll of 2009 showed that LGBTQI+ people in the US are more concerned about what kind of planet is left to the future generations than heterosexuals; an interesting fact since heterosexuals are more likely to have children (Gaard, 2017, p. 136). Hereby I am not claiming that such a poll may be statistically significant – neither am I sure whether such a conclusion can be based on statistics – to generalize both heterosexuals' and queers' concerns around the world with future generations; doing so would reinforce binarism. However, those essentialist arguments undermine the concerns that other people, not identified as women, may have with future generations.

Another product of the incomplete breaking down of the dualisms is the way environmentalists use the risks for (more) disabilities and sickness – as a consequence of climate change – to persuade more people in their fight against climate change. For Instance, in its campaign against the use of coal, Sierra Club (2012) has been tempted to use disabilities and malformations in new-born kids caused by mercury to make people join their campaign. This is indeed a fact; unhealthy environmental conditions may produce health risks. However, by framing

¹¹ A grassroots alternative to the UN talks.

¹² Though it is not clear-cut whether they conceive their position as mothers as a product of the constructed social relations and gender roles or as a product of their closeness to God.

it as the consequence of climate change, they are claiming that those disabilities are not natural, neglecting the biodiversity of nature, and consequently reinforcing the dualisms of what natural and unnatural constitutes (Clare, 2017, pp. 55-56). By calling to eliminate disabilities from our diversity, we are calling for homogenization of our society. Ableism is therefore reinforced within the binary system out of a fear of being dependent on someone else, even though we all are dependent on the ecosystem and the environment.

4.2 *Queering the Movement*

The fact that indigenous people of the Andean region use essentialist notions of femininity and nature needs to be further analysed. A gender analysis of the consequences of extractivism is needed to visualize how the systems of oppression against women and nature are interconnected. Nevertheless, a gender analysis must be something more than just the inclusion of women in their research, though a gender balance at the documentation of experiences and at the climate change decision-making levels are necessary (but not enough). As already argued, a wider movement and transformation is needed; one that includes queers and masculinities in their analysis.

The addition of just one more dualism to the list proposed by Plumwood (1993, p. 43) is neither enough nor the ultimate goal. Although rarely occurred, when LGBTQI+ people are welcome in the debates around climate change, they are usually limited to issues around HIV, illness and AIDs (Gaard, 2017, p. 135). As already mentioned, political leaders, environmentalists, and women try to legitimize their struggles against climate change by reinforcing the dualistic notions of nature/unnatural, heterosexuality/queerness, erotism/reproduction.

There is an urgent need for a radical reconceptualization of what nature and natural is. Although it may be politically efficient in the short term, the traditional feminine association of women with “Mother Earth” reinforce in the long term the already mentioned dualisms. By doing so, it does not help in their fight against the structural oppressing injustices. Furthermore, gender as a binary model of man/woman needs to be deconstructed in order to fully claim the liberation of nature. Nature in itself is diverse. Queers, transgender and intersex people are also part of this biodiversity and therefore need to be liberated as well. It is estimated that 1,7% of the world population are born with an intersexual condition, yet we still tend to conceive intersex bodies as “unnatural” bodies, being this manifested in its most extreme form by Intersexual Genital Mutilation (Blackless, et al., 2000).

As already mentioned, no gender-analysis about the lithium extractivist industries has been made yet. However, assuming the increasing relevance and importance of lithium for the

development of batteries that allow the storage of renewable energy, a key strategic development for the so-called “Green Capitalism”, I expect that scholars and environmentalists will pay more attention to this mining industry. Considering that women rely on these essentialist notions of nature and femininity; and that the lithium mining industry requires a vital natural resource as water, I expect that scholars will be tempted to once again, reduce a gender analysis to the ethnographical documentation of the experiences and struggles of women that will – probably, due to a long history of colonization and imposition of a binary system – rely on essentialist arguments. I am not denying the importance of a “women’s analysis”, neither condemning indigenous women who make use of one of the scarce instruments that they dispose of to legitimate their voice. Just the opposite, I believe, that this is an opportunity for indigenous people, queers and environmentalists to form a wider populist ecological movement – re-appropriating the use of the term “populism” as Chantal Mouffe (2018) does in her call *For a Left Populism* – based on the same goal: breaking down the binary system.

The devaluation of women, nature and queer are all interconnected in the heteronormativity that builds the capitalist modern state. Using a queer ecology approach to analyse the current energy transition based on the extraction and exploitation of lithium to facilitate a switch in the consumption of energy (from fossil fuel to renewable sources of energy) may help deconstruct essentialist notions of nature and resist the heterosexual coloniality. Furthermore, using queer ecology as an analytical framework may overcome the shortages of scholars in their gender analysis of mining industries caused by their binary bias and the coloniality of gender. Moreover, queer ecology may represent an added value for environmental activists distorted by heterocentric notions of nature and the erotic (Gaard, 1997; Plumwood, 1993). Greta Gaard (1997, p. 115) suggests “that a democratic, ecological society envisioned as the goal of ecofeminism will, of necessity, be a society that values sexual diversity and the erotic” and calls for “building coalitions” (p. 132) based on the common liberation of the erotic, queers, women, persons of colour and nature. Queering the environmentalist justice movement means that the heteronormative imaginary of woman and nature needs to be deconstructed and abandoned.

5. TOWARDS A RENEWABLE ENERGY TRANSITION

From wood to (char)coal and then to (other) hydrocarbons. Certainly, the current energy transition is not the first one during the Anthropocene. However, this transition differs from the previous ones by seeking to achieve a reduction of global carbon emissions and mitigate climate change. Another particularity of this energy transition is that it is mainly driven by social pressure – since the awareness and acknowledgement of fossil fuel's impact on climate change – rather than just technological development. Moreover, this societal demand for a low-carbon system caused the imposition of multilateral regulations on the current energy transition.

In 1992, in the United Nations Framework Convention on Climate Change (UNFCCC), the first multilateral agreement to address climate change, 154 states committed themselves to achieve the “stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system” (UNFCCC, 1992, p. 4). The 1997 Kyoto Protocol and the 2015 Paris Agreement were adopted by the UNFCCC signatories to introduce emission reduction targets. Article 2 of the Paris Agreement states that the parties commit to fighting against climate change by “Holding the increase in the global average temperature to well below 2 °C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 °C above pre-industrial levels” (UNFCCC, 2015, p. 3). As of January 2021, the UNFCCC has been ratified by 197 parties, however, only 189 of them ratified the 2015 Paris Agreement; after having the United States withdraw from the agreement (UNFCCC, n.d.; UN Treaty Collection, 2021).

In this regard, countries and non-state actors have been demanding and producing low-carbon-emission products and services while renewable sources of energy have been increasingly stimulated. For instance, in 2018, Costa Rica achieved 300 days of 100% renewable energy generation using mainly hydroelectric resources (Presidencia de la República de Costa Rica, 2018). Something similar occurred during the month of March in 2018 in Portugal, when the country functioned entirely for three days in a row, only through renewable sources of energy (Murgeira, 2018). Furthermore, entire cities, such as Paris, Madrid and Mexico City have announced that some fossil fuel vehicles will be banned from their streets in the near future, seeking to mitigate our carbon footprint (Harvey, 2016). In this scenario and on the eve of the 26th United Nations Climate Change Conference (COP26), that will take place on November 2021 in Glasgow, its president, Alok Sharma, have met in November 2020 with the “Zero Emission Vehicle Transition Council” – a committee conformed by international ministers and car sector representatives – to discuss how

to accelerate the global transition to zero-emission vehicles (Department for Business, Energy & Industrial Strategy, 2020).

The term “Zero Emission Vehicle” does, however, not include the emissions from the manufacturing process nor the emissions produced by the extraction of lithium for the fabrication of lithium-ion batteries that are needed in Electric Vehicles (EVs) as well as in solar panels and wind turbines to store energy. The IVL Swedish Environmental Research Institute, estimated in 2017 that the production of lithium-ion batteries for light electric vehicles releases on average 150-200 kilos of carbon dioxide equivalents per kilowatt-hour battery (Romare & Dahllöf, 2017) but updated its report in 2019 by reducing its estimation to an average between 61-106 kilos of carbon dioxide equivalents per kilowatt-hour of battery capacity produced (Emilsson & Dahllöf, 2019). Furthermore, a study of the Eindhoven University of Technology estimated that an EV as Tesla Model 3 will need 30000km to “pay back” the CO₂ emissions that were needed for manufacturing the lithium-ion battery of the vehicle (Hoekstra & Steinbuch, 2020).

Needless to say, the present dissertation does not seek to make a technical comparison between EV and conventional fossil-fuel vehicles. Nevertheless, it argues that the process of extracting lithium and its socio-environmental consequences must not be overlooked by scholars nor policymakers.

5.1 Lithium's Uses and Extraction

Lithium is widely used for the manufacturing of batteries for electronic devices (such as smartphones, laptops and digital cameras), the fabrication of glasses and ceramics and for the pharmacy industry (Heredia et al., 2020). For instance, only in the US, between 1996 and 2005, it is estimated that the consumption of lithium has been increased almost 10000% for mobile phones and 3000% for laptops (Bruckmann, 2015, pp. 36-37). However, lithium (and other minerals as cobalt and nickel, among others) is becoming particularly essential for the EV industry as well as for the current energy transition towards renewable sources of energy, green industries and a “fossil fuel-free” society, as hoped by the Nobel prize awardees Goodenough, Whittingham and Yoshino, co-creators of the lithium-ion battery (Sheikh et al., 2019). In this regard, it is expected that the demand for lithium will exponentially increase more than threefold between 2017 and

2025; having the battery share of lithium demand increased from 41% in 2017 to 76% in 2025 (Azevedo, et al., 2018, p. 8)¹³.

The Royal Society of Chemistry (n.d.) states that lithium has “the lowest density of all metals” and that its pure elemental form is soft and silvery. It is also strongly reactive to water and cannot be found in nature as a pure metal. It is calculated that more than 95% of the world’s lithium supply comes from two source forms: continental brines and granitic rocks¹⁴ (Azevedo, et al., 2018). Notwithstanding the different sources and extractions of lithium, the present article will only focus on the extraction of brine-based lithium from the Andean region of Bolivia, Argentina and Chile due to its particular gender and socio-environmental implications of this mineral activity for the local communities.

Besides conforming to the Lithium Triangle, the Andean regions, known as Puna (northwest of Argentina), Atacama (Northeast of Chile) and Altiplano (South of Bolivia) present a particular dry ecosystem that due to its high altitude between 2300 a 4500 mm above the sea level knows extreme temperatures, lack of rainfall and high levels of evaporation, making of water a very scarce vital resource. In this region, lithium can be found and is extracted from beneath the salt lakes. It is extracted by pumping the dissolved lithium-rich brines to the surface, found in saline groundwaters beneath the salt lakes. Hereafter, the lithium solution extracted is deposited in solar ponds for further evaporation, so it gets concentrated. The evaporation process depends largely on the brine’s chemical composition, the weather and the presence of other minerals that need to be removed. Finally, this concentrated lithium solution is processed into lithium carbonate or lithium hydroxide¹⁵ (Bradley & Jaskula, 2014; Heredia et al., 2020). This process of lithium extraction, where millions of litres of brine and underground water are being used and evaporated, implies a hydraulic disbalance for the region that has repercussions on the local populations, their economies and traditional forms of living (Anlauf, 2015, pp. 171-172; Gallardo, 2011). The process of pumping that intense amount of brines directly changes the flows and networks of the groundwater. Due to the low precipitations of the region, the amount of brines extracted is

¹³ Global end-use markets of lithium are estimated as follows: batteries, 65%; ceramics and glass, 18%; lubricating greases, 5%; polymer production, 3%; continuous casting mould flux powders, 3%; air treatment, 1%; and other uses, 5% (U.S. Geological Survey, 2020)

¹⁴ Other minerals found in the rocks must be removed through a chemical process to then obtain the spodumene crystal needed to create lithium hydroxide or lithium carbonate. The largest producers of lithium from granitic pegmatites are Australia, Zimbabwe, Brazil, China and Portugal (Bradley & Jaskula, 2014). Finally, other sources of lithium extraction may become commercially viable if the demand (and the price) for lithium keeps increasing. For instance, South Korea is now investing in extracting lithium from seawater, although this process is still too expensive to compete with mining lithium (Service, 2020).

¹⁵ However, lithium hydroxide is more common in granitic rocks-extraction.

disproportionally more than the rainwater that enters the underground (5%) (Sticco, Scravaglieri, & Damiani, 2018). This hydraulic disbalance accelerates the infiltration of freshwater that is located at the edges of the basins – a product of the accumulated rainwater – into the flow of brine – the central area – that will be later extracted with lithium, disrupting, therefore, the natural conditions needed for the formation of salt flats (Sticco, 2018). It also results in the emptying of aquifers since the income of water is much less than the egress of brine. Removing the brines implies the removal of the force that supports the soil, which is then occupied by air. Consequently, there is a high risk that the soil will sink and that the surface water infiltrates the subsoil, disrupting once again the natural process for the formation of salt flats (Sticco, Scravaglieri, & Damiani, 2018).

Needless to say, the arid regions of the Lithium Triangle are not “deserts” without flora and fauna. Plants, vicuñas, guanacos, flamingos and other species live in the area and depend heavily on bog habitats, which are parallelly dependent on groundwater, rather than on rainwater. Therefore, changes in water availability and flows risk the destruction of these bog habitats and the extinction of their species, both important for the pastoral local economy of the populations living in the area (Messerli, Grosjean, & Vuille, 1997, p. 235).

Although every Salt Lake has its own distinctive characteristics, the water concerns around lithium mining are well present in every Salt Lake of the region (Anlauf, 2015, p. 174). Hence, such a large amount of water extracted cannot be labelled as a “green industry”. Undoubtedly, the current energy transition towards a low-carbon emission world will increase the problems, disputes and competition around the use and availability of water. This is an important aspect to keep in mind – though it is usually forgotten by companies and policymakers – when considering the (concession of the) extraction of lithium as a way for development and progress. The consequences and certainly the cost of pollution, water scarcity and climate change that local populations of the South have to pay in order to help the North acquiring green mobility is usually not taken into consideration. Climate change exacerbates the inequalities among the global North and the global South, but one must also look at the violence occasioned by unequal’s climate change interventions (Marino & Ribot, 2012). Entire communities that have been historically marginalized may face the risk of being further oppressed and injured in the name of climate adaptation and mitigation interventions. This will be further analysed in the following section.

6. THE LITHIUM TRIANGLE



Map 1 Lithium Triangle (The economist, 2017)

The so-called Lithium Triangle hosts around 58% of the world's lithium resources (U.S. Geological Survey, 2021) and comprehends the salt flats of Atacama in Chile, Uyuni in Bolivia and the Argentinians salt flats of Olaroz Cauchary (Jujuy) and Hombre Muerto (Catamarca). This Andean region is well known for its special dry "Puna" ecosystem, that due to its high altitude between 2300 and 4500 m above the sea level presents extreme temperatures, lack of rainfall, high levels of evaporation and therefore, making water a very scarce and vital resource. The scarcity of this natural resource adopts more relevance when we consider its massive use for the different mining activities of the region, especially the lithium industry that requires approximately 2 million litres of water per ton of lithium extracted (Gallardo, 2011; Katwala, 2018). As previously

mentioned, the importance and interest in Lithium have been increasing in parallel with the awareness of climate change and the need to develop alternative renewable sources of energy to supply the energy demand and reduce our carbon footprint. During the 90s transnational companies have started to invest in explorative and productive mining works firstly in the Salt Lakes of Atacama, later in the Salar del Hombre Muerto and the one of Cuachary-Olaroz and in the Bolivian Salar de Uyuni, although the latter had to deal at the time with local resistance against the multinationals, delaying its productive phase until the decade of 2010, when the State monopolised the market in its hands.

These territories, that for the sake of the present article, are defined not solely as a piece of land but rather as a space built in processes of identity that determines a certain social configuration are home of different indigenous communities. For indigenous communities, belonging to the territory is part of their principle of identity (Ramirez, 2017; Weaver, 2001). Certainly, their territory is considered as an indivisible unity, where socio-cultural, political and environmental relations are embedded. They reaffirm and claim this connection with their territory - and therefore their identity - through different festivities, cultural rituals and other traditional economic activities (Pragier, 2019). Although there is no universal definition of indigenous peoples, the ILO Convention N°169 agrees for practical purposes that indigenous people are descendants from historical populations that inhabited a territory at the time of colonization or the creation of the political states and their boundaries. Furthermore, it recognizes that they “retain some or all of their own social, economic, cultural and political institutions, irrespective of their legal status” (International Labour Organization, 1989). In that sense, Wilmer (1993) describes the indigenous people as “the unfinished business of colonization”. However, this does not mean that indigenous people remain static and unchangeable. They are still traversed by the world around them and its coloniality of power, gender and race that imposes a hierarchical order based on Western standards (Segato, 2013, p. 74-80).

Extractivist industries and large-scale mining have been largely associated with the vulnerability of human, indigenous and women’s rights (Anaya, 2011). These activities dispute the available natural resources, displace populations and their ways of production, reproduction and subsistence; and create new identities and social dynamics among communities. I will elaborate more on the communities living around the Salt Lakes in the following sections of this dissertation. But for now, it is worth reminding the reader that the extraction of lithium and the vulnerability of the indigenous local communities in the surroundings of the salt flats are embedded in a long history of violation of indigenous rights in South America.

If we take, for instance, the case of Argentina, the country has presented itself internally as well as to the outside world as a product of European immigration since the early ages after independence. Expeditions and “campaigns” were carried out at the end of the 19th century to “conquer the desserts” (Monasterolo, 2017). However, the falsely alleged desserts were a justification for a holocaust policy that killed entire indigenous populations and sought to “clean” the territory (Bartolomé, 2004; Perez, 2011). As a consequence of this bloody history, indigenous communities remained invisible, unrecognized and marginalized in a country that paradoxically proudly claimed to be a melting pot of races and cultures. It was not until the end of the 20th century, when a process of consciousness and visibility of indigenous communities started to take place and culminated in the reform of the national constitution in 1994, recognizing their identities, culture and rights in its article 75, and therefore partially complying with the article 14 of the ILO Convention 169. Following the constitutional reform, the Argentinian national law 26160 recognizes the territories where the indigenous communities live in the present time, although it sentences that this is not applicable for the ancestry territories that they do not “occupy” nowadays, nor represents it a property title (Instituto Nacional de Asuntos Indigenas, n.d.). Needless to say, processes of contestation for the territory and the use of land by indigenous communities have been present for generations, since as above explained, their territory is closely attached to their identity. Not only the different decision-making levels (municipal, provincial and national) hinders the possibility of granting property titles to the communities, but also the indigenous practices of collective ownership and use of land makes it difficult on the legal aspect (Puente & Argento, 2015). Therefore, transnational capitals and companies make a profit from this loophole and ask for permits to initiate mining activities by tempting the governments with foreign direct investment (FDI’s) and royalty payments, and by approaching the communities through experts in indigenous relations promising development and jobs for the community. Despite the formal attempt to comply with the ILO Convention 169, the indigenous right of consultation before the initiation and planning of activities that may affect the life of the communities have been constantly ignored. In 2010, 33 communities from the North of Argentina have filed an appeal at the Supreme Court of National Justice where they stated that corporations “*inform, offer, divide and buy the communities with the promise of employment*” (as cited in Zigarán, 2012, p. 5).

7. THE COMMUNITIES¹⁶

In general terms, people living in the surroundings of the salt flakes within the Lithium Triangle mostly belong to indigenous communities, live in small towns, lack infrastructure and present high rates of poverty. Their economy is mainly based on agriculture, livestock production, weaving, artisanal salt mining and tourism. Although a great part of their economic production remains for self-sufficiency, they gradually incorporate themselves into the market-based economy, especially through tourism and mining activities, or into a barter economic system through the exchange of livestock. Noteworthy, these communities conserve a cosmivision based on the idea of “Sumac Kawsay”¹⁷, centred on the Pachamama and water. This worldview and way of life of the Andean people seek to achieve harmony between the community, their culture and their environment; rejecting the idea of growth based on economic terms of production and consumption (Acosta & Martínez Abarca, 2018). In fact, within this cosmivision, Nature is an agent of rights, an ontology that lies in the same line with Latour’s (2014) elaboration on the Anthropocene.

7.1 Chile

The Salar de Atacama is located within the administrative region of Antofagasta and surrounded by fifty communities and *ayllu*’s¹⁸, whereof San Pedro de Atacama and Toconao are highlighted as international touristic and cultural destinations. Here live the Atacama indigenous people, who called themselves “Likan-Antai”, meaning “inhabitants of the territory” in Kunza, their native language (Dirección General de Obras Públicas, 2012).

The Atacama communities live from the agriculture of alfalfa, potatoes, corn, garlic and pears (Dirección General de Aguas, 2004), and to a lesser extent, from beekeeping and the collection of locust beans (Muñoz Coca, 2021, p. 28). In that sense, the rivers San Pedro and Vilama are of great importance for the irrigation of the land and their economic activities. Animal grazing – lambs and llamas – takes place in some communities under a system of winter and summer

¹⁶ The present section will elaborate only on the communities living in the surroundings of active large-scale lithium mines, excluding therefore for the scope of this analysis, those communities that are affected by projects that are currently on exploratory phases or small-scale extraction without commercialization. Nevertheless, this should be explored in further research.

¹⁷ Quechua for “good living”. Usually also referred to as “Buen Vivir”, in Spanish.

¹⁸ The ayllu is a form of Andean organization, formed by people united by family and religion and located in agricultural fertile lands.

pastures or by being kept in paddocks. However, the practice of animal grazing is gradually disappearing due to urbanization processes, expansion of tourism and water scarcity. The National Environmental Commission (1998, p. 8) has stated that “the progress and fate of these activities (agriculture and livestock farming) are directly related to water and soil resources”. Nevertheless, many *Atacameños* prefer to stay in the agriculture as a way of cultural resistance to guarantee their biological and cultural reproduction (Muñoz Coca, 2021, p. 27). Certainly, most of their socioeconomic practices are centred on an economy of subsistence, highlighting the cultural aspects and co-dependence between family and nature, rather than the economic profitability.

According to the Directorate General for Public Works (2012, p. 23), only 11,79% of the Atacaman territory is registered as property of indigenous families. Similarly, no water property rights have been granted to the indigenous communities yet, despite the 1987 agreement for the protection, constitution and re-establishment of the ancestral property water rights (Dirección General de Aguas, 2004, pp. 20-21). The Andean communities share a cosmovision where men, culture and nature live together in harmony. Rituals and offerings to the hills, the water and the Pachamama, form thus an essential aspect of their identity and cultural practices. Hereby, they pray for rain and the reproduction of livestock and wildlife, as well as health and agricultural fertility. Lots of their festivities revolve around water like carnivals and river cleaning (Dirección General de Obras Públicas, 2012, p. 25).

As previously explained, lithium extractivism affects the water quality and availability of the region. At this point, two mining companies are extracting lithium and water from the Salar de Atacama: the Chilean Sociedad Química y Minera (SQM) and the North American Albemarle¹⁹. Chile is the second-largest producer of lithium, after Australia (U.S. Geological Survey, 2021). The extensive use of water by both mining companies have compromised the quality and quantity of water in the region, to the extent that the Directorate General for Water had to declare the exhaustion of freshwater of the Vilama river and its affluents in 2017 (Dirección General de Aguas, 2017)²⁰. Consequently, many farmers have seen their corn crops being reduced by up to two-thirds (Morales Balcázar, 2021, p. 73). Furthermore, the construction of roads for trucks and tractors – to facilitate the export of natural resources to the port of Antofagasta – have also accelerated the extinction of native fauna (Muñoz Coca, 2021, p. 30). For instance, SMQ has requested a permit to exploit the rivers Zapaleri, Quepiaco and Alitar that respectively feed the Salar de Tara and the Salar de Pujsa, both sources of food and nesting for flamingos that live in the

¹⁹ Until 2015: Rockwood Lithium.

²⁰ However, the public organism deliberately ignored any mention or reference to the lithium industry in its publication.

supposedly protected National Reserve Los Flamencos (Comisión Nacional de Medio Ambiente, 1998, p. 8). Some villagers have already stated that the flamingos are gone and that it is not easy to keep animals nor crops in such dry soil (Bloomberg, 2016). Entire communities and their culture are in danger and risk disappearing or see themselves forced to migrate to survive (Livingstone, 2019).

Finally, the Atacama communities denounce the lack of public consultation and information before the exploration and exploitation of the natural resources of their territory, a requirement in fulfilment of the ILO Convention 169 and the United Nations Declaration on the Rights of Indigenous People (UNDRIP) (Espindola Araya, 2021, p. 39).

7.2 *Bolivia*

Located within the Department of Potosi, in the provinces of Daniel Campos and Nor Lipez, with almost 6000 inhabitants and 14000 inhabitants respectively, the Salar de Uyuni is the largest Salt Lake in the world. It also adjoins the province of Antonio Quijarro and the city of Uyuni with more than 35000 inhabitants (INE, 2020). According to the 2001 census, more than 90% of the population of Daniel Campos and Nor Lipez is self-considered as indigenous²¹ (INE, 2003, pp. 75-76), being Aymara and Quechua the largest groups (CEPAL, 2005, p. 38). The region is one of the poorest of the Potosi Department, which is in turn one of the poorest departments of the country²² (INE, 2012). Almost half of its population lacks electricity, 60% lacks basic educational infrastructure and only 40% has access to potable water and sewerage (INE, 2012). Moreover, the life expectancy at birth is 67,2 years in Potosi, while in the rest of Bolivia is 71,9 (INE, 2020).

The communities around the Salar de Uyuni live mainly from agriculture. Approximately 80% of the crops are quinoa, and to a less extent wheat, potato, barley, broad beans and corn crops (Prefectura del Departamento de Potosí, 2009, p. 116 & 119). Most of the production is for self-subsistence, nevertheless, due to the higher prices of quinoa, this became intended for export²³. Animal husbandry of llamas, alpacas and vicuñas – and to a fewer extent cattle – remains also a source of income for the communities of the region (Prefectura del Departamento de Potosí, 2009, p. 119). However, locals have been denouncing that animals are losing their fur due to the

²¹ While in the city of Uyuni this is only 77%, it is still higher than the average of the country, where 62,05% of the people are self-considered as indigenous (Instituto Nacional de Estadística, 2003, p. 68)

²² As a way of comparison, Potosi knows 40,9% of moderate poverty, 17,8% of indigency and 1,1% of marginality. On the national level, Bolivia has 35,3% of poverty, 9,2% of indigency and 0,4% marginality.

²³ Personal WhatsApp Communication, January 28, 2021.

lack of water²⁴. In general terms, the scarcity of water and unfavourable climate factors are the cause of low productivity for both activities (Ströbele-Gregor, 2012, p. 54). On the other hand, tourism is growing as a main economic activity (Prefectura del Departamento de Potosí, 2009). Accommodation services, restaurants, tourist tours and handcrafts selling might be the most productive activity nowadays since agriculture is mainly intended for self-sufficiency. Another source of income for the communities is the artisanal mining of boron and salt (Palacios, 2017). However, in the long term, due to the increasing interest in using the Salar exclusively for the extraction of lithium carbonate these activities may disappear. Finally, migration to Chile – especially to Antofagasta and Calama – remains the main pattern among men as a key strategy for many families to economically survive (Prefectura del Departamento de Potosí, 2009, p. 36). This process of temporary displacement is regulated by the quinoa harvest season²⁵.

Although the communities diversify their economic activities, all of them may face risks if Bolivia decides to exploit the whole capacity of lithium production of the Salar de Uyuni, where it is estimated that 21 million tonnes of lithium resources are located (U.S. Geological Survey, 2021). For instance, agriculture and animal grazing are extremely dependent on water availability and quality and they are already showing low productivity, the reason why they are principally intended for self-sufficiency rather than for commerce. The exploitation of lithium will bring less water for the region intensifying the desertification of the soil and the extinction of flora and fauna. Tourism, salt and boron artisanal mining may be displaced from the Salt Lake since this will be mainly intended to be used for lithium mining. One can only expect that poverty and migration will continue to increase. Migration risks stopping being temporal or regulated by the harvest seasons and may become a general permanent pattern. Consequently, the reproduction of their culture and traditions may disappear in the long term.

²⁴ Personal Communication, January 26, 2021.

²⁵ Personal WhatsApp Communication, January 28, 2021.

7.3 Argentina

Currently, only two projects of lithium mining are fully operating in the North of Argentina²⁶. Minera del Altiplano S.A., a subsidiary branch of Livent Corporation²⁷ has been extracting lithium since 1997 in the so-called “Project Mine Fenix” in the Salar del Hombre Muerto, in the province of Catamarca. By 2015, Sales de Jujuy S.A.²⁸, started operating in the Salar de Olaroz, in the province of Jujuy. It is important to remark that for instance, in 2016, the production of lithium of the Salar de Olaroz represented 6% of the world offer (Sales de Jujuy S.A., n.d.).

7.3.1 Salar del Hombre Muerto

The Salar del Hombre Muerto is located in the department of Antofagasta de la Sierra, being the homonymous town the closest to the Salt Lake. Despite being one of the largest departments of Catamarca, it counts a population of only 1653 people. According to the last census, only 1,88% of the *Catamarqueños* consider themselves as indigenous or descendent of an indigenous family (INDEC, 2010)²⁹. In the past, the Apatamas people used to live in the region and were related with the Atacamans on the other side of the Andes, with whom they shared the Kunza language (Portal Informativo de Salta, n.d.). Nowadays, the National Institute of Indigenous Affairs (INAI, n.d.) only recognizes the “Kolla Atacameño” community in its National Register of Indigenous Communities as inhabitants of this region.

Despite having a long history of mining and other extractive industries, the people of Catamarca have not seen any fruits and rewards of it. The poverty rates and conditions of Catamarca are relatively higher than at the national level. With 43,5 per cent of its population

²⁶ However, other companies are present in the north of Argentina as well but have not started to produce lithium yet (Dirección de Economía Minera, 2017). For instance, also in the Salar de Olaroz, there is a project in the phase of exploration by the joint venture between EXAR (formed by the Canadian Lithium Americas Corporation – 49% - and the Chinese Ganfeng Lithium – 51%) and JEMSE (8,5% of the shares). Furthermore, in the Salar del Rincon, in the province of Salta, the Enirgi Group started in 2011 a pilot project to produce a tiny amount of lithium but has not yet commercialized it. Something similar is occurring in the Salar de Caucharí by the companies Lithium Americas, the Chilean SQM and the state-run JEMSE and in the salt lakes of Centenario and Ratones in Salta by the company Eramet. As already explained at the beginning of this section, the scope of this dissertation does not reach those communities affected by lithium mining projects that are not fully operational or in an explorative phase.

²⁷ Livent Corp. completed its initial public offering from FMC in October 2018.

²⁸ A joint venture between the Australian company Orocobre Limited (66,5% of the shares), the Japanese Toyota Tsusho Corporation (25%) and the mining company of the provincial government of Jujuy (JEMSE) (8,5% of shares).

²⁹ Unfortunately, there is no disaggregated data by department provided by the census to see how this demographic aspect presents itself in Antofagasta de la Sierra.

living under poverty, the poverty rates of Catamarca are 7,1 per cent point above the national level (INDEC, 2010)³⁰. Perhaps, the most serious social indicator is the infant mortality rate – 31,3 for every 1000 live births – which triples the provincial and national values and is the highest of the province (Consejo Nacional de Coordinación de Políticas Sociales, 2020). This panorama has triggered the local communities to organize themselves in assemblies to exchange information about mining projects, their consequences and to mobilize themselves. One of my respondents, an activist of the region, denounces that it is not a coincidence that the mining companies have installed in one of the poorest provinces: “They intervene in the public policies, impoverishing and diminishing the local production. Because [...] obviously, a person who has the means to choose, won’t choose the mine”³¹. In that sense, the presence of lithium mining companies in the region continues to deepen inequalities among the population and further impoverishment: “They (the companies) have a giant gas pipeline, while people don’t even have gas and have to cook with firewood”³².

The economy of the communities of Antofagasta de la Sierra is mainly for self-sufficiency and is based on livestock farming – llamas, vicuñas, goats and sheep – and to a less extent in small-scale agriculture of corn, potatoes, wheat, onions, broad beans and quinoa (Environmental Justice Atlas, n.d.). The commercialization of salt and weavings, and more recently, tourism, are also sources of income that are even dependent on the natural resources of the region. In that sense, the people of Antofagasta have been denouncing the environmental consequences caused by the lithium industry. For instance, the Trapiche river has dried up due to the intense amount of water extracted – 380000 litres per hour – for the production of lithium by Minera del Altiplano S.A. (Marchegiani et al., 2019). That an entire river disappear has serious consequences for the soil and the subsistence economy of the population whose agriculture and animal farming depends on irrigation, since as already explained, the Puna is a very dry region. Subsequently, animals have been found dead by dehydration and the basins of freshwater have been contaminated by salinization (Marchegiani et al., 2019). Minera del Altiplano S.A. has made public its intentions to build an aqueduct to extract water – an estimated amount of 650000 litres per hour – from River Los Patos, 30 km away; without previous consultation of the indigenous communities as the ILO Convention 169 stipulates (Asamblea PUCARÁ, 2019). Lithium mining and the subjugation of

³⁰ The poor living conditions of the people of Catamarca are also denoted by the lack of basic infrastructure. For instance, 36,4% of the households in Antofagasta use carbon or firewood for cooking – and the rest relies on gas cylinders – and almost 20% does not have access to the public water network according to the last census.

³¹ Personal Communication, January 19, 2021.

³² Personal Communication, January 19, 2021.

people's right and lives in Catamarca are certainly not new and have been constantly prolonged over time, making Catamarca a province in a constant state of exception (Agamben, 2005) where necropolitics governs (Mbembe, 2003)³³. As expressed by one of the respondents, lithium mining does not only cause environmental contamination, but it also produces "social contamination". Those who believe that the mine would bring progress and prosperity or those who get some benefit from the mine – as temporary jobs – oppose those who refuse any lithium exploitation. Rivalries between families, villages and even among partners have been arising since then: "they have divided the town in two"³⁴.

Similar to other communities' cosmovision of the Andean region, for the people from Antofagasta de la Sierra, the figure of the Pachamama is quite important. She is thought of as a woman, related to motherhood and fertility. She is the Earth, the soil that provides men of crops, the owner of the mountains, hills, salt lakes, the flora and the fauna. Whoever possesses an affluent of water in their ground is considered lucky. It is believed that the Pachamama gets offended when one does not give her offerings or when there is no permission asked to travel on certain roads (López, 2001). In that sense, the culture of the Antofagasta's communities is also being subjugated by the exploitation of lithium, even when this is framed as "in name of the Earth".

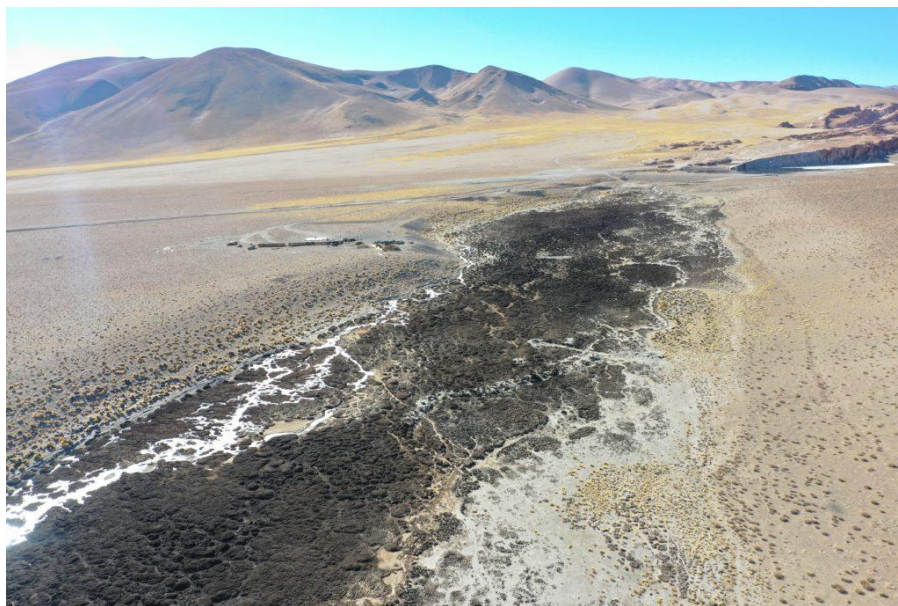


Figure 3 The Trapiche "river" (FARN, 2020)

³³ Necropolitics operates in the creation of new social-spatial relations, where a set of boundaries and hierarchies are produced to differentiate between those who are disposable and those who are not. Dividing people between those who must die and those who must live (Mbembe, 2003).

³⁴ Personal Communication, January 19, 2021.

7.3.2 Salar de Olaroz

The Salar de Olaroz is located in the department of Susques, province of Jujuy and counts a population of 3791 people (INDEC, 2010) in 10 communities that identify themselves as Atacaman³⁵ (García Moritán & Cruz, 2012). The 10 communities have each their own decision-making organization, with a president and a council that is elected every two years (Marchegiani et al., 2019, p. 25). Once again, poor living conditions are observable in the lack of basic needs and infrastructure (INDEC, 2010)³⁶. Similar to Antofagasta de la Sierra, Susques presents the highest rate of child mortality of Jujuy (INDEC, 2010). For every 1000 live births, 25,7 die (in Jujuy the rate is 10,4). Almost 8% of the province consider themselves as indigenous or descendent of them, being the Atacama community the only recognized for the territory of Susques by the INAI (n.d.).

Livestock farming – especially llamas, sheep and goats – represents the main economic activity for self-sufficiency of the ten Atacaman communities and to a less extent, the agriculture of quinoa and potatoes (Marchegiani et al., 2019, pp. 25-26). Furthermore, the selling of handicrafts or homemade products, as weavings, cheeses and charqui³⁷ generates monetary incomes for them (Jerez Henríquez, 2018, p. 33). Others combine their self-sufficiency work in agriculture or livestock grazing while working for the municipal commissions, the electricity public company or in the artisanal small-scale mining of boron. Tourism has not been fully exploited yet, although since the construction of a route that connects Susques with Chile there has been an increase in the amount of tourist visiting the communities. Young inhabitants mostly choose to migrate to pursue further studies or to find a job in the provincial cities (García Moritán & Cruz, 2012).

Sales de Jujuy S.A. and EXAR, the two lithium mining companies operating in the Salar de Olaroz have close relations with the communities. They have approached them before starting their projects and they have made some agreements. For instance, they have been investing in infrastructure projects, such as a school, a library, a health centre, internet connection and the

³⁵ 7 out of the 10 communities possess communal property titles. Susques, Huancar, Pastos Chicos, Puesto Sey, Catua, Olaroz Chico and San Juan de Quillaques have property rights. Coranzuli and Paso de Jama do not have ownership titles, and El Toro is currently in the registration process for a communal ownership title.

³⁶ Almost 45 per cent of the households of Susques have to cook with firewood or carbon at their homes, and there is no public gas network available yet (INDEC, 2010). Electricity comes mostly from solar panels or generators (Marchegiani, Höglund Hellgren, & Gómez, 2019, p. 25). Moreover, according to the last census from the INDEC (2010), 24% of the households do not have a connection to the public water network while more than 35% do not have a proper toilet or use a hole in the ground.

³⁷ From the Quechua “charki”, is a sort of dried meat typical from the Andean communities.

provision of construction materials, loans and food for the people. Furthermore, Sales de Jujuy employs locals through a system of quotas and rotation. Nevertheless, it is worth noting that employment in the mines has also changed the socio-economic dynamics and cultural practices through the monetarization of their economic activities. In that sense, lithium mining is displacing modes of ancestral production, which are of great cultural importance for indigenous communities. Likewise, locals are concerned about the increase in alcohol consumption among the mineworkers, who work under a system of 7 days' work and 7 days free (Marchegiani et al., 2019, p. 36).

Despite having their assembly and decision-making institutions, many of the villagers have declared not knowing the whole implications of the exploitation processes, or that the information was too technical to understand. In fact, the companies have assured them that the mine will not modify the hydraulic conditions of the region. Such an understatement may suggest that the process of consultation has not been completely done according to the ILO Convention, since the communities do not have enough or correct information neither time to properly take a decision. The investments and clientelist acts made by the companies further evince that this was part of their strategy to gain access to the Salar (Marchegiani et al., 2019, pp. 27-34). People from the communities have already shown their concern over environmental consequences. For instance, some of them have denounced the doubtful death of animals, the accidentally chemical spillage of the evaporation ponds and the scarcity of water (Jerez Henríquez, 2018, pp. 34-35), while others are concerned about the negative consequences for the tourist industry since tourists especially look for an autochthone environment (Göbel, 2013). Ambivalently, some local communities see with good eyes the job opportunities provided by the company while having concerns about the future of the region and the rupture of harmony with nature, an essential aspect of their cosmovision (Göbel, 2013).

7.4 Summary of the Socio-environmental Consequences

The story of lithium extractivism in South America is one of tragedy and irony at the same time. In the name of helping the (white, rich and developed) world with “green” and “sustainable” transport, the ecosystem that makes that possible is being destroyed and damaged; entire communities are being affected and forced to move and ancestral cultural practices may disappear on the long term.

First of all, water scarcity and contamination – by chemicals and salinization – are the biggest concern for the local communities of the three countries. In spite of being a relatively

recent mining industry in the region – if, for instance, one compares it with the long history of gold and silver mining in the region – environmental damages are already visible in some cases. In Antofagasta de la Sierra, in Argentina, the Trapiche River has been dried up while in Chile, the water of the San Pedro and the Vilama rivers basins has been declared exhausted by the Ministry of Public Works.

Second, as a consequence of the scarcity of water, people have seen the production of their crops enormously decline. Furthermore, animals intended for their livestock production have been found sick and, in some cases, dead. Therefore, the previously mentioned hydraulic disbalance has several implications for the productivity and continuation of self-sufficiency economic activities.

Third, people are also concerned about the flora and fauna of the region. For instance, people in the north of Argentina and Chile have noticed that the flamingos are gone and possibly face extinction due to the dryness of the soils. The construction of roads and other infrastructure projects intended to facilitate the export of lithium have also affected the animals and plants of the region.

Fourth, other economic activities that depend on the ecosystem may disappear as well. In that regard, since the salt lakes have been used increasingly and exclusively for lithium extraction, traditional salt exploitation will be displaced from the landscape. Weaving and other handcraft productions that depend on the availability of animals – and therefore subsequently on the water as well – may disappear too in the long term. Furthermore, tourists expecting to find a more autochthone landscape rather than huge evaporation ponds and pumps systems may discourage them from visiting the region.

Fifth, the economic activities of the communities – animal grazing, agriculture, salt exploitation, weaving, tourism – are not solely economic. They represent forms of cultural practices and cultural reproduction. Consequently, the loss of those practices may cause the loss of traditions, rituals and their transfer to new generations. In that sense, the monetarization of their activities – through waged jobs in the mines or the cities – is exactly another example of losing traditional practices of self-sufficiency or barter transactions. Moreover, the damage of the soil and environment represents an offence to the communities' beliefs in the Pachamama, a central figure in their traditions and culture.

Sixth, young people are subsequently migrating to cities or to border countries to pursue further education and employment possibilities since their self-sufficiency activities are not

producing enough food to assure their livelihoods and reproduction and the number of jobs created by the mining industries are scarce³⁸.

Seventh, indigenous communities have seen the subjugation of their rights been deepened. Lack of public consultation and lack of accessible information are frequent while mining companies recur to clientelist practices and strategies to convince the population of their “good will”.

Finally, people are concerned about the inequalities and polarization within communities. While in each of the departments and provinces where lithium has been extracted the rates of poverty and lack of basic infrastructure remains high or increases, mining companies have access to electricity, gas and water. Most people do not see progress in their livelihoods since the installation of lithium companies in the region, even when they are making huge economic profits. Nevertheless, this does not stop giving hope to some villagers who believe that the industry will generate enough employment for them to have a better life. Therefore, polarization among those who are against the extractivist industry and those who are in favour is already discernible within the communities.

³⁸ Although migration was already quite present in the communities, this was only temporarily and mainly regulated by the harvest season of their crops.

8. METHODOLOGY

This research adopts a social constructivist epistemological stance. This position suggests that “reality” is a product created out of the interaction between different actors, and their meaning given to their environment (Andrews, 2012). Using qualitative research methods will allow me to better understand and analyse the way people perceive and experience their environment and social setting (Denzin & Lincoln, 2017). Needless to say, this research does not claim to provide one only “truth”, it rather provides the historical, cultural and social context and other factors that could drive the experience of people to understand the meanings and behaviours developed by them. Differences in opinions and perceptions are therefore not considered as negative for the validity of this research, but rather as an important element to understand the complexity of the case study. Although no quantitative approach is used, graphs and statistics are used as secondary data to understand the socio-economic context of the communities and the importance of lithium in the world’s market. Nevertheless, the collection of primary data remains only one part of this research, limited by financial and contextual characteristics. Secondary data was collected from reports, scientific and policy papers, and books by academics, journalists and NGOs. Secondary data collection from the literature was essential to study the history of the communities and some activist groups and the context of lithium mining and its socio-environmental effects in the communities.

8.1 *Online Setting*

This qualitative approach uses semi-structured interviews. This allowed me to understand the meanings people give to their social setting. Due to the Covid-19 crisis, the interviews were adapted to an online format. Despite the lack of human face to face contact, which occasionally undermined the fluidity and confidence of some of my respondents³⁹, the online format allowed me to get in contact with activists and scholars from the three different countries without moving from my computer. Such a triangulation of data in “real” life would imply the need for financial and time resources to carry out the research, however, it would have allowed me to consistently

³⁹ Non-verbal communication, like facial expressions and body language, was difficult to capture in an online interview. Furthermore, during some interviews, bad internet connection difficulted the communication, forcing myself or the respondent to repeat their statements. Other respondents found it a pity that I was not able to be there in person so that they could show me some material evidence to their statements and stories.

apply an intersectional approach in my research, facilitating the contact with other groups of the population, such as farmers, domestic workers, miners or indigenous people and other settings.

Despite the above-mentioned constraints, overall, the interviews went quite natural, being all of my respondents enthusiastic about taking part in my research and being heard.

8.2 *Sampling*

The selection of respondents occurred through the logic of “purposeful sampling” (Patton, 2002, p. 230). I contacted different organizations of activists and academics that would be able to provide me with rich information for my research. Although the first interview was a “convenient sample” (Patton, 2002, pp. 241-242), meaning it was easy and fast to access, thereafter I took a “snowball sampling” approach (pp. 237-238). I constantly asked every respondent about who should I talk to and who may know more about the specific topics. Eventually, this sampling method leads me to a total of 9 rich-information respondents distributed in three countries.

8.3 *Data Collection*

Eight semi-structured online interviews happened through the online video call platform Zoom and one interview was carried out through WhatsApp voice messages⁴⁰. The interviews had an average duration of 60 minutes and have been conducted in Spanish since this was the mother tongue of the respondents and researcher. This allowed the respondents to express their perceptions and experiences in a smoother, freer and more comfortable way.

Out of the nine interviews, eight respondents were women and only one was a man. Although sexual orientation differs among my respondents, all of them identify themselves as cisgender. As a matter of indication, the youngest respondent was 29 years old. Six respondents (five women and one man) come from Argentina (four from Jujuy and two from Catamarca), being only one of them who identified herself as a descendent of the indigenous people of Jujuy. The other five respondents were high educated environmental activists working for many years in the defence of the environment in the region. Two respondents were from Bolivia, both from the Potosi region. One of them was a lawyer and founder of a Human Rights NGO. The second respondent was a descendent from an indigenous community living in the city that has worked as

⁴⁰ One respondent did not have access to a laptop nor a stable internet connection, the reason why the “interview” was conducted through WhatsApp’s voice messages. The respondent had, in this specific case, the opportunity to reflex on the question and provide an answer at another time

a social assistant with the affected communities. In Chile, I only managed to get in contact with one respondent, a researcher of two Chilean universities working on the extraction of lithium.

The interview was based on a list of questions but was not strictly attached to it⁴¹. Depending on the respondent, some questions were already answered before I formulated the question. Other respondents have expressed that their expertise was more in one or another area and preferred to provide information on a specific topic.

With the consent of the respondents, all interviews were recorded and later transcribed for further analysis. Labels were used to identify the main empirical findings that may answer my research questions.

8.4 Positionality and Reflexivity

Positionality hereby refers to the view and position that the researcher adopts against the study subject and its context (Cousin, 2010). It might be naive, even wrong, to assume that my values and position did not affect my interest in this subject or how my research was conducted. Needless to say, this does not mean I did not proceed carefully and mindfulness in the research process (Cousin, 2010, p. 10). Some aspects of myself, like my gender, skin-colour and nationality are part of my positionality and are fixed, yet worthy of mention in this research.

Scholars should exercise reflexivity to acknowledge their role and influence in the research (Cohen et al., 2007, pp. 171-173). Being a cis-heterosexual man doing research from a queer and ecofeminist approach may look controversial for some scholars and lock some other questions (Shail, 2007; Digby, 1998) since feminism works on a critique of masculinist knowledge (McDowell, 1992)

Although I do not intend to appropriate the term “queer” as other cis-heterosexual scholars do⁴², I do believe the production of heteronormative knowledge is not linked to someone’s identity (Allen, 2010). Queers may be prone to produce heteronormative knowledge too. Henceforth, my contribution to other queer scholars’ research has been to deconstruct the idea that heterosexuality and women are “natural” or normal.

⁴¹ See Annex I.

⁴² For a review of scholars claiming to be “straight queers” or “straights with a twist” see Schlichter, A. (2004). *QUEER AT LAST: Straight Intellectuals and the Desire for Transgression. GLQ: A Journal of Lesbian and Gay Studies*, 10(4), 543–564. doi:10.1215/10642684-10-4-543

9. FINDINGS: GENDER ASPECTS OF LITHIUM EXTRACTION

Women, as well as other marginalized social groups, are among the ones who suffer from climate change the most. Socio-cultural norms corner women out of the productive spheres to the reproductive labour (Federici, 2004), making them responsible for providing food, water and energy to the household. These are certainly time-consuming and labour-intensive activities. Women suffer from the existent inequalities concerning access to education, health, human rights, economic status and exposure to violence. In that regard, climate change may further deepen the existent inequalities and vulnerabilities of marginalized groups. However, the energy transition does not fully address the complexity of climate change nor the structural inequalities produced by the capitalist system in its exploitative relation with nature. What is interesting about the extraction of lithium, is that this mining industry is carried out in the name of sustainability to mitigate the effects of climate change. It is therefore important to know what the effects of climate mitigation and adaptation interventions on vulnerable communities are to avoid reproducing and/or deepen the same injuries, inequalities and damage caused by climate change (Marino & Ribot, 2012).

At the beginning of this dissertation, I have already argued that several scholars have generally overlooked gender aspects in their analysis over lithium extractivism in the Andes (Anlauf, 2015; Argento & Puente, 2019; Bruckmann, 2015; Göbel, 2013; Jerez Henríquez, 2018; Ströbele-Gregor, 2012). Furthermore, in the previous section, it has been explained the socio-environmental consequences of lithium mining for the local population. It is then striking that knowing the division of labour and the roles that women must fulfil in the Andean households (as feeding the family, administrate the water, and work on agricultural and pastoral activities) scholars keep overlooking the gender implications of lithium extractivism. Ecofeminist scholars have emphasised the role of indigenous women as custodians of biodiversity, yet no single scholar has made any effort to document their fight against lithium extractivism. Neither has been masculinities nor the gendered consequences for men analysed within this particular mining industry. Likewise, the absence of any mention to the LGBTQI+ community and whether it is involved and/or affected by this extractivist industry is notorious.

The case of lithium may be interesting for further scholars interested in gender dynamics not only due to the lack of documentation and analysis but also because the concerns around the use of water by the lithium mining industry may differ per country, depending on socioeconomics, historical and conjunctural aspects. For that purpose, this section will provide an overview of the

different aspects touched upon during the online interviews with people from Bolivia, Chile and Argentina. Needless to say, the fact that vulnerable groups of our society are being the burden of climate change and climate interventions in name of sustainability, does not mean that they do not have agency and are solely victims. The experiences of people resisting lithium mining in South America will also be addressed in this section.

9.1 *Water provision, Management & Safeguarding*

On the international level, the role of women in water provision, management and safeguarding has been recognised in one of the four Dublin principles. Scholars have also foregrounded the differentiated access, responsibilities and uses of water for women and men (Harris et al., 2017; Zwartveen, 1997). Nevertheless, the experiences and concerns over water scarcity may vary depending on the economic activities that people realize, their role in the household and the social expectations associated with their gender. For instance, women in the Andes work mainly in self-sufficiency agriculture, livestock farming, and selling weaving or other handicrafts. Women work also in the commercialization of salt, and as providers of touristic services such as cleaning, lodging and restaurants. All those activities depend on water availability and the conservation of natural resources. Therefore, the hydraulic disbalance caused by lithium extraction impacts directly on the socio-economic relations and livelihoods of women. Men migrate to cities and other countries in search of monetary incomes, partially because self-sufficiency agriculture has decreased its productivity. In that sense, women are expected to fulfil the caretaker role within their families, providing them with food and water. However, in some circumstances, the elderly has to assume this responsibility: *“Men usually migrate to the departments where there’re jobs or to Chile. Like Antofagasta or Calama. Sometimes there’re single mothers who also leave, and they have to leave their children to the grandparents”*⁴³. In a region where a public water network lacks, the dryness of the rivers and the subsequent scarcity of water may cause heavier work for women who may be socially forced to walk long(er) distances to obtain water for their domestic and self-sufficiency uses. Women may therefore experience much more stress than men when water scarcity occurs, since their expectations in the household to take care of the family may not be fulfilled (Wutich & Ragsdale, 2008).

It may be also interesting to understand the current way to deal with water-related issues by companies and policymakers. Laurie (2011) and Earle and Bazilli (2013) analyse how the

⁴³ Personal WhatsApp Communication, January 28, 2021.

inclusiveness of a gendered understanding in water management and knowledge challenges certain masculinities that serve the interests of certain political and economic elites in the form of huge 'heroic' infrastructural engineering projects. For instance, in the Salar del Hombre Muerto, Livent Corporation plans to build a pipeline to connect the river Los Patos, after having dried up the river Trapiche. This infrastructural project seeks to exercise power and control over water; namely, nature can and must be dominated by men and their knowledge (Zwarteveen M. Z., 2017). Such a masculine approach towards water management does not only neglect the historically harmonious relation that indigenous communities have with nature but also women's knowledge of irrigation and water distribution forms.

9.2 *Violence and Alcohol*

Women of the Lithium Triangle may face an increase in violence if a conflict for the control of water and other essential natural resources arises within and between the communities and companies. For instance, in the Democratic Republic of Congo, where one of the largest reserves of cobalt – a natural material that is also needed for the fabrication of batteries – conflicts have been arisen for the control of natural resources and have been translated into increasing violence against women (Hayes & Perks, 2012).

In the current binary system, the appreciation of production and extractivism – certainly masculine, exercising control and dominance over nature – and the devaluation of the reproductive labour – associated with the feminine – may influence the way power and authority is gained within the sphere of the family. In that regard, women may also face an increase in violence at home. Climate change, environmental damage and neoliberal economy, may cause stress in men who used to be the breadwinner of the household. Failing to fulfil this paternal role men may be triggered to use violence to exercise control in the household.

While lithium carbonate is currently being used in psychiatric treatments for bipolar disorders and alcoholism (Young et al., 1981) the working conditions in the mining industry may paradoxically influence alcohol consumption among workers. Many of the respondents have stated that miners of the salt flats work in a rotative-shift system of 15 days or 7 days, causing familiar disruptions among the families when usually men are out of home for half a month. Several studies have found a relationship between shift work, undesirable working schedules and alcohol consumption (Parkins & Angell, 2011), tensions in the relationship (Parkes, et al., 2005) and stress in the children (Mauthner et al., 2000) who lack parenting and supervision (Parkins & Angell, 2011). Alcohol may be used among workers to relax and relieve the tension after 15 days

of non-stop working or to deal with the temporarily (but constant) family separation. An activist woman of the organization “Juntos Podemos por un Ambiente más Sano”⁴⁴ (JPAS) in the Argentine province of Jujuy, sees a parallel between alcohol and violence against women: *“Men get very drunk. He gets alcoholised. He comes and beats his woman and children. There's a lot of violence and many times, the roots of that violence come from a man who goes out of home”*⁴⁵. In that regard, Gundermann and Göbel (2018) indicate that in the Atacaman Salt Lake, SQM has fired some workers due to alcoholism, meaning that companies are perfectly aware of the consequences of their working conditions. Nevertheless, alcohol is also quite present in the celebrations and rituals of the communities, an activist and archaeologist working in the province of Catamarca elaborates: *“I've participated in community parties, which are very important in the Andes and are understood as rituals. But (there is) a lot of alcoholism. [...] And being from outside, you're a prey and you're the object for drunk men”*⁴⁶. Eventually, an activist agrees with this statement but noted how the social roles of women and men differ: *“Women mostly stayed at home, taking care of the children, while the man is the one who participates, out there, in those festivities (...) Getting lost for several days is a common practice here in Jujuy”*⁴⁷.

Furthermore, many (male) mineworkers in Atacama and Uyuni are usually immigrants from other provinces who have come alone to the communities: *“Now there're immigrants. They migrate [...] for the exploitation of lithium. Not in high quantities. (But) Since they've already been living here for 5 years, the community self has given them a small land so they can construct their homes”*⁴⁸. On the one hand, temporary workers may feel lonely and isolated, becoming then susceptible to alcohol misuse (Parkins & Angell, 2011). On the other hand, the arrival of migrant workers, as well as the increased traffic, contamination and noise may generate social disruption and stress for the local villagers who may increase their alcohol consumption to cope with this stress (Parkins and Angell, 2011).

9.3 Family disruption or Heteronormativity reinforcement?

Family “disputes” and “disruptions” among the communities are some of the most frequently mentioned concerns of my respondents. The environmental damage (and especially the water scarcity) caused by the lithium projects, has been forcing people to abandon their

⁴⁴ “Together for a Healthier Environment”.

⁴⁵ Personal Communication, January 27, 2021.

⁴⁶ Personal Communication, February 10, 2021.

⁴⁷ Personal Communication, January 27, 2021.

⁴⁸ Personal WhatsApp Communication, January 29, 2021.

traditional practices of self-sufficiency agriculture and livestock farming, to gradually move into the market waged economy, as in the mines, in the tourist sector or by migrating to large cities and border countries. Although women might also migrate to search for a job, men are usually the ones who leave the house hoping to send remittances and fulfil the necessities of the family. These dynamics are not new in the Andean region, they used to be regulated by the harvest season of some crops like quinoa. However, the hydraulic disbalance caused by lithium activities is intensifying these dynamics, emphasising the role of women as caretakers and the expectations of men as breadwinners. The working system in shifts is certainly deepening the already mentioned family disruptions. Men are often gone, working for 15 or 7 days in the mines without coming back home and are prone to alcohol misuse, being women often the victims of violent acts.

In the north of Argentina, entire communities and families have seen themselves in the middle of a polarized discussion between those who are in favour of the industry – and hope to have the possibility to be employed in the mines – and those who defend the territory and the environment⁴⁹. An activist of the umbrella organization “*Pueblos Catamarqueños Resistancia y Autodeterminación*”⁵⁰ (PUCARÁ), called this polarization a form of “social contamination”:

*Brothers who don't sit at the Christmas table because one is a miner and the other is anti-miner. There are a lot of cases like that. Mothers and children. Whatever relationship you can imagine it is breaking because there's no shades of grey. It's black or white. Anti-miner or pro-miner. It's a horrible social gap that is being created*⁵¹.

In the Atacama region of Chile, Professor Barbara Jerez⁵² indicates the presence of tensions between locals and transitory mineworkers: “*Workers from Calama and Antofagasta have to stay there. [...] People feel an (inaudible [44:00]), like “outsiders” that bring other customs, another culture. That has generated tensions. They feel like they are losing their ‘Atacamanness’*”⁵³. This differentiation between outsiders and insiders produces a disruption in the social well-being of the community level (O'Connor, 2015) as earlier mentioned, alcohol is used among the locals and the migrants to cope with this situation (Parkins & Angell, 2011).

What may be interesting is the fact that people label this process as a disruption of the family and the communities. Far from being a disruption, it is a reinforcement of the patriarchal and heteronormative aspects of the family, an institution of discipline and biopower (Taylor C.,

⁴⁹ This situation was clearly different in Chile, where entire generations share a long history of convivence with mining and extractivist industries.

⁵⁰ Catamarca’s People, Resistance and Self-Determination.

⁵¹ Personal Communication, January 19, 2021.

⁵² University of Bío Bío and University of Concepción.

⁵³ Personal Communication, February 9, 2021.

2012), and of paternalistic practices by men, corporations and the State. Heteronormativity refers to the assumption that heterosexuality is the normal and natural human condition (Suter & Daas, 2007). This influences the sexual practices but also social institutions, as the family, the reproductive work and the appearance and behaviour of men and women (Sturgeon, 2010, p. 105). From this point of view, lithium mining does further reinforce the traditional heteronormative family where men are the breadwinners and women must remain at the domestic sphere. The mining industry exercises the same discipline, control and power than men use within the family, to extract the available natural resources, ergo, to extract life out of the Earth. In that regard, Silvia Federici (2004, p. 73), recognizes that during the transition to capitalism, the privatization of land and the expansion of monetary transactions caused a deeper division of labour, separating food production for profit and self-sufficiency agriculture, being the latter devalued and carried out by women who were relegated to “helpers” or domestic workers, while men have overtaken the role as chief of the family.

The extractivist model does cause stress in men, triggering the use of violence to exercise paternalist control in the family. For occasions, the State and corporations assume this paternalistic role by clientelist practices (Gundermann & Göbel, 2018). Hereby, lithium mining reinforces the heteronormativity where men are called to be real men (Wittig, 1992) exhausting and stressing them in an “unending performance” (Yep, 2003, p. 20), as stated by one of my respondents:

There’s a construction of the macho-miner, which is like the aspiration to have the truck, to have money to rent your own apartment, to be able to travel, money for clothes. Like the basic things that the market sells you as progress. Getting into the mine is that, it’s being able to be a man with all the letters⁵⁴.

In that regard, homophobia is a central organizational aspect of masculinity, where men fear being humiliated and remain silent about their angst (Chevrette, 2013). It “impels heterosexual men into a lifelong labour of “proving” their manhood and concealing, if not banishing, a range of sexual possibilities, gender performances, and pleasures” (Yep, 2003, p. 21). For instance, a respondent explains how indigenous men have sexual practices with other men but remain silent afterwards:

⁵⁴ Personal Communication, February 10, 2021.

I've seen men with other men, married men I mean. They can have sexual practices with each other, while they're drunk, while they're partying, and then life is still normal and there's no need to say anything about their sexual identity or their sexual practice⁵⁵.

Furthermore, through my interviews, the “sensitivity of women” came across multiple times to explain why women – and not men – mostly stand against the lithium corporations. Certainly, they do not mean that men are “not sensible”; but the institution of heteronormativity force them to prove their manhood, showing themselves strong and masculine (Chevette, 2013):

Obviously, there're a lot of super sensitive men who can feel that, but they're never going to express it, in the rounds, in the talks, they're not going to talk about pain, they're neither going to mention that it has to do with it, but they're going to talk about homeland, they're going to talk about territory, what's theirs and economic dispute⁵⁶.

In sum, lithium mining further reinforces the institution of heteronormativity which is reproduced and spread out by the institution of the family. As already explained in this dissertation⁵⁷ heterosexuality and the normativity imposed around it are somehow considered natural simply due to its reproductive character. However, this denies the complexity of sexuality, which is barely only associated with procreative acts, but rather with the erotic. At the core of heteronormativity lies not only homophobia but also erotophobia, the fear of the erotic. Sturgeon (2010, p. 107) argues that many feminist and queer scholars should pay attention to the heteronormative family, and how this institution may lie at the origin of our environmental problems, since the naturalization of it does not let us imagine another possible way of living in an environmentally and socially fair world. If we do not deconstruct the institution of heteronormativity within the “miniature welfare state” – as Lancaster (2003, p. 336) refers to the family since it modulates consumption, desires, child care and social security –, then heteronormativity will keep reproducing and spreading out itself (through the family) until reaching other spheres (like the extractivist industry). Hereby, the nature of the extractivist industry is one of exercising necropower, extracting life from the earth, (re)producing harmful institutions that affect women, men and queers, and in its extreme form dictating “who may live and who must die” (Mbembe, 2003).

⁵⁵ Personal Communication, February 10, 2021.

⁵⁶ Personal Communication, February 10, 2021.

⁵⁷ See “The Oppressive System and its Contradictions”, pag. 19.

9.4 Environmental Reproductive Justice, Femininity and the Pachamama

Nevertheless, gender may be just one of the many social aspects of the identity of a person that plays a role in the appreciation of natural resources. Age, ethnicity, class and sexual identity may be other factors and social categories that influence their position regarding water scarcity and other socio-environmental damages. Using intersectionality as an analytical tool might help us to understand how these diverse factors intersect at the individual level to reflect interlocking systems of privileges and oppression at the structural level (Hill Collins & Bilge, 2020, pp. 4-6). For instance, Ahlers and Zwartveen (2009, p. 419) focus on water used for agricultural purposes in Latin America and conclude that gender is only one of the many social factors that constitute the assignment of water responsibilities and needs.

One of the respondents, an indigenous woman from Jujuy, emphasizes their role as mothers and protectors of the environment and water *“to help with the survival of the future”*⁵⁸. Natural resources are also important for their cultural reproduction and the continuity of their rituals and traditions: *“any activity that takes place in the area would break our historical continuity as native people of this region”*⁵⁹. Therefore, not only their gender but also their indigenous identity influences their efforts to protect water. In that sense, their struggles and fights might have the potential to lead them towards an environmental reproductive justice movement (Hoover, 2017).

Ecofeminists usually claim that “all environmental issues, are reproductive issues” because protecting the environment involves protecting the ecosystem that makes life and reproduction possible (Di Chiro, 2008). Environmental reproductive justice builds further on it and coins a much broader meaning of “reproduction” than its mere biological aspect (Hoover, 2017). Hereby, reproduction means a form of physical, social and cultural reproduction, a process to maintain everyday life, to sustain human cultures and communities on a daily basis, including resources that are outside of the market exchange like the act of passing traditions and culture to the next generations (Hoover, 2017). From my interviews, it becomes clear that people’s dependence and reliability on self-sufficiency activities have decreased due to water scarcity caused by lithium projects. Consequently, this has been causing concerns among women about the living conditions of future generations. People have therefore switched to waged labour in the tourist and mining sector but realize that “the incursion of money” has changed their livelihoods and socio-cultural relations.

⁵⁸ Personal Communication, February 8, 2021.

⁵⁹ Personal Communication, February 8, 2021.

Furthermore, some of my respondents from Argentina have denounced the high presence of miscarriages in their provinces, something already discussed in the section about socio-environmental consequences on the communities in Argentina, by the high rates of infant mortality⁶⁰. However, health is not clear-cut distinct from culture; in fact, it is rooted in it (Hoover, 2017). For instance, an indigenous respondent from Jujuy explains how health, culture and environment are interrelated with each other: “the plants sheltered (us) from Covid, with some herbs in our area. These are sheltered plants that help us survive as well” on what she added:

we know that women sometimes have been healed with the water of this hill, which isn't potable but that, (in) the way it comes out, we use it, let's say. So, it's an important place from all aspects, for us the native peoples, for this region and for this area⁶¹.

In that regard, analysing the consequences of lithium extraction should be calculated differently for indigenous women. It is not only their productivity that gets affected by the environmental damage caused by the mining projects but also their biological and cultural reproduction. On the other hand, the ability to determine their own reproduction (social, cultural and biological) is not only directly linked to the environmental conditions but also to socio-economic and cultural factors. For instance, since abortion has been recently approved by the Argentinian Congress in early 2021, many of the respondents showed some concerns about the paradox of them being accused of standing “against life” for defending the legalization and depenalization of abortion while defending “the life and biodiversity” of the salt flats:

I couldn't be uploading pictures with the green legal abortion handkerchief and that's because I was starting to get insulted, you understand? "Oh, so you defend life and you're killing babies," It is kind of something like that. And it comes from this group of mothers⁶².

In her ethnographic research into the identity of indigenous women in Argentina, Sciortino (2014) identifies some of the arguments that indigenous women use against the depenalization of abortion. In the first place, the religious argument where women carry the responsibility of defending life and comparing the practice of abortion with murder. Secondly, the essentialist argument that women in their role as “mothers” and “seed giver”, and being linked to Mother Earth, should defend life too. A third argument points out that women are being killed by abortion practices.

For indigenous women, the spiritual connection with nature and the environment, forms part of their central cosmovision. This is not an interaction in only one direction. Rivers, mountains,

⁶⁰ See pages 31 & 33.

⁶¹ Personal Communication, February 8, 2021.

⁶² Personal Communication, January 19, 2021.

lakes, animals and plants, but also the different deities of the cosmos interact with each other and with men⁶³. Precisely, this respectful and harmonious interaction makes their cosmovision unique. Nature is an actor of agency and must be respected, honoured and appreciated.

The Mama Cocha (The mother of the water), the Mama Nina (The mother of Fire) the Mama Wayra (The mother of the wind) and the Pachamama (Mother Earth) form the group of four mothers of the classical elements. The later, Pachamama, represents the central figure of the Andean communities' cosmovision and is believed to provide fertility to the soil, essential for their subsistence economy and reproduction. Therefore, indigenous communities feel a special connection with their territory which does not only provide them with food and seeds, but also (re)connects them with the Pachamama, their ancestry and their culture. Without their territory, indigenous communities of this Andean Region will not be able to reproduce their traditions and cosmovision (Weaver, 2001). However, the fact that the Pachamama represents the figure of a "mother" must not be overlooked. This is one of the most influential aspects of their beliefs that makes women feel so attached to nature and "life", triggering them to resist the extractivist industries. For instance, the representation of femininity in nature is also being reflected in other stories and beliefs about the formation of the Salt Lake of Uyuni⁶⁴ (Hollender & Shultz, 2010, p. 23).

Women do not only just feel connected with Mother Earth. On multiple occasions, they claim and reappropriate their identity as mothers: "*We are givers and guardians of life and as when a mother tells her son: enough, stop. We come to tell this capitalist, racist and patriarchal system: enough*" (The Green Network Project, 2019). Furthermore, water is usually considered "the blood of Mother Earth" (Blackstock, 2001) or the "blood of life". It is not surprising then that if women reappropriate their identity as mothers through the figure of Mother Earth, they will therefore defend and protect water.

However, based on a rather short-term goal of change, seeking to expel extractivist corporations, women may use essentialist notions of femininity and ancestral beliefs in a normative way without questioning the risks and consequences that this might have on the long term for their reproductive health, their social position within the communities and households and the possibility of changing notions of femininity (Laurie, 2011). On the other hand, this strategy

⁶³ Human beings.

⁶⁴ The story tells that the Tunupa (a mountain located on the edge of the Salt Lake) was a beautiful woman, appreciated by all the mountains and with many suitors. But she fell in love with one, married and had children. One day they fought, and her husband stole the new-born child. Tunupa's sadness was so great that her breasts overflowed with milk and created the Salt Flats. She rests on the edge of the salt flat and every year her tears bring the annual floods, renewing the Salt Flats and attracting rain to our crops.

facilitates the construction of a political identity for women – what Laurie (2011) calls “super mother” –, that legitimates their fights, as mothers and through their special relationship with the Pachamama. Thus, essentialist arguments in the defence of biodiversity may work as a two-edged sword. On the one hand, it congregates indigenous women in the defence of the salt flats and against the lithium corporations, legitimating their access to the public and political spheres. On the other hand, such essentialist notions and arguments of the role of women as providers of life cements key gender inequalities and established social roles.

9.5 *Resistance*

In the literature, Jenkins (2015) elaborates on Bebbington (2012) and Bebbington et al. (2008; 2010) analyses of social conflicts and processes of natural resources governance around mining in the Andes. She calls other scholars to look at the “micro-level” of these processes of contestation to better understand the complexity of the experiences of women in the resistance scenarios. It is worth mentioning that “resistance” and “activism” may adopt different forms, places and temporalities. For instance, people involved in processes of resistance might not even want to call themselves “activists” (Bobel, 2007). Furthermore, resistance and activism may not necessarily have to adopt urban forms like strikes, riots and marches. They can be gradual, silent and even out of sight, falling in the category of “everyday forms of resistance” (Scott, 1989). Therefore, and in order to visualize the agency of women, the present section seeks to aboard some of the different gendered aspects of resistance and activism – and the reasons behind it – in the context of lithium mining.

9.5.1 *Legitimation Strategies*

Jenkins (2015; 2017) and Jenkins & Rondon (2015) have analysed how indigenous women rely on traditional notions of femininity associated with their identity as mothers and connection to Mother Earth to resist extractivist industries. This dissertation has also explained how women around the salt lakes in the Lithium Triangle are influenced by their gendered social roles and expectations, making them also rely on essentialist notions of femininity, motherhood and their spiritual and intimate connection with Pachamama⁶⁵.

Furthermore, emotions and sensibility are also perceived as central aspects in women’s willingness to resist lithium mining: *“to be able to respond to that, without shame (...) Crying*

⁶⁵ See section: “Environmental Reproductive Justice, Femininity and the Pachamama”.

because they are drilling the Earth, crying because they have hit your children, it is like... uh, a little exclusivity of women"⁶⁶. Another female respondent clearly agrees on that aspect: *"maybe we can feel nature more"*⁶⁷. These emotional aspects should not be overlooked by scholars when evaluating people's engagement in natural resources management: (Morales & Harris, 2014). A lawyer of one of the indigenous communities affected by lithium mining in Catamarca, sees that the resistance of women is triggered by their *"connection with vitality and maternity"*, since *"these are, after all, very life-death disputes: there is a vitality and a mortality"*⁶⁸. Finally, a male respondent, also highlights that *"women are more upright than men. And that helps a lot considering that the extractivist practices are very corrupt"*⁶⁹. All these arguments reaffirm the use of traditional notions of femininity associated with women as "mothers" or "sensible" and inherent "upright" actors. As previously discussed, these legitimization strategies reinforce binary constructions of men/women, culture/nature and rational/emotional.

9.5.2 *On the frontline*

I. The assemblies

In the Argentine province of Catamarca, the organization "Fiambalá Despierta"⁷⁰ denounces the indiscriminate use of water by lithium companies and their lies to the community:

"They want us to buy a pig in a poke. They come and say to people, "We don't need water because it evaporates and goes back to the fields, to the river...". Liars! We all know that they use a lot of water. And we are the ones that will have to deal with the big problem" (as cited in Waisman, 2020).

Although Fiambalá Despierta does not describe itself as a women's nor feminist organization, Nicolasa recognizes that they "were almost all women" when they organized the first strike against Liex S.A, the subsidiary of the Canadian mining company Neo Lithium, which in 2016, started a project for the extraction of lithium in the Fiambalá region (Maina Waisman, 2020). In that sense, this represents another example of how women are on the frontline against extractivism (Cirefice & Sullivan, 2019) and act as defenders of the biodiversity (Mies & Shiva, 2014, p. 164). Nicolasa further denounces the institutional violence of the government that to dissolve

⁶⁶ Personal Communication, February 10, 2021.

⁶⁷ Personal Communication, January 19, 2021.

⁶⁸ Personal Communication, January 29, 2021.

⁶⁹ Personal Communication, January 15, 2021.

⁷⁰ "Wake up Fiambalá!".

the protest sent the gendarmerie⁷¹ instead of the local police, in a clear act of provoking fear among the women protesters (Maina Waisman, 2020). Similarly, another case of institutional violence occurred when Patricia Reynoso, a docent from Antofagasta de la Sierra, has been suspiciously suspended from its function in the school after publicly protesting against the mining company Livent and its plans for using the groundwater of Los Patos river since La Trinchera river has been dried up due to the intense use of its water for lithium production. These experiences are in line with what Jenkins (2015; 2017) and Jenkins & Rondón (2015) document in the struggles of Andean women in Ecuador and Peru being resilient against constant threats and violence by the state and mining companies. Furthermore, members of Fiambalá Despierta did emphasize that the media and other institutions, as schools and city councils, whether they are private or public, only mention the benefits of lithium mining, without explaining its negative socio-environmental consequences (Maina Waisman, 2020). They further denounce that those institutions normally receive donations from the LIX Company, a fact that is even more relevant when considering that Catamarca is one of the poorest provinces of Argentina. In that way, the high perception of corruption in the Argentine institutions may also represent one of the reasons why local people from the Argentine Puna do not believe that the possible exploitation of lithium by a state company will generate benefits for the local communities.

Fiambalá Despierta is just one of the many assemblies through the Argentinian province of Catamarca that conforms the umbrella organisation PUCARÁ, where all the assemblies coordinate their actions together, organize events, demonstrations, workshops, conferences and even festivals. They also promote the internationalization of their network with other countries, for instance, through the “Latin American Water Summit” and the formation of the Plurinational Observatory of Andean Salt Flats (OPSAL), with activists and professionals from Chile, Bolivia and Argentina. In the province of Jujuy, the communities are also organized in assemblies. A respondent, who conforms the assembly of JPAS notices the large presence of women in the assemblies nowadays: *“many years ago I attended assemblies to which only men went and now in the assemblies there are usually more women than men”*⁷². However, a woman who also integrates JPAS recognizes that there remains a patriarchal dynamic within the assemblies: *“I think we need to take the lead, don't we? We, women, should also take that role of managing specific technical information and statistics”*⁷³. Something similar has been observed by an activist from Catamarca, reason why she and other activists from the assemblies started their own feminist space called

⁷¹ A military force with law enforcement duties in Argentina.

⁷² Personal Communication, January 15, 2021.

⁷³ Personal Communication, January 27, 2021.

“Feministas Antiextractivistas del Sur” (Anti-extractivist Feminists from the South): “Women’re going to the strikes, to the police station. They’re going to cook the locro⁷⁴ so that all the people from everywhere arrive. In that sense, women do everything; but when it comes to grab the microphone, they’re men”⁷⁵. Thus, despite the large presence of women in the assemblies, they barely take lead positions within the organizations.

Moreover, fictitious boundaries within the country seem to disappear when the fight is common. Indigenous women from different communities in Argentina have namely joined forces together and self-organized themselves to occupy the Ministry of Home Affairs in Buenos Aires to denounce the “terracide”:

The murder, not only of the tangible ecosystems and of the peoples that inhabit it, but also the murder of all the forces that regulate life on earth, that we call perceptible ecosystems. These spirits are responsible for life continuing on the face of the earth and they are being destroyed, along with their habitat” (The Green Network Project, 2019).

This denotes the universality, among the Argentinian territory, of the destruction and bludgeoning of the indigenous and human rights of the communities.

Among the interviews with Argentinian activists, the fact that women were “putting their bodies” on the frontline against the police or the mining companies has often been highlighted, denoting once again the role of women as “custodians” of the biodiversity (Mies & Shiva, 2014, p. 168). Therefore, women are not simply present in the assemblies, they fulfil different roles and conform a confrontative front against the extractive industries. For some women, the extraction of lithium and water should be understood in relation to the territory’s significance: “understand the territory as the same body as if you’re touching this, you’re touching the vitality”⁷⁶. In that sense, and as already explained in previous sections, women assume and reappropriate the role of “super mothers” through their connection with Mother Earth and by seeing their territory as the body of Pachamama and as an extension of their own body. Extractivist industries damaging the soil are damaging women’s bodies. In their turn, women decide to use their own bodies as tools to express and defend themselves.

II. *The contradictory case of the Bartolinas*

⁷⁴ Traditional food.

⁷⁵ Personal Communication, February 10, 2021.

⁷⁶ Personal Communication, January 29, 2021.

Argento (2018) and Argento & Puente (2019) briefly dedicates a short footnote to the large legitimation and role of the “Bartolina Sisa National Federation of Peasant Women of Bolivia” (FSUMCAS) in their fight against the lithium exploitation by the multinational Lithium Corporation (LITHCO) in 1990, in Bolivia. However, this remains quite unexplored by the authors. This short section seeks to contextualize the emergence, fight and discursive contradictions of the Bartolina Sisa organisation.

Between 1978 and 1982, Bolivia knew 10 different presidents and two coup d'états, while social unrest has been parallelly escalating. In this context of political instability and institutional crisis, FSUMCAS was founded in January 1980. Among the objectives of the Bartolinas – as the members are called – are: to free the indigenous women from all kinds of oppression, to defend and promote human rights of indigenous peasant women, to ensure women's participation in decision-making levels, to eliminate all forms of discrimination and violence against peasant women and to achieve women's participation through their knowledge in food security (CNMCIQB-BS, 2009). Peasant women sought therefore to differentiate themselves from other women of elite and wealthy groups from whom they suffer discrimination as well as from those who work in the offices and profit from the care labour provided by peasant women (Cabezas Fernández, 2013, p. 40).

In 1989 the Regional Federation of Peasants of the Altiplano Sud (FRUTCAS) and FSUMCAS joined forces to protest against the concession of lithium exploitation to the LITHCO by the Ministry of Mining and Metallurgy. Both organisations did not see any benefit for the region in this concession and instead formulated a new proposal to LITHCO in 1991. The proposal includes at least a 51% participation of the State in a joint venture, the creation of a Bolivian industry for the manufacture of processed products, a refusal to grant exclusivity of exploitation to LITHCO and the demand of the defence of the environment by strict regulations (Gysler, 2011, pp. 76-77). Consequently, LITHCO decided to move out of the country and installed in the north of Argentina, profiting from the neoliberal regulation of the new Argentine government in 1990. A similar position can be also found in the 2005 mobilization of indigenous communities, peasants, unions, and organizations (with FSUMCAS, among others) against the further exploitation of hydrocarbons by foreign companies. The mobilization demanded the nationalization of the Bolivian hydrocarbons and called for a National Constituent Assembly to adopt a new constitution that defends the interest of the Bolivian people. Eventually, this ended up in a triumph for the Movement for Socialism (MAS) party, from which Evo Morales got elected president in 2005. The left government formed in 2006 to a Constituent Assembly, from which a new constitution was approved and ratified in 2009.

Nevertheless, while in the past FSUMCAS firmly opposed the exploitation of lithium by LITHCO and other multinational companies, nowadays the Bartolinas have made several statements in defence of the exploitation of lithium by the Bolivian state-owned company COMIBOL and YLB: *“We have always stated that lithium, being an evaporitic and strategic mineral in the country, must be exploited 100% by the state”* (FRUTCAS & FSUMCAS, 2009). A year later they reaffirm their position by defending the bill for the exploitation of lithium introduced by the senator from Potosi, Carmen García (Centro de Investigación y Apoyo Campesino, 2010). In that regard, the fact FSUMCAS-Bartolina Sisa approves the lithium extraction by a state-run company does not entirely contradict their initial proposal made to LITHCO in 1991. However, by doing so, FSUMCAS neglects the socio-environmental consequences of lithium extractivism.

Paradoxically, its national president, Segundina Flores stated during the first "National Water Forum for Food Sovereignty in a Climate Change Mitigation and Adaptation Context" that *“indigenous peoples and peasants have an obligation to take care of water, [because] we are the ones who are engaged in agriculture to feed the population”* (Huarachi, 2019). According to a 2017 report from the Office of Indigenous Affairs of Bolivia, it is estimated that 65% of women without previous formal education work in the agricultural sector and that 68% of working women living in rural areas work in agriculture as well, while in the urban area it only reaches the 3% (CADPI, 2017). Therefore, despite the acknowledgement of the large presence of women in agriculture and grazing and knowing that water is an essential resource for both economic activities, FSUMCAS-Bartolina Sisa prefers to omit the consequences that lithium mining – whether it is done by a private or a public company – has for the availability of water and consequently for the work of millions of women working in the agriculture and grazing sector.

Recently, FRUTCAS and FSUMCAS have condemned the removal of Evo Morales from its presidency and accused the military and multinational companies, like Tesla, of organizing a coup after Elon Musk, the owner of the giant producer of Electric Vehicles (EV) tweeted *“We will coup whoever we want! Deal with it.”* (FRUTCAS, 2020). Curiously, despite suffering a firebomb attack at their offices during the not-elected government, FSUMCAS has called for *“reconciliation and forgiveness”* to avoid further polarization once democracy and justice are back again. Luis Arce, from the MAS party, resulted elected president in November 2020 and has already communicated his plans to reinvest in YLB, the state lithium company of Bolivia, continuing Morales’ plan for economic development based on lithium extractivism. In an attempt to avoid resistance by indigenous and peasant movements, Arce called for a *“Pact of Unity”*⁷⁷ – of which FSUMCAS

⁷⁷ See for instance <https://www.bartolinasisa.org/category/pacto-de-unidad/>

participates – in which union’s and indigenous’ leaders will manage the state-run companies, a new version of the so-called Andean-Amazonia Capitalism (Garcia Linera, 2006).

Far from enjoying legitimacy and broad-based support as stated by Argento (2018) and Argento & Puente (2019), an indigenous social worker woman from Potosi who used to work with the communities of Nor Lipez accused them of being instrumentalized by the current Bolivian government:

The Bartolinas’re busy getting a political position in political campaigns, nothing to do with defending the environment or the human rights. No, here at least in the Potosi department is just a political stage [...] The bartolinas are not really heard⁷⁸.

Likewise, a member of the organization “Colectivo de Derechos Humanos, Empoderate!”⁷⁹ a grassroots organization that inform indigenous communities around the Uyuni Salt Lake about their rights and the importance of the environmental conservation, signals the link between the government and the Bartolinas: *“The most loyal support of the MAS are precisely the Bartolinas and the (female) ministers and deputy ministers have come out of the Bartolinas”⁸⁰*. She refers hereby to, among others, Celinda Sosa (Minister of Economic Development 2006-2007), Celima Torrico (Minister of Justice, 2007-2010), Nilda Condori (Minister of Justice, 2010-2012), Julia Ramos (Minister of Rural Development, 2009-2010) and Nemesia Achacollo (Minister of Rural Development, 2010-2015). Both respondents did emphasize the fact that the local communities around the Salt Lake of Uyuni are not fully aware of their rights and the environmental consequences of lithium mining. Furthermore, the lack of knowledge, education and infrastructural resources is taken by the State and its public company as an advantage to sell the short-term benefits and employability for the local population:

Locals don’t see the future consequences of lithium exploitation. What they see is if they have an economic income, how to pay the bills. But they don’t see the consequences beyond that... as it happened in St. Cristobal’s mining⁸¹. [...] Many times, the company pays the energy bills [...] we must raise awareness of the consequences for the future⁸².

In that sense, FSUMCAS and the Bartolinas are rather seen as instrumentalized political subjects used to deepen and legitimate the extractivist model of the Bolivian State. Essentialist notions of femininity and the connection between women, nature and Mother Earth seem not to

⁷⁸ Personal WhatsApp Communication, January 28, 2021.

⁷⁹ “Human Rights Collective: Empower Yourself”.

⁸⁰ Personal Communication, January 26, 2021.

⁸¹ Hereby she refers to the open pit mine of San Cristobal, 90km far from the Uyuni Salt Lake, from where zinc, silver and lead are extracted. This left an entire population without water and forced people to move.

⁸² Personal WhatsApp Communication, January 28, 2021.

apply in this scenario. There is a clear contradiction between some of the Bartolina's discourse about the defence of water as mothers, and their actual support to lithium extractivist by state-run companies.

9.5.3 Other forms of Resistance

As Scott (1989) argues, resistance may take different forms and shapes. Jenkins (2017) has already documented how in Ecuador and Peru, women resist large-scale mining in different ways. In our case-study, despite the already mentioned strikes, other subtle forms of resistance are also present. An indigenous respondent from Jujuy describes her way of resistance as a "communal pedagogy" in which she has been educating and passing ancestral and traditional knowledge to other women who wanted to access formal studies but cannot do so. Her community has been fighting for more than 20 years against the mining company El Aguilar and defending the conservation of water and the land: *"we carry out the struggles and fights for the conservation of our territory and demand that our rights as progenitors of life are respected, because we're the breeders of plants, animals, wawas⁸³ and caretakers of elders"* (Sisa Liwen Antiman, 2021, p. 65). She further reminds how difficult it is that judges rule "in favour of life" instead of favouring the mining companies. In fact, many women have no other option than resisting "silently" and enduring "hopelessness", acknowledging that "without water, no life will be possible in the area". Threatens and violence apply in this case as well as the abandonment of any justice institution that veils for their rights.

Women are also "fighting" in the underground. They rescue and safeguard seeds from their privatization and the use of transgenic products by reappropriating traditional practices of seeds exchange for self-sufficiency agriculture (Rodriguez Venegas & Duarte Hidalgo, 2018). Furthermore, the reappropriation of other ancestral traditions and knowledge as natural medicine must be seen as a way of everyday resistance:

After the time of colonization, we're always trying to manifest ourselves, to continue protecting what's our knowledge, our medicine, our herbs, or our yuyos⁸⁴, and our ceremonies [...] Despite all the push forward, we don't oppose technology, we know what we can use according to our cultural traditions, but yes...we're in that every day, in that walk, as our ancestors passed to us, still resisting in this area⁸⁵.

⁸³ Aymara for babies

⁸⁴ Weeds.

⁸⁵ Personal Communication, February 8, 2021.

Art in its different forms is also used as a tool to show resistance and communicate their concerns. For instance, one of the main economic activity of women in the region is waving. Waving is not only an activity to express their art and pass on their ancestral knowledge. This idea of the entrepreneur woman confronts the one of seeing women as housewives and creates another idea of what “femininity” constitutes: strength, size and autonomy, rather than the “European figure of femininity” based on respectability (through marriage, monogamy, etc.). However, women working in waving remain most of the time in the informal market and only contribute to a tiny portion of the monetary incomes. The act of waving is not simply one of producing and selling. Artisanal waving represents another form of agency for women since they do have an influence on some ideas of gender, modes and class, by which they might change modes of consumption and production. This also demystifies the binary ideas of association between consumption as something feminine and production as something masculine and the one of global as masculine versus local as feminine. The local woman does have agency in the global process of capitalism and globalization (Freeman, 2001).

Furthermore, writing and singing couplets as traditional Andean music, is “a world of struggles and resistance” in a respondent’s words: “*the songs are complaints against the mining companies, denounces of all violence and they are part of the rituals of the copletras*⁸⁶”⁸⁷. An activist of JPAS, teacher, music artist and writer told me about her way of resisting and connecting with other activists:

*It’s my form of militating nature, water and life. It’s a way of being in the world valuing the Pachamama [...] I’m close with a community of sikureras*⁸⁸. *We enjoy playing sikus, singing, going to manifestations with the Sikus and sharing our experiences. We’re women of different ages. [...] It’s beautiful because we feel like sisters*⁸⁹.

She sees extra merit in the fact that she is writing the songs and that she only let other women sing her songs: “*In the field of folklore, it is all men who have the microphone, and the woman dances, the woman shows her body at the dance but does not take the microphone to sing*”. In her book of songs she seeks to “*show nature with its colours, with its aromas, with the sensual experience of women with nature*⁹⁰”.

⁸⁶ Female couplets’ writers.

⁸⁷ Personal Communication, February 10, 2021.

⁸⁸ Women who play the sikus, a traditional Andean panpipe instrument.

⁸⁹ Personal Communication, January 27, 2021.

⁹⁰ Personal Communication, January 27, 2021.

As already mentioned, resistance is a broad concept that may take different forms, shapes and be dispersed in time. Not everyone sees the necessity to organize a protest or do a strike. Some canalize their concerns through art and music. Others become entrepreneurs, work for the tourist industry or stay relying on self-sufficiency agriculture and livestock farming, therefore deliberately choosing not to work for the mining industries and ensuring that their families have something to eat. Some decide to stay close to their ancestral knowledge, traditions and cosmovision and seek to pass it to the new generations as a way of resisting and defending the reproduction of their culture. However, although they might not realize it, colonial binary ideas and divisions are very present among women resisting extractivist industries. In the next section, I will address what consequences does that have for the inclusiveness of queer people in the front of resistance against extractivist industries in the Lithium Triangle.

9.6 Is it possible to build coalitions?

Gaard (1997) suggest in her article that an ecological society must embrace sexual diversity, making a call for a broader coalition based on the common liberation of the erotic, queers, women, persons of colour and nature. However, a long history of heterosexual coloniality and colonization of the indigenous people may have diffculted the formation of this popular front. In fact, in the previous sections, it has been argued and explained how essentialist notions of femininity, as motherhood and sensibility are being used by women and men in the Lithium Triangle in order to politically legitimate their concerns for the environment. Nevertheless, heteronormativity reinforces the femininization and subordination of the Earth and therefore in turn the erotophobia – since heteronormativity only allows reproductive forms of sexuality (Gaard, 1997). To sum up, essentialist notions of femininity reinforce the initial dualism of natural/unnatural. However, what may be interesting from this point of analysis, is that besides the fact that indigenous people reinforce heteronormativity by adopting essentialist notions of femininity in their environmentalist struggles; they do re-value the concept and agency of the “other-than-human”, namely, the Pachamama and other deities.

Sturgeon (2004) argues in her article that “we need an approach that critiques the wider world of cultural values that reinforce environmental inequalities. Such an approach is useful in delegitimizing stories—in literature, film, and popular culture—that directly and indirectly naturalize inequality” (p. 262). Hereby she points out the detrimental effect of essentialist ideas and notions of nature and the natural, that are used by “Western mainstream environmentalists”, for instance, by presenting people of colour as closer to nature. Nevertheless, an indigenous

respondent is convinced why they must fight for the conservation of their natural resources: “*We want to have water for future generations*”⁹¹. In that sense, the environmental cause seeks to save the planet to safeguard the future generations, avoiding the disruption of the heterosexual family and naturalizing that women must fulfil the role of caretaker of the current children and the role of “producing” more people. By doing so, this narrative reinforces the association of nature with heterosexual reproduction (Sturgeon, 2004; 2010).

Sturgeon (2004) is well aware that her argument is based on practices of western environmentalists. She does recognize – although in a footnote – that “there is a fundamental difference between stories from cultures that do not display a Western culture-nature dualism” and Eurocentric cultures. Unfortunately, she does not further elaborate on “*that*” difference, nor does she explain whether – in that case – it would be legit for non-western cultures (that do not display a culture-nature dualism) to use the argument of “safeguard the future generations”. After all, although indigenous people from the Andean region do not have an explicit culture-nature dualism – as we can observe in the value and agency given to the Pachamama – it does not mean that they do not reproduce other colonial dualisms. It has been already said that the essentialist notions of femininity used by indigenous people reinforce the erotic/reproduction dualism since the value is put into the form of sexuality that allows reproduction. A vicious circle is thus formed, followed by the reinforcement of the dualism heterosexuality/queerness where queers are being devalued by their non-reproductive conditions within the binary system. In fact, within the heterocentric narrative of “save the planet for the sake of the children” queers are forcedly left out of the fight. By doing so, the “reproductive” value of sexuality is being highlighted for the sake of the planet (Edelman, 1998). From this perspective, a natural/unnatural dualism is clearly present. Even though the essentialist argument comes from a “culture(s) that do not display a Western culture-nature dualism” and the fact that “nature” – if we take, for instance, the figure of Mother Earth – is being valued, such an essentialist argument to defend the environment does reinforce the binary system and its oppressive inequalities. In that sense, this dismisses the differentiation – although not really specified – suggested by Sturgeon (2004) between non-western cultures and Eurocentric cultures in the detrimental effect of essentialist ideas and notions of nature and femininity. In that regard, a respondent from *Feministas Antiextractivistas del Sur* said:

⁹¹ Personal Communication, February 8, 2021.

In the communities there're fellow trans copleras⁹² who're very rejected by men. I think transsexuality and cross-dressing are more difficult. And the fact that a trans woman sings copla and spread the message of struggle like this, is, for many men from other communities, repudiable. [...] We don't have to essentialize them (the communities) or romanticize them as if because they're indigenous communities they don't have colonial practices⁹³.

This suggests that the shortcoming in Sturgeon's analysis – or rather, the romanticization of indigenous cultures – comes from the fact that she neglects how the coloniality of gender (Lugones, 2010) and a long history of colonialism (Bazán, 2010) have penetrated in indigenous communities. During the interview, a respondent mentioned that although it may be tiring to be constantly relinquishing, they do *"have moments of confluence, where we (they) say 'fine', here, it doesn't matter much some issues, you have to go and fight together, because otherwise the mine will come"*⁹⁴. She and other fellows opted for opening their own assembly because they *"needed a space for nosotras (us, women) and nosotres (gender neutral form of us in Spanish)"*. Thus, despite the resistance of some environmentalists who reproduce heteronormative approaches, queers are carrying on a continual fight on two fronts: in the defence of the environment and for the liberation of their bodies and sexualities. An activist from PUCARÁ remembered that in the beginning, she was a bit nervous about letting the people in the assembly know about her sexuality and relationship with another woman:

Many people want to believe that I'm a man. They don't want to accept that I'm actually a woman, so they even prefer to call me by a male name. So, for me in addition to my environmentalist militancy, I militate for the diversity. If we don't normalize that on the streets, it will never be accepted⁹⁵.

Another woman from the organization JPAS suggests that those homophobic aspects of the society in the north of the country has to do with the high presence of the catholic and evangelic church in the communities. As a matter of fact, the respondent from PUCARÁ told me that *"Roman, the chief of the indigenous community here, is in charge of opening and closing the chapel"*⁹⁶.

Many of the respondents do believe that *"change will come with the next generations"* and that we must *"respect the social processes of each community"* and understand their context. A

⁹² Female couplets' writers

⁹³ Personal Communication, February 10, 2021.

⁹⁴ Personal Communication, February 10, 2021.

⁹⁵ Personal Communication, January 19, 2021.

⁹⁶ Personal Communication, January 19, 2021.

respondent talked about the convergence with “feminist groups” that interact with her indigenous community:

I always try to mediate with them and tell them that our reality is different. We're in this reconstruction of our living, in the education of our children, because we're still at the stage of trying to find the balance between man and woman, and other identities as we call them, that do exist... that exist among our people too and that we know it, but we keep it for us.⁹⁷

This means that indigenous people neglect the presence of sexual diversity in their communities, although they realize it exists. Similarly, another respondent told me how men, during festivities and celebrations, do have sexual practices with other men while being married to a woman:

I've seen men with other men, married men I mean. They can have sexual practices with each other, while they're drunk, while they're partying, and then life is still normal and there's no need to say anything about their sexual identity or their sexual practice⁹⁸

Considering the arguments and experiences of my respondents and the calls of queer scholars to liberate nature and queer people, I do believe that there is already fertile soil for a potential common front that includes indigenous people, women, men and queers fighting together for the liberation and protection of nature and their own bodies. Though many essentialist arguments need to be deconstructed in order to join forces, environmentalist activists, queers and indigenous people are already working on that aspects, resisting both extractivist systems: the one of the lands and the extractivism of the bodies. In that regard, I would like to end up this section by quoting one of my respondents, with his reflection on why he sees more women on the frontline against the mining companies:

It's quite deterministic to assume that sexuality has to have a natural character. I feel like we'd lose humanity if we don't understand it as personal choices [...] I think the reason why most of those who fight are women has to do with gender privileges. Men are more reluctant to resist a system that somehow favours them⁹⁹.

⁹⁷ Personal Communication, February 8, 2021.

⁹⁸ Personal Communication, February 10, 2021.

⁹⁹ Personal Communication, January 15, 2021.

10. DISCUSSION

This dissertation aims to explore the political ecology of lithium extractivism in South America from a queer ecology perspective, by looking at the added value of this theoretical approach and by analysing the gendered consequences of lithium mining.

Through this research, I have explored how the process of lithium extraction produces a hydraulic disbalance in the ecosystem that directly affects the living beings and components of the salt lakes. Gender and social norms and roles have moved women to the spheres of reproductive labour (Federici, 2004), making them assume responsibilities of caretaker and food provider within the households. For that reason, the scarcity of water caused by the extraction of lithium repercussions directly on the well-being of women, occasioning stress and exposing them to violence. Moreover, I have found that its environmental consequences and the work in a rotative-shift system and the import of labour for the lithium industry trigger alcoholism and violence. While women struggle with the expectations of their role as food and water providers within their families, men and corporations are called to perform their paternalistic and masculine roles. For instance, men usually migrate in search of job opportunities leaving their families behind or decide to work for lithium mining corporations in order to fulfil the expectations of their role as breadwinners. Migrants that temporary move to the industry workplace or those failing to bring incomes to the household usually abuse alcohol consumption to cope with that situation, creating situations of conflict or violence. This certainly shows us a reinforcement of patriarchal structures and dynamics. The already discussed gender roles assigned to women within the households make *most* of them assume the position of “anti-mining”, differentiating themselves from those who are in favour and get benefited from the mining industries – usually men – and denouncing the creation of a social disruption on the family and communal level. Nevertheless, this research has explored how women, regardless of their sexual orientation, seem to embrace a spiritual connection with nature and their ability to feel her. The parallelism between the extraction of natural resources and the appropriation of women’s bodies becomes clear as women see their territory and soil as the body of the Pachamama and therefore as an extension of their own body. Women embrace this connection with nature to claim and assume their position as defenders of the environment and simultaneously to reappropriate their identity as mothers.

This research highlights the role of women on the frontline against lithium extractivism, their legitimation strategies and their network of activists. At the same time, it explores other “everyday forms of resistance” and performative ways used by women and queers to express their

discontent and rejection. From the data collected, it becomes evident that for some women and members of the LGBTQI+ community their resistance was twofold: against the extractivism and against heteronormativity. LGBTQI+ environmentalist activists have been using the spaces to fight against the lithium mining industry to simultaneously deconstruct homophobic and sexist narratives. Others have seen the opportunity to create their own safe space, where *everyone* is welcome to defend the environment and celebrate diversity.

On the other hand, the Bolivian case of the “Bartolinas” has served to undermine the idea that *all* indigenous women are positioned as “anti-mining”, showing that women might be also corrupted by the mining industry and the political sector. Therefore, this example has dismantled the existence of an unbreakable spiritual connection between women and nature. Finally, through this research, I have argued that essentialist notions of femininity and its spiritual connection with nature used by indigenous women reinforce dualisms and colonial practices of extraction. Nevertheless, these strategies are politically efficient, at least for those only fighting for the environmental cause. Women are heard as legitim due to their special bond with nature and their sensitiveness. However, based on the findings, I believe that an inclusive movement against lithium extractivism that embraces other gender identities, sexualities and persons of colour could be even more useful than using essentialist strategies. Certainly, the frontline of resistance will be considerably larger and dualistic oppressive structures and injustices will be deconstructed. The high reflexivity of my respondents, their initiatives, their fights and their hope for the next generations’ “openness” makes me believe that there is already fertile soil for a future queer movement that opposes resistance against lithium mining extractivism.

11. FINAL REFLECTION

After this research, I believe that a queer environmental justice movement from the South that fights against lithium extractivism, heteronormativity and the patriarchy have the potential to wake up scholars, environmentalists and policymakers to look at the intrinsic oppressive structure behind the so-called “energy transition” and to call for its revision. Western environmentalists should ask themselves whether covering their roof with solar panels and changing their old diesel car for a brand-new electric vehicle is contributing and building a fairer and more equitable world. States and non-state actors urgently need to look further than just simply switch in the energy consumption patterns. This research serves as a critique of the current state of the art. Instead of creating resilience to our own damage – climate change –, we must move away from “doing business as usual” and adopt a new cosmivision based on “good living” or “buen vivir”. In that regard, “green development and economical plans” are reassemblies of the oppressive capitalist system, a form of subsistence for capitalism in order to remain profitable. However, as I said, this setting represents an opportunity to make a real change and create a fairer world. Queer ecology contributes to a freer and more equitable world by deconstructing the present binary oppressive system and by allowing us to think another world is possible. A world that shifts from “Earth as mother to Earth as lover [...] to entice people to have more love of the planet” (Stephens and Sprinkle, 2016, as cited in Gaard, 2017, p. 177).

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13. ANNEX I: QUESTIONARY

The following questions were conducted in Spanish during the interviews. A translation of these questions has been added in this annex for the reader.

Respondents were free to express themselves in their most comfortable way and did not have to follow all the questions strictly. However, this guiding questionnaire has helped me to have more structure during the interview and to gather the needed information for this research.

1) Información básica/Basic information:

- a. Nombre, organización y función. *Name, organization and function.*
- b. ¿Como surge la organización y cuál es su objetivo? *How and when does the organization arise and what is its goal?*
- c. ¿Quienes integran la organización actualmente? *Who is part of the organization?*

2) Litio/Lithium:

- a. ¿Como afecta la extracción de litio tu vida diaria en la comunidad? ¿Y a tus vecinos? *How does lithium extraction affect the daily lives of your community/your life?*
- b. ¿Considerarían aceptar la explotación de litio si esta fuese en otros términos? (Empresa estatal y/o otras técnicas de explotación?) *Would you consider accepting lithium exploitation if this were in other terms? (e.g., state enterprise and/or other operating techniques?)*

3) Comunidad, la mina y actividades socioeconómicas/The community, the mine and socioeconomic activities:

- a. ¿Hay gente de las comunidades que esté trabajando para la mina? *Are there people from the communities who are working for the mine?*
- b. ¿Como es su relación con el resto de los pobladores de la comunidad que se oponen a la minería? *how is their relation with those who oppose it?*
- c. ¿Como describirías las actividades económicas de la población comunitaria? *How would you describe the economic activities of the community?*
- d. ¿Que representa el agua para las comunidades locales? *What does water mean to your local community?*
 - i. ¿Y la tierra? *And your land?*
- e. La cantidad de empresas mineras ha ido creciendo en las últimas décadas. Has visto algún cambio en la población con el pasar del tiempo (Ejemplo: Gente que haya migrado, la salud de la población, ¿problemas de alcoholismo)? *The number of mining companies has been growing in the last decades. Have you seen some change in the population over time? (people who have migrated, population health, alcohol problems, insecurity, corruption, etc)*

4) Género:

- a. ¿Existen roles definidos en los hogares (y fuera de ellos) con relación a las actividades económicas? *Are there well-defined roles within and outside of the households in relation to economic activities?*
- b. ¿Como describirías tu vínculo con la Pachamama? *How would you describe your relationship with the Pachamama?*
- c. ¿Qué relación tienen las mujeres con la Pachamama? *How do women relate to Pachamama?*
 - i. Es esta diferente a la de hombres y/o gente con otras orientaciones sexuales? *Is this different from that of men and/or people with other sexual orientations?*
- d. ¿Dentro de las organizaciones que intentan proteger el medioambiente y detener la extracción de litio qué lugar ocupan las mujeres? *Within the organizations trying to protect the environment and stop the extraction of lithium which position do women occupy?*
 - i. ¿Por qué crees que esto es así? *Why do you think this is so?*
- e. ¿Hay personas de la comunidad LGBTQI+ en el movimiento ambientalista? *Are there members of the LGBTQI+ community in the organization?*
 - i. En caso afirmativo. *If yes:*
 1. ¿Qué roles ocupan? *Which role do they play?*
 2. ¿Por qué crees que esto es así? *Why do you think this is so?*
 - ii. En caso negativo. *If not:*
 1. ¿Por qué crees que esto es así? *Why do you think this is so?*

5) Cierre/End

- a. ¿Cuáles son los desafíos para los próximos tiempos? *What are the challenges for the coming times?*
- b. ¿Consideras que haya algo que limita su accionar como organización? *Do you consider that there is something that limits the work of your organization?*
- c. En caso de querer agregar un comentario, puedes hacerlo. *Feel free to add any information that you consider relevant.*

14. ANNEX II: RESPONDENTS

All of my respondents gave me permission to use their real names, however, I decided not to do this in order to preserve their privacy and integrity. Although many of them are well known activists who even write articles for the local media about lithium mining and the living condition of the communities, I do not think it would be ethical to reveal private personal information from my respondents. The only respondent that was not anonymous was Barbara Jerez, Professor at Bío-Bío University and University of Concepcion (Chile), the simple reason behind that is that she did not talk with me about personal issues that would concern her integrity.

Date	Online Platform	Country	Region	Organization/ Institution	Gender	Name
15/01/2021	Zoom	Argentina	Jujuy	Juntos Podemos por un Ambiente más Sano (JPAS)/ OPSAL	M	-
19/01/2021	Zoom	Argentina	Catamarca	PUCARÁ/OPSAL	W	-
26/01/2021	Zoom	Bolivia	Potosí	Empodérate, Colectivo de Derechos Humanos	W	-
27/01/2021 – 2/2/2021	WhatsApp	Bolivia	Tomas Frias	- Social worker	W	-
27/1/2021	Zoom	Argentina	Jujuy	Juntos Podemos por un Ambiente más Sano (JPAS)	W	-
29/1/ 2021	Zoom	Argentina	Catamarca	Asamblea Ancasti/ Asamblea Antofagasta de la Sierra/ PUCARÁ	W	-
8/2/ 2021	Zoom	Argentina	Jujuy	Indigenous leader – Kolla community	W	-
9/2/ 2021	Zoom	Chile	Biobío	University of Bío Bío/University of Concepción/OPSAL/OCMAL	W	Barbara Jerez Henriquez
10/2/2021	Zoom	Argentina	Catamarca	Feministas Antiextractivistas del Sur	W	-