

“Mineral Extraction in a Plurinational State: Commodification and Resource Governance in the Uyuni salt flat in Bolivia”



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ABSTRACT

The Uyuni salt flat (*Salar de Uyuni*) is located in the Bolivian high Andean plateau, is considered to be the largest salt flat on earth and a natural wonder. Concentrated in its brines, is the largest lithium deposit in the world, along with important reserves of potassium, magnesium and ulexite, collectively known as ‘evaporite resources’. Over the past 40 years, this landscape has been commodified and radically transformed in a continuous process of mining capitalist expansion. What is unfolding in the case of the Uyuni salt flat, however, is not just an economically-driven process of capitalist expansion, but also a transformation of the landscape linked to the value and symbolic meanings attached to the salt flat in an ongoing process of the neoliberalisation of nature.

This thesis seeks to examine how social relations in terms of the material, discursive and cultural dynamics of evaporite mining shape and are shaped by governance frameworks. Based on a qualitative exploration, the research has three main objectives: i) to examine how and under what conditions the Uyuni salt flat has been commodified over the past 40 years (both under a neoliberal and post-neoliberal regime); ii) to analyse how lithium has exacerbated the territorial disputes and resource conflicts at local, departmental and national levels; and iii) to evaluate how and why territory and territoriality emerge as key elements within the process of commodification.

These elements illustrate that commodification is not only a profit-driven process of mining capitalist expansion; but also, and most importantly, an intrinsically political process in terms of the definition of territorial spaces, governance frameworks and the social struggles that emerge as a result. By highlighting the multiple dimensions embedded in transforming and commodifying nature, I present the case of the Uyuni salt flat as a hybrid landscape within which its peculiar social and natural features are essential to understanding the different frameworks of resource governance that have emerged over time.

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LIST OF ACRONYMS

	English	Spanish
ANARESCAPI	Association of Community-based Water Committees or Irrigators' Association	Asociación Nacional de Regantes y Sistemas Comunitarios de Agua Potable de Bolivia
UMSA	San Andres University	Universidad Mayor de San Andrés
ORSTOM	Scientific and Technical Research Office	Office de la recherche scientifique et technique outremer
GNRE	National Management of Evaporite Resources	Gerencia Nacional de Recursos Evaporiticos
UATF	Autonomous University Tomas Frías	Universidad Autónoma Tomás Frías
FRUTCAS	Regional Federation of Peasants from the Southwest of Potosí	Federación Regional Única de Trabajadores del Altiplano Sur
INRA	National Institute of the Agrarian Reform	Instituto Nacional de la Reforma Agraria
COMIBOL	Bolivian Mining Corporation	Corporación Minera Boliviana
CIRESU	Industrial Complex of Evaporitic Resources of the Uyuni's salt flat	Complejo Industrial de los Recursos Evaporiticos del Salar de Uyuni.
COMCIPO	Civic Committee Potosí	Comité Cívico de Potosí
COD	Departmental workers' Confederation	Confederación Obrera Departamental
LITHCO	Lithium Corporation of America	
SOCOMIRG	Collective Mining Association Rio Grande	Sociedad Colectiva Minera Rio Grande SOCOMIRG
SERGEOMIN	National Service of Geology and Mining	Servicio Nacional de Geología & Minería
SETMIN	Technical Service of mining	Servicio Técnico de Minas
ICSID	International Centre for Settlement of Investment Disputes	
MAS	Movement Towards Socialism political party	Movimiento al Socialismo (partido político)

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Chapter 1 INTRODUCTION

The Uyuni salt flat (*Salar de Uyuni*) is located in the Bolivian high Andean plateau; it is considered the largest salt flat on earth and a natural wonder. Concentrated in its brines, is the largest lithium deposit in the world, along with important reserves of potassium, magnesium and ulexite¹, which collectively are known as ‘evaporite resources’.

Lithium – the lightest metal on earth – is an omnipresent commodity in modern life. From mobile phones to electric cars; lithium has become a coveted commodity in high global demand. The extraction and evaporation entail a complex process from brines mostly located in the so-called ‘Lithium Triangle’ in the South American salt flats of northern Chile, southern Bolivia and north-western Argentina². Reserve estimates suggest that Bolivia possesses around 10.2 million tonnes of lithium (equivalent to 38% of global resources)³ (Grosjean et al., 2012; Gruber et al., 2011; Munk et al., 2016).

The Uyuni salt flat – once known as the white desert – was an isolated and largely unused location for the government until 1976. That year, the Geological Service of the United States found lithium in its brines and the ORSTOM mission (*Office de la*

¹ Ulexite is a structurally complex mineral found in brine deposits. Its basic structure contains sodium, calcium, water, hydroxide, oxygen polyhedral and massive boron units. After refining and separation processes of ulexite, boron is obtained. An important compound of boron is Borax, also known as sodium borate.

Borax has a wide variety of industrial uses and it is widely commercialized. The refined borax is used as fertilizer; the dehydrated borax is used in the ceramic industry. The acid borax is used in the mining industry to separate minerals and metals and also is used in pharmaceutical industry. (Quiminet (n.d); Ali, 2013).

Although the most common name for commercial purposes is Borax, in this thesis I will refer to ulexite only as the main resource extracted from the salt flat of Uyuni.

² Chile has been the world’s largest producer of lithium carbonate since 1997, followed by Argentina, China and the US. (Hollander and Shultz, 2010).

³ Chile has 6.300 Mt of Lithium (23% of world reserves) and Argentina has 800 Mt of Lithium (3% of world reserves)(Grosjean et al., 2012)

recherche scientifique et technique outre-mer) began the process of the identification and quantification of evaporite resources (Aguilar-Fernandez, 2009; Espinoza, 2010; Risacher, 1989)

This was the beginning of the long and conflictive process of the commodification and transformation of the Uyuni salt flat. In my analysis, commodification is understood as a process in which a thing, landscape, idea, or being is transformed into a commodity (therefore tradable and subject to exclusive access rights). My research focuses on the drivers and the consequences of the commodification of this landscape over the past 40 years and situates the *problematique* at the intersection of three historical elements within this process.

From 1973 to 2014, this landscape was at the core of social conflicts for its delimitation as a Fiscal Reserve on four separate occasions. A Fiscal Reserve is defined as a demarcated area with exclusive access reserved for the State in order to quantify mineral resources and define a strategy for extraction. In this sense, the Uyuni salt flat as a Fiscal Reserve is part of a changing history in terms of resource governance both in neoliberal and post-neoliberal times, and serves to illustrate the distinct role of the State as mediator and driver of socio-environmental changes in processes of commodification.

In 2008, President Evo Morales declared lithium as ‘a strategic resource and a national priority’. Behind this statement was the most ambitious Bolivian state-owned project of extraction and industrialisation of lithium carbonate and potassium chloride⁴. The lithium project was presented as a successful example of post-neoliberalism (as an economic and political model with a strong involvement from the State in key sectors of the economy and social redistributive policies based on revenues). However, eight years later, lithium has become the centre of controversy due to delays in the different project phases, the technology selected, the environmental impacts and the social

⁴ *Lithium carbonate* is the processed outcome of lithium, it is a colourless crystalline compound with different industrial uses in ceramic and porcelain glazes, pharmaceuticals, luminescent paints and batteries.

Potassium chloride is also the processed outcome of potassium extracted from the brines. It is a white crystalline solid or powder used widely in fertilizers.

dynamics that have emerged around this resource at community, departmental and national levels.

Last, hand-in-hand with the commodification process, the value and symbolic meanings of the Uyuni salt flat have changed for the surrounding communities and have inserted this landscape into a state of territorial contestation. As will be developed further in this thesis, Uyuni salt flat (also known as *Salar de Tunupa*, and *Gran Salar de los Lipez*) is not only the geographic space where a vast richness of lithium is concentrated; but is also a territory that has been in a permanent struggle for the governance of resources since 2000, and where different notions of territoriality have been claimed and constructed over time.

Taken together, these elements illustrate that commodification is not only a profit-driven process of mining capitalist expansion; but is also, and most importantly, intrinsically political in terms of definitions of territorial spaces, governance frameworks and the social struggles that emerge as a result in a continuous process of neoliberalisation of nature. In my analysis, neoliberalisation is understood as a process, with different dimensions and above all, an “environmental project” entailing resource governance reforms (Bakker, 2015, p. 494) with diverse socio-political effects and multiple contradictions (Castree, 2008b).

By highlighting the multiple dimensions embedded in transforming and commodifying nature, I present the case of the Uyuni salt flat as a hybrid landscape within which its peculiar social and natural features are essential to understanding the different frameworks of resource governance that have emerged over time. A hybrid landscape is here defined as one that is part social and part natural, and within which there are different materialities co-existing and co-creating social relations and forms of resource governance. According to Zimmerer (2007, pp. 232-233) the interwoven connections of “bio-geophysical materiality of objects, people, and landscapes” and the multiple discourses and narratives around these interlinkages form the history of a hybrid landscape.

The relevance of portraying the salt flat as a hybrid landscape is important for two main reasons: my argument challenges two common notions of this landscape: either as pristine or as the sole largest world reserve of lithium and my research seeks to provide novel information about how the local people perceive and relate to this

landscape and, most importantly, how this relationship has changed over time. As will be explored in the empirical chapters below, the understanding of this landscape by the local communities is intimately related to different forms of co-production with its materiality.

In this thesis, I examine how social relations in terms of the material, discursive and cultural dynamics of evaporite mining shape and are shaped by governance frameworks. Through the case study of lithium mining in Bolivia, the research has the following objectives: first, to examine how and under what conditions the Uyuni salt flat has been commodified over the past 40 years under both neoliberal and post-neoliberal regimes; second, to examine how lithium has exacerbated the territorial disputes and resource conflicts at local, departmental and national levels; and third, to evaluate how and why territory and territoriality emerge as key elements within the process of commodification.

Lithium, unlike traditional hard rock mining, involves a unique process of extraction: it is extracted from brines in the salt flats through chemical and highly advanced technological processes. The lithium project in Bolivia represents a new type of mining with few prospects of labour opportunities as opposed to traditional mining. This aspect is relevant in my analysis for two reasons: historically in the country, mining and socio-environmental conflicts have been linked to social struggles of the unionised working class (Absi, 2005; Crabtree et al., 1987; Nash, J., 1979). In my case, the salt flat does not share this historic legacy and, as will be developed in this thesis, the different social struggles are strongly entrenched in territoriality. Also, the commodification of the salt flat did not follow a traditional route of extracting and transforming nature through labour relations in capitalist expansion, as a Marxist analysis would suggest, but this process was strongly rooted in different strategies of struggle and negotiation in terms of access to and control of resources of the salt flat from private, local and state actors seeking and relating in different ways to the salt flat and its different materialities: as salt, as ulexite and as lithium.

In my argument, the Uyuni salt flat is portrayed not as a homogenous entity or a mere empty space within which vast reserves of evaporite resources are located; but as a hybrid landscape with peculiar social and natural features that needs to be understood in terms of its materialities. The *salt flat as salt*, represents a landscape within which

different indigenous communities have lived and adapted for centuries and in recent years acquired a monetary value through tourism. The *salt flat as ulexite* is intrinsically linked to a local mining dynamic that was the political platform for different social struggles since the nineties; and the *salt flat as lithium* is the culmination of the commodification process and is radically reshaping this landscape in environmental, social and cultural terms.

This introductory chapter will proceed as follows: first, I provide a background of Bolivia and the recent history of social and political changes. Next, the key features of lithium mining are presented alongside how the specific case of lithium and the Uyuni salt flat has been explored in recent debates. Here some important empirical gaps are identified and set the framework for my research questions. Then, I present the main argument of the research and a summary of the findings of the thesis. The final section provides an overview of the structure and the different chapters of the thesis.

1.1 Background

Bolivia has been, and still is, a mining country with a long and conflictive history of social struggles, high levels of poverty and exclusion and large scale environmental degradation. Over time, it has experienced patterns of boom and bust in terms of mineral development: silver, tin, oil, gas and presently, the potential development of lithium (Crabtree et al., 1987; Humphreys-Bebbington, 2010; Kohl & Farthing, 2006).

Extractive resources⁵ play a significant role in the way the structure of Bolivian society has been formed through its history. In economic terms, the country has a strong dependence on the export of raw materials – gas and minerals – representing 83% of total exports in 2015⁶. In social and political terms, the way resources are perceived and incorporated into discourse is central to understanding the ideologies behind them and the social struggles since colonial times. As Molina (2009) states, in Bolivia,

⁵ Throughout this research, the terms ‘extractive resources’ will use the definition suggested by Bebbington and Bury (2013b) who demarcated them as subsoil natural resources – hydrocarbons and minerals-.

⁶ Estimation based on data from Instituto Nacional de Estadística Bolivia (INE).

natural resources are central to understanding three elements: the different historical periods of the country; the changing roles of the State in regulating and appropriating access to strategic natural resources according to the elite's interests; and the social struggles that sought to change property regimes and distribution of benefits for the people.

Over the last decade, Bolivia has undergone a political process mired in conflict which started with the emblematic water war⁷ in 2000, and continued into the gas conflicts⁸ in 2003 and 2005 and the democratic election of the first indigenous president (Evo Morales) and his left wing political party (*Movimiento al Socialismo* (MAS)) in 2005. The contemporary social movements in these processes are directly linked to protests over the management and distribution of the benefits of natural resources – primarily gas. It is argued that they have contributed to the series of political changes that have promoted the ascendance of indigenous groups as political actors within the State (Bebbington, 2010a; Bebbington & Humphreys-Bebbington, 2011; Perreault, 2008).

Under Morales, Bolivia has undergone a socio-political transformation. First, the implementation of a so-called 'post-neoliberal model' sets a different framework for economic and political domains. As an economic project, there is a redefinition of the State's role in the management of the economy, especially in the hydrocarbons sector since the government successfully renegotiated the terms of contract with the key foreign oil and gas companies in order to capture more revenues for financing social

⁷ In April 2000, the city of Cochabamba exploded into a massive protest over the attempts to privatize water, after days of protests, the declaration of a state of siege and one person killed by the military; the Government was forced to rescind a concession made to the foreign-owned firm Aguas de Tunari. The internationally renowned Guerra del Agua, or water war was seen as a victory against privatisation and neoliberal orthodoxy (Kohl & Farthing, 2006; Perreault, 2006) .

⁸ In October 2003, the Guerra del gas, or 'gas war' started when citizens' groups, the neighbourhood association FEJUVE (*Federación de Juntas Vecinales*) El Alto and other grassroots organisations opposed to the government's plan to export natural gas to the USA and Mexico via a Chilean port. The violence, the repression and the number of civilian deaths in the city of El Alto caused a massive rejection from the population. After several days of conflict, the President Gonzalo Sanchez de Lozada had to resign and fled the country. In 2005 a new wave of protests demanding the nationalisation of hydrocarbons caused the resignation of President Carlos Mesa and the calling for general elections in December of that year when Evo Morales won by a large majority of votes (Crabtree, 2013; Hinojosa et al., 2015; Perreault 2006).

policies⁹. As a political project, Bolivia and Ecuador officially incorporated the indigenous philosophy of *Suma Qamaña*¹⁰ (vivir bien or living well) as the framework that promotes harmonious respect of nature with development (Artaraz & Calestani, 2014; Farah & Vasapollo, 2011) and the recognition of indigenous rights and territories into the Political Constitutions (Arsel & Büscher, 2012; Bebbington, 2009; Bebbington & Humphreys-Bebbington, 2011; Grugel & Riggirozzi, 2012; Gudynas, 2013).

Second, the decentralisation process, which started in the 1990s¹¹, was developed into a framework based on regional autonomy in 2009. The transfer of political and economic power from the central government to autonomous regions and indigenous territories was intended to reinforce democracy and citizen participation. However, the application has proven to be a slow and complex process (Crabtree, 2013). In particular, this type of autonomy has inherent risks that might arise among the interests of central, local and indigenous governments regarding natural resource management (Gustafson, 2009; Tockman & Cameron, 2014).

These processes of political reconfiguration are not devoid of conflicts, however; the tensions among indigenous organisations that previously supported Evo Morales reveal the inconsistencies in the government's 'environmentalist indigenous'

⁹ Morales's Government has three main redistributive policies: i) the unconditional and universal cash transfer program (Renta Dignidad) which is a monthly non-contributory social security program for all people above 60 years; ii) Bono Juancito Pinto, a cash transfer for families with children in public primary school (1st to 6th grades), and extended progressively to cover all secondary school students by 2014. This transfer is paid at the end of each year, after students satisfy the condition of not dropping out of school during the corresponding year and iii) Bono Juana Azurduy, for expectant and new mothers and their infants. All together they represent 1.5 percent of GDP and reach 30% of the population in 2014 (Vargas, J. & Garriga, 2015).

¹⁰ In the Bolivian Political Constitution (2009) (Art 8:1), this philosophy is summarized as follows: "The State assumes and promotes as moral-ethical principles of the plural society: *ama quilla*, *ama llulla*, *ama suwa*, *suma qamaña* (Vivir Bien), *ñandereko* (harmonic life), *teko kavi* (good life), *ivi amaraei* (the earth without evil) and *qhapaq ñan* (the noble way)".

¹¹ With the Law of Popular Participation in 1994, different scales of government (municipal, community and prefecture governments) were recognized by law and had the power to decide and prioritize a part of the national budget according to their local needs. This implied a direct transfer of income from the central government to subnational levels. The new autonomous structure from 2009 increases the power scope of local authorities (Governors) who are now democratically elected in the regions and have the competence to manage local revenue according to the new Political Constitution of 2009.

discourse as it clashes with the *realpolitik* of an extractive development pattern. Under the Morales government, there has been an expansion of mining and hydrocarbon activities in the country and 55% of Bolivia's territory is assigned as hydrocarbon concessions (Bebbington, 2009; Renfrew, 2011).

In a manner, many of the current conflicts in Bolivia can be classified into three categories: (i) conflicts for the agricultural frontier expansion in protected areas, (ii) conflicts between indigenous groups for land distribution, and (iii) conflicts related to indigenous rights, extractive activities and the State¹² (Mayorga, 2010; UNIR, 2012). This new map of conflicts raises important questions about the differences in resource governance in 'post-neoliberalism' in relation to extractive industries (Bridge, 2013; Farthing & Kohl, 2014) and the type of institutional restructuring emerging in State-society relations at multiple scales (Andreucci & Radhuber, 2015).

Despite government efforts and social policies of redistribution, it seems that large sectors of people are discontented with the post-neoliberal process, particularly amongst some indigenous organisations that perceive the extractive frontier expansion as a threat to their livelihoods and their arduously conquered autonomy (McNeish, 2013). The official political discourse revalues the extraction of natural resources as the fundamental driver of economic growth for the reduction of poverty, purposely omitting the negative and devastating environmental and cultural impacts.

Since the early 1990s, mining in Bolivia has undergone a reinvention due to the arrival of transnational companies, the expansion of the cooperative mining sector and now the State retaking an active role in mining. In this regard, Rodríguez et al. (2013) argue that these changes are linked to different imaginaries and discourses around mining that are appropriated and re-appropriated by different social actors engaged in a continuing political struggle: on the one hand, the heroic imaginary of past mining

¹² A good example of this is the "TIPNIS conflict". The TIPNIS (*Territorio Indígena y Parque Nacional Isiboro Sécuré*) is a protected area and communal land of three indigenous groups (Yuracaré, Moxeño, and Chimán) who protested and halted the government's plan to build a highway through their land in 2011 (Sanchez-Lopez, 2015).

social struggles¹³ still fuels a resource nationalism in which ownership of minerals is the idea of sovereignty. Yet in Morales' government, the new mining framework took more than eight years to be approved and many of the mechanisms that consolidated a neoliberal framework of mineral governance still remain in place. Furthermore, in reality, state mining represents only 8% of the total mining production showing structurally complex problems for the *Corporación Minera de Bolivia* (State Mining Corporation - COMIBOL). On the other hand, the imaginary of mining for industrialisation has become central in Morales' discourse. In a way, mining is legitimised as the entry point to modernity, technological knowledge and global insertion and the project of lithium in the Uyuni salt flat is the best example in this narrative, as the following statements illustrate: “the export of raw materials is over, we seek not only lithium carbonate but to produce cars made in Bolivia” (President Evo Morales) (El-Mundo, 2011); and “we are going to invest in lithium, Bolivia will regulate the price worldwide and now we are preparing for that, we are building laboratories, gigantic pools, mega industries to produce lithium carbonate and potassium chloride” (Vice-president Alvaro García Linera, (Cambio, 2016).

This background highlights three main aspects: first, that the lithium project is a key element in the political discourse of Morales government. Second, that the return of the State as the key stakeholder in extractive resources (hydrocarbons and mining) represents an audacious strategy in the economic domain and sets a new ground for resource governance. And lastly, that the indigenous communities are key stakeholders in the political and cultural dynamics around extractive resources according to the New Political Constitution of 2009.

The next section, presents the key features of lithium at global level and in Bolivia.

1.2 Lithium: the gold of the future

Lithium was discovered in 1817 in a laboratory in Sweden. It was named after the Greek word for stone, ‘*lithos*’. This element has multiple uses: in the

¹³ In 1952, the national revolution nationalized the most important private mines of the country and founded the State mining corporation COMIBOL who was the solely institution in charge of all mineral extraction. For thirty years, Bolivian main source of income was mining exports until the collapse of international prices and the end of the Statist model in 1985.

pharmaceutical industry in the treatment of bipolar disorder, in glass and ceramic industries and most notably, for battery nodes in the automobile and electronics industries (INN, 2015; Zicari, 2015).

Lithium is found all over the world in different sources: seawater, geothermic and oil deposits, brines and rock minerals; therefore, there is not a monopoly *per se* in terms of the resource; yet, it is only profitable when sourced from hard rocks and from the evaporation of brines which currently is the main source¹⁴ (Prior et al., 2013). Australia, Chile and China are currently the three largest producers in the world. Distinct from other commodities, lithium cannot be traded on the stock market, yet investors can buy stocks in lithium production companies as well as Exchange Traded Funds (ETFs)¹⁵ (INN, 2015).

A much debated question is the accurate estimate of lithium world reserves. Zicari (2015, p. 26) suggests that world reserves –in its different sources– are 33 million tonnes, yet the sources that are economically viable given the current state of technology represent 40% of total availability. According to estimations, the ‘lithium triangle’ in Bolivia, Chile and Argentina accounts for 55% of the world reserves and 85% of the lithium sourced from brines (see Figure 1.1).

¹⁴ Lithium deposits could be found in: brines and pegmatite, and sedimentary rocks. Brines concentrate 66% of the world’s lithium resource; pegmatite make up 26% and sedimentary rocks make up 8% (Gruber et al., 2011).

¹⁵ The most popular lithium ETF is Global X Lithium (ARCA:LIT). It consists of a worldwide portfolio of companies in the lithium industry that are involved in everything from mining to battery production (INN 2015).

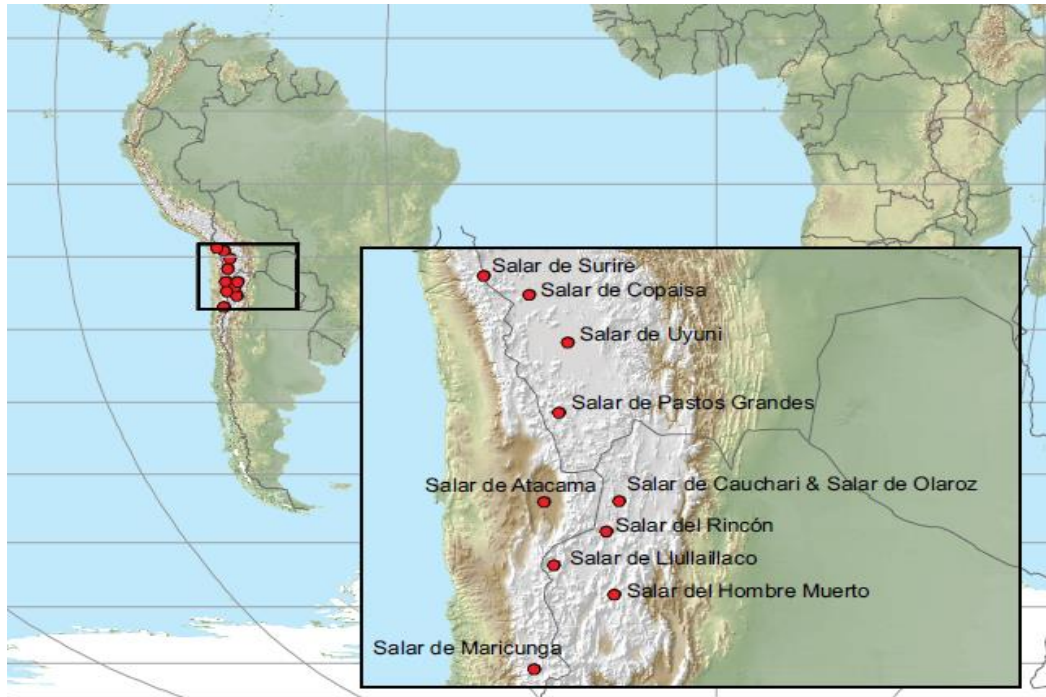


Figure 1.1. The lithium Triangle (Source: (Munk et al., 2016))

In this particular source, the most common method of extraction is through solar and chemical processes; however, this method is expensive and not simple considering it depends on climate conditions such as rain levels and evaporation rates (Hollender & Shultz, 2010). The brine contains high concentrations of evaporite resources (lithium, magnesium, potassium, ulexite, sodium) that emerge once the evaporation of water has taken place. The first step in the extraction process is the perforation of brines under the salt flat's crust by water pumps to deposit them into different pools for solar evaporation. Subsequently, the various elements are separated through the adding of different chemicals. In total, this process takes between 18-24 months (see Figure 1.2). Depending on the concentration levels in the brines, potassium, ulexite and lithium are obtained. In a final step, after lithium has been separated, it is then transferred to a processing plant where lithium carbonate is produced (GNRE, 2013; Moreno, 2013) (details in Annex 1).

It is argued that the production of lithium carbonate from brines is environmentally benign due to the solar evaporation process; however, the extraction of lithium is water intensive and significant volumes of wastewater are generated in the process. Furthermore, most lithium deposits are located in the regions where water is scarce causing a potential source of conflict (Prior et al., 2013; Valle & Holmes, 2013).



Figure 1.2. Phases for the extraction of evaporite resources in the Uyuni salt flat (Source: (GNRE (2012c), 2014))). 1. Composition of the brine, 2. Drilling of the salt crust, 3. Minerals diluted in the brine, 4. Stockpile of scarified material, 5. Building of a trench anchoring system and evaporation pools, 6. Waterproofing of pools, 7. Pumping of liquid brine, 8. Evaporation pools to let liquid evaporate naturally, 9. Whitewashing technique with quicklime, 10. Evaporation pools (In total, 16 pools in the Pilot phase in a surface of 30 hectares)

Until the 1970s, lithium was extracted in modest quantities from hard rock sources located in the US and Australia. At the beginning of the 1990s, the extraction from brines in South America caused a significant impact on the market. By 1997, the Chilean Company SQM (Sociedad Química y Minera de Chile) had an annual production of 9,000 tonnes of lithium carbonate. This generated two main changes: i) initially, prices decreased due to an excess in the supply (from USD 3,000/ton to USD 1,800/ton) but later in 2005, prices tripled to reach an historic USD 9,168/ton in 2016; and ii) the main source of extraction changed from 35% of all lithium sourced from brines in 1995 to 86% in 2007 (Estepa, 2017; Zicari, 2015).

A key driver of the exponential growth in demand was the so-called ‘electro-informatics revolution’ in which lithium became a central component of long-term batteries for different devices¹⁶. In fact, it is estimated that lithium batteries accounted for less than 5% in the mid-nineties but by 2008 already represented 68% of the industry. Despite the spectacularly growing demand of lithium as a commodity, the most important use of lithium is yet to reach its full potential. The use of electric batteries for the automobile industry is seen as the most important future use for lithium as a strategic global resource. Different transnational companies such as General Motors, Panasonic, Samsung, Tesla Motors, Toyota, BMW, Nissan and Mitsubishi among others, are already in the race to produce profitable and efficient car batteries. In this sense, the industrialisation of lithium carbonate into batteries seems to be the key component in lithium supply chain. In the fabrication of electric batteries, lithium as a production input has an estimated cost of USD42 to USD 90 for 7 to 15 kilos of lithium carbonate used in a single car. However, the final value of a manufactured car battery ranges between USD 10,000 to 20,000. (Zicari, 2015).

The massive gap between the value of lithium as a raw material and its added value as a battery can explain the motivation of different actors to control the technological and manufacture monopolies. In this regard, lithium is intrinsically linked to the unstoppable technological race. From satellites, laptops to electric cars, this resource

¹⁶ The new era of telecommunications, internet and smart phones radically changed the importance of lithium batteries. In 1996, only 1,8 tonnes of lithium were used in the mobile industry but in 2005 the demand increased exponentially by 94 times (170 tonnes) (Zicari, 2015: 24).

emerges as a strategic resource; however, this precise link makes lithium dependent on a still non-consolidated technology, like in the case of electric cars and also places this commodity in the permanent competition with other elements to find cheaper and alternative sources of energy.

1.3 The Bolivian dream of lithium

In Bolivia, lithium is located in the Uyuni salt flat in the department of Potosí. Historically known in colonial times as the “richest place on earth” for its silver mines (Absi, 2005), Potosí is now the poorest department of Bolivia (around 59% of the population lives in extreme poverty¹⁷) but paradoxically, it is still one of the most important locations for mineral extraction in the country: 32% of Potosí’s GDP depends on mining and at national level, Potosí department contributes 17% to the national GDP (CAINCO, 2016; Enriquez, 2017)

The Uyuni salt flat is surrounded by three provinces (Daniel Campos, Nor Lipez and Antonio Quijarro) in the southwest region of the department, there are 108 communities, most of them are Quechua but there are some Aymara communities too (Pareja, 2010)¹⁸ (see Figure 1.3). The livelihoods of these communities are mostly concentrated on agriculture – especially quinoa – mining, artisanal salt production and tourism, the latter being, currently, the most important income generating activity. In addition, the nearby communities have suffered the effects of mining activities due to pollution and water extraction from the open-pit silver and lead mine of San Cristobal (Hollender & Shultz, 2010).

¹⁷ Poverty estimation according to the Unsatisfied Basic Needs method based on data of Census 2012 (INE Bolivia).

¹⁸ According to the Census 2001, an estimated of 13% of the population in Potosí self-identified as indigenous, with a predominance of Quechua population (UNICEF, 2012). In the census of 2012, the question of ethnicity was changed and the national results showed a reduction of population self-identify as indigenous (only 41% of population compared to 62% in 2001) (INE, 2013). Due to the criticism and controversy of the question in the Census, there is no available desegregated data according to departmental and municipal levels.

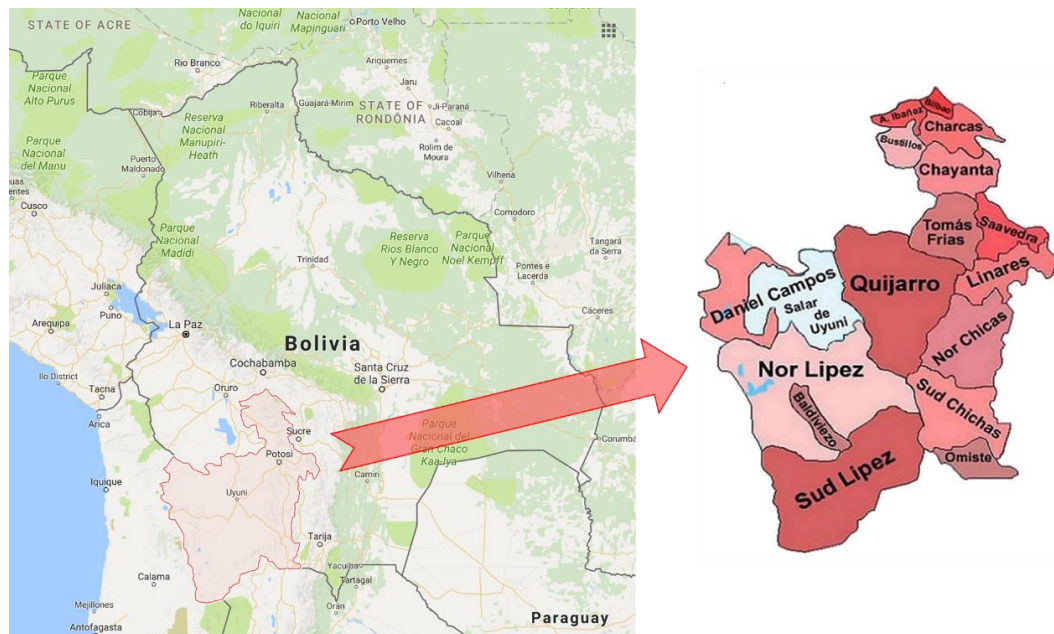


Figure 1.3. Political Map Potosí (Source: Google Maps, and <http://turismoculturalbolivia.blogspot.co.uk/>)

The transformation of the Uyuni salt flat over time is intrinsically linked to a political process involving the reconfiguration of the landscape and territory. First, the delimitation of the Uyuni salt flat as a ‘Fiscal Reserve’ (state-owned lands) since the 1970s was at the centre of the controversy and negotiations among the local communities, the State and private mining actors on four different occasions: the first two delimitations (1974 and 1986), the salt flat and surrounding areas were enclosed as Fiscal Reserve, later in 1998, the Fiscal Reserve was radically reduced to the salt crust perimeter and in 2003, most of the original delimitation of 1986 was restored (Nacif, 2012). According to the new mining law (approved in May 2014), all the salt flats of the territory (nine in total) are fiscal reserves. This has two important implications: first, it secures the State’s monopoly over evaporite resources; accordingly, COMIBOL is the only entity in charge of the management and extraction of mineral resources. Second, the Fiscal Reserve delimitation is more than just a technical or legal matter, behind it there are different social and political struggles in the southwest region. To date, there is little evidence and analysis about the history and logic of the Fiscal Reserve and most importantly, how this spatial delimitation articulated in the commodification process of the Uyuni salt flat.

Second, the southwest region has a complex history of territorial configuration since colonial times; during the Republic¹⁹, it was divided into three different provinces and in 2010, two provinces (Nor and Sud Lipez) were given the legal title of Community Lands of Origin (*Tierra Comunitaria de Origen*-TCO) representing the largest TCO of the country.

In this already intricate scenario, the prospects of lithium have exacerbated local grievances within and between the provinces and the symbolic meaning of the salt flat has changed over time for the local communities. For instance, this TCO legal title is strongly contested by some people for being illegitimate, for excluding some communities from the prospective gains of lithium revenue and is seen as a political agenda pushed forward by the most important peasant grassroots organisation of the region FRUTCAS (*Federación Regional Única de Trabajadores Campesinos del Altiplano Sur*- Regional Federation of peasant workers of the southern high plateau) in exchange for their support to the Government's lithium project (Calla, 2014).

As will be discussed in the following chapters, the motivations and political outcomes of this TCO are far more complex than previously reported by Calla (2014) since at the core of the territorial claims in the three provinces, the Uyuni salt flat emerges as a strategic space for struggles of control of and access to its resources.

1.3.1 The lithium project

In 2008, Evo Morales' government began the ambitious process of extracting and industrializing evaporite resources in the Uyuni salt flat and on a prospective level, in the salt flat of Coipasa in the department of Oruro²⁰. A branch of COMIBOL called 'National Agency of Evaporitic Resources' ("*Gerencia Nacional de Recursos Evaporíticos* (GNRE)") was in charge of the project in the Uyuni' salt flat.

The project has been divided into three phases: the first phase comprised the construction and operation of a base camp and a pilot plant of lithium carbonate, both

¹⁹ The colony was established in 1535 until 1825, when Bolivia was declared an independent Republic.

²⁰ According to the Supreme Decree No. 29496, the Government instructs the creation of a branch within the State Mining Corporation (COMIBOL) for the industrialisation of evaporite resources in the salt flats of the territory and sets an initial budget of US\$ 5,700,000.

located in Llipi Loma; thirty hectares of evaporation pools and a semi-industrial plant of potassium chloride, located fifteen kilometres away from the base camp.

The second phase of the project was the exploitation, at an industrial scale, to produce lithium carbonate (30,000 tonnes/year) and potassium chloride (350,000 tonnes/year) in a total surface of 2,630 hectares in the salt flat. In the case of the lithium industrial plant, a German company (*K-utec Technology*) is overseeing the final design and it is expected to be ready in 2018. The potassium industrial plant has been under construction since 2015 by the Chinese company CAMC Engineering Co (GNRE, 2015).

The last phase is the most ambitious of all; it is projected to produce lithium with added value in the form of car and other batteries. In 2012, a battery assembly pilot plant in La Palca, near Potosí city was inaugurated. The Chinese Government is most likely to become a partner in this next phase and to date, there are agreements for joint research projects with companies from France, The Netherlands and Venezuela (GNRE, 2015).

This audacious State initiative embraces a strong nationalist political discourse against foreign companies and the Bolivian Government is financing 100% of the two initial phases of the project representing an investment of USD 1 billion (Montenegro & Montenegro, 2014). In fact, in the 1990s, previous attempts to undertake prospecting in the region were met with strong resistance from local communities, of particular relevance is the conflict with LITHCO (the biggest transnational extracting lithium at the time) which eventually resigned the concession contract with the Bolivian State in 1993.

Why and under which conditions the community support the lithium project has changed over time and how these are related to a territorial configuration of indigenous territories and new forms of social organisation are key aspects that have not yet been researched empirically.

So far, the lithium extraction has been presented by the government, the media and the public as a neutral project without opposition, determined solely by the economic and technical domains. This apolitical approach is not accidental. It reflects the complexity of interests and power struggles embedded in this resource.

According to the New Political Constitution of 2009, indigenous communities have the right over their territories and the right of consultation regarding activities that might affect their livelihoods²¹. In this case, although there is no formal opposition against the lithium project within the communities, some environmental and academic organisations have raised concerns about the environmental impacts of lithium extraction.

During the fieldwork, some discontent was perceived in relation to the participatory process carried out by the GNRE and its component of ‘community development’ (*gestión comunitaria*). Despite a series of activities attempting to involve residents of the region between 2010 and 2011, it was only in 2012 that there was one formal process of ‘public consultation’ and the presentation of an official socio-environmental evaluation required by law before starting any kind of mining project.

According to Hollender and Shultz (2010) there is significant misinformation about the lithium project in the communities, and a common perception among local people that the only grassroots organisations considered in the project are those with political ties to the Morales’ government and the ruling Movimiento al Socialismo (MAS) political party. In a critical vein, Olivera (2014) suggested the lithium State project is reproducing the old negative features of mineral extraction since it is prioritizing technological aspects and investments in infrastructure without paying enough attention to key aspects such as environment hazards, social dynamics and the participation of subnational actors in conflict prevention and information.

All elements discussed so far highlight three key areas and empirical gaps that will be explored in detail in this thesis: firstly, there has been a process of enclosure and commodification in the Uyuni salt flat over time. This landscape has been transformed from what was perceived at State level as an empty/almost worthless space into a geopolitical centre within which there are territorial disputes and resource conflicts. Yet,

²¹ According to the New Political Constitution, the Indigenous communities have the rights to self-determination and territoriality (Art. 2 and Art.30-II) however, the property of all natural resources belongs to the Bolivians and the State is in charge of the administration according to a common interest (Art. 349). This distinction is fundamental in relation to management of resources. Although, by law, the indigenous communities have rights in their territories, when it comes to the consultation process about extractive industries, the communities lack of a real power to oppose these activities, especially if the State declares them as strategic projects.

far too little attention has been paid to the Fiscal Reserve as a central element to understand the commodification of this landscape and how and why the different resource governance frameworks were negotiated in relation to this delimitation of space.

Secondly, mining of evaporite resources in the salt flats is a key aspect to understanding the process of commodification. Being lithium – with its physical and peculiar characteristics – the catalyst of different dynamics emerging at social, political and economic levels; how and why lithium is embedded in a strong nationalist narrative about State ownership in a so-called ‘post-neoliberal’ model and its leading role in lithium industrialisation for the global markets are puzzling aspects not fully understood; in particular, from the point of view of the surrounding communities of the salt flat.

Third, the communities and the Uyuni salt flat are to be changed forever with lithium mining, nonetheless there is a lack of debate and academic research about the social and cultural impacts this extractive industry will have. Most of the academic research about lithium is focused on the resource availability at the global level and the technical risks and constraints (Davis et al., 1982; Grosjean et al., 2012; Gruber et al., 2011; Kushnir & Sandén, 2012; Mohr et al., 2012; Risacher, 1989). From a broader perspective, there is an ongoing debate about the economic and technical feasibility of lithium industrialisation as a State project in different reports, NGO publications and the media with little emphasis on the communities of the salt flat (Aguilar-Fernandez, 2009; Calla et al., 2014; Hollender & Shultz, 2010; Montenegro, 2010; Nacif, 2012; Ripley & Roe, 2012; Romero, 2009).

In the academic domain, a significant analysis and discussion on the lithium case from a social point of view has been presented by Ströbele-Gregor (2012) and Valle and Holmes (2013). Of particular relevance is the work of Olivera (2014) who explored the risks of lithium mining from two angles: on the one hand, the external risks linked to market constraints in terms of capital, technological knowledge and transnational competence; and, on the other hand, the internal risks related to the governance of lithium and the conflicts emerging in terms of participation and unequal access to information in the communities, institutional arrangements at multiple scales and with a diversity of actors and the historic legacy of mineral extraction of the region as key

variables in the governance of lithium. Another study by Revette (2016) states that the strong nationalist narrative of lithium mining echoes different beliefs and perceptions which are historically contingent and strongly rooted in past experiences of disadvantage and exploitation without benefits for local population. From her perspective, the lithium case proves the so called ‘consent for extraction’ and its legitimacy at local level are based not only on economic rationalities or formal rights, but also, are sustained by conjoined interests of the State and local actors.

While these scholars usefully highlight governance elements and cultural politics for the lithium case, much of the research up to now has focused on lithium as a commodity and not so much on the process through which lithium came to be a coveted resource. In addition, previous studies on lithium have framed the resource as a disconnected element from the salt flat and have tended to focus on lithium ignoring the multiple materialities found in evaporite resources and the different social implications each of these have at local levels.

My research addresses these gaps in the following way: it expands the focus of analysis from the commodity itself to the landscape. In this sense, the Uyuni salt flat is portrayed not as a homogenous entity or a mere empty space within which vast reserves of evaporite resources are located, but as a hybrid landscape (with particular social and natural features) within which there are different materialities co-existing and co-creating social relations and forms of resource governance. Next, my research provides an historical perspective of the evolution of evaporite mining hand in hand with the definitions of the Fiscal Reserve in the salt flat. In each period, the different discourses, political strategies and perspectives about this landscape will be explored to understand how and why the State project of lithium represents the culmination of the commodification process. Last, my research seeks to provide novel perspectives in relation to the symbolic changes of this landscape in the surrounding communities and how notions of territory emerge in response to these changes.

In this sense, the main conceptual question of the thesis is “how do social relations in terms of the material, discursive and cultural dynamics of evaporite mining shape and are shaped by resource governance frameworks?”. Specifically, three sub questions guide my exploration:

- i) What are the material implications of a Fiscal Reserve in terms of the rights to access and control of resources by the State in the salt flat?
- ii) What are the discursive elements behind the transformation of this landscape over the past 40 years?
- iii) What changes are emerging in terms of the perceptions and symbolic value of the Uyuni salt flat for the local communities?

My research is situated within the political ecology tradition and focuses on the process of transformation and commodification of nature under contemporary processes of mining expansion from an interdisciplinary perspective grounded in human geography and anthropology. Two main themes guide my theoretical approach as it will be further developed in chapter 2: resource governance and the forms of access to and control over natural resources in neoliberal and post-neoliberal structures; and the cultural dynamics emerging in the commodification process.

The different empirical puzzles identified in previous sections are explored through a qualitative approach and the ethnographic information collected in the fieldwork. My thesis illustrates that commodification is not a profit-driven process of mining capitalist expansion only; but also, and most importantly, it is an intrinsically political process in terms of the definition of territorial spaces, the governance frameworks and the social struggles that emerge as a result. The case of the Uyuni salt flat provides novel information in relation to the multiple elements interacting in the transformation and commodification of a landscape and I argue that this case should be understood as a hybrid landscape within which its peculiar social and natural features are essential to understand the different frameworks of resource governance that have emerged over time. In this sense, the main findings in this research can be summarised as follow:

The unfolding case of the Uyuni salt flat is not just an economic-driven process of capitalist expansion; but rather on the contrary, the transformation of this landscape is linked to perceptions about its symbolic meaning and is part of a continuous process of the neoliberalisation of nature.

This case exemplifies how scientific research is not neutral and it answers to power structures. In the Uyuni salt flat, the quantification of evaporite resources and lithium, in particular, as the largest world reserve, triggered considerable expectations of revenues and it was the justification for the enclosure of this landscape as a Fiscal

Reserve on four separate occasions with different social struggles emerging as a result. The mining of lithium in the Uyuni salt flat represents the culmination of this commodification process and has a symbolic meaning for the discourse of post-neoliberalism in the government of Evo Morales.

In the commodification process and expansion of mineral extraction, the value and symbolic meanings of the Uyuni salt flat have changed for the surrounding communities and have inserted this landscape into a territorial contestation. This process is not only external and solely concerned with economic aspects; but also, is coproduced by social and biophysical elements that position the salt flat with a peculiar materiality shaping social dynamics in this region.

1.4 Thesis Outline

The overall structure of this thesis takes the form of seven chapters. This introductory chapter has set out the focus of the thesis in terms of lithium mining at the core of a commodification process in the Bolivian salt flats. It briefly described the trajectory of lithium as a key commodity in global trade, the importance of the Bolivian lithium reserves and the socio-political background within which the State initiative of extracting lithium is taking place in the country. The case study of the Uyuni salt flat highlights a commodification process driven by economic, social and symbolic elements and within which the State ownership of evaporite resources exacerbates different conflicts at local, departmental and national levels. The Bolivian case allows an exploration of how spaces are created and enclosed and how the particular characteristics of a mineral resource shape and are shaped in defining resource governance.

Chapter two begins by laying out the debate about nature as a concept and its transformation in capitalism; then, it explores commodification as a multidimensional process with material, social and discursive implications, followed by a discussion on neoliberalisation and the role of the State in socio-environmental changes. The subsequent sections focus on the arguments for production of space and territory and explorations of materiality in commodification processes. The chapter concludes with the conceptual framework that frames this research.

Chapter three discusses the methodological approach and describes the exploration during the seven months' fieldwork in Bolivia. It gives a detailed account of the methods selected, the criteria of selection and the background of the communities visited.

The main body of the thesis (comprising chapters 4, 5, 6) presents the evidence gathered during the fieldwork. Chapter four presents the background of mining in Bolivia and explores the legal frameworks of mining in the neoliberal and post-neoliberal periods. Through an analysis of different types of property rights, the chapter explores the differences and similarities in both periods and highlights the different mechanisms through which mining expansion operates in an ongoing process of the neoliberalisation of nature.

Chapter five further explores the historic process and consequences in defining the Fiscal Reserve of the Uyuni salt flat, highlighting the different social struggles that emerged over time and how the State project of lithium mining came to be a reality.

Chapter six analyses the symbolic changes in the surrounding communities of the Uyuni salt flat and how territorial claims in the region have emerged as a form of resource governance.

Chapter seven gives an account of the main findings of the case study, then it moves on to consider the main theoretical implications emerging from the analysis and concludes with some limitations and recommendations for future research.

Chapter 2 CONCEPTUAL FRAMEWORK

2.1 Introduction

The theoretical points of departure in this chapter are the processes of transformation and commodification of nature in neoliberal and post-neoliberal models and the role of the State in these. How and why nature is transformed into resources is linked to socio-economic relations, symbolic meanings, discourses and different forms of nature's materiality that interplay in this process. There is an important body of literature in the social sciences that recognises the centrality of nature-society relations (from structural and post-structural perspectives) with an emphasis on the drivers and consequences of socio-environmental change.

The central question that guides this research focuses on how social relations in terms of the material, discursive and cultural dynamics of evaporite mining shape and become shaped by resource governance frameworks. In my argument, the Uyuni salt flat is a landscape radically transformed through a process of commodification over the past 40 years; yet, far from being a linear and unidimensional process linked to labour relations and private profit expansion as traditional Marxist analysis suggests, this case shows that commodification is an intrinsically political process with the State at its core and its multiple roles in defining territorial spaces, the resource governance frameworks and the social struggles emerging as a result. By highlighting the multiple dimensions embedded in transforming and commodifying nature, I intend to exemplify the case of the Uyuni salt flat as a hybrid landscape within which its peculiar social and natural features are essential to understand the different frameworks of resource governance that emerged over time.

Notions of nature are defined by different ideologies that influence/facilitate/enable material processes of capitalist expansion. The literature on this point can be divided into three main debates: i) nature conceived as external to society and pristine as in some mainstream approaches in geography, natural sciences and environmental management, ii) nature as social and intrinsically interconnected with humans as

argued by Marxist, and post-colonial geographers and iii) nature as the result of the constant interplay between human and non-human actors as discussed by resource geographers aligned with Actor-Network Theory.

As I explore in this chapter, the different interlinkages between nature's transformation in neoliberal and post-neoliberal models illustrate how nature is in a permanent process of interaction, struggle and redefinition in any given time and place. These elements have much relevance for the debates of the neoliberalisation of nature as an ongoing process and will inform the specific concepts selected to build my conceptual framework to examine the case of the Uyuni salt flat.

My conceptual framework is developed in four stages: first, I introduce the notions of production of nature and production of space as central features in commodification and capitalist expansion. Two key elements to be debated are the abstraction of nature in commodification and the different phases of this process. On this matter, I concur with different critiques made about the limitations of the Marxist perspective on the production of nature, and situate commodification as an inherently political project.

These concepts set the scene to explore the production of space and its link with territory and territoriality. These elements frame my analysis of territory as a dynamic space within which particular visions of nature justify capitalist expansion and commodification. By acknowledging space as a social outcome and intertwined with culture and symbolic meanings I situate the State and societal actors in a relational approach to power.

In the next section, I further examine the role of the State in defining resource governance frameworks in neoliberal and post-neoliberal forms. By emphasising the tensions and contradictions in terms of the role of the State, the argument presents the State as an environmental project itself within a continuous and adaptable process of the neoliberalisation of nature that transcends any ideological position.

The following part further expands the debate of the State as a non-neutral and variable entity. In this vein, the relational approach to the State is presented in conjunction with Gramscian notions of integral State, hegemony and passive revolution. These concepts will be contrasted in terms of their relevance to explain socio-environmental changes and conflicts in neoliberal and post-neoliberal models.

The fourth section reviews the post-structuralist perspective in relation to nature-society relations. By focusing on material culture, the argument presents the centrality of materiality, co-production of nature and hybrid landscape, followed by some relevant perspectives in relation to mineral extraction.

The concluding section of the chapter summarises the tensions existing in the literature and how the debated theoretical perspectives enable my research exploration on lithium extraction and the commodification of the Uyuni salt flat.

2.2 The point of departure: notions of nature and space

The notions of nature and space are neither neutral nor given. Both are deeply interlinked, context-dependant and are materially and discursively produced in capitalism.

The conception and transformation of nature and space have long been of great interest in a wide range of academic fields. The ontology of nature can be situated at the heart of the philosophical understanding of critical realism or constructivism²². In human geography and environmental sciences, the dramatic transformation of nature in the Anthropocene era²³ is a major area of interest for both: the biophysical changes; and the socio-political implications behind the idea of the domination of nature in capitalism.

Conceptions of nature are not universal, but have different understandings and meanings and material and spiritual connotations. Williams (1972) noted that ‘nature’ is rooted in multiple meanings that answer to a particular social order either to defend or promote it. Expanding on this idea, Smith (2008) highlights that nature is a product of its own evolution as well as the product of history. Within these multiple layers of

²² Critical realism states there is a reality that exists independently of perceptions and theories whereas constructivism affirms reality is not objective, and our understanding of it is deeply influenced by assumptions, experiences and ways of interaction (Maxwell, 2012).

²³ The Anthropocene is a proposed period of time in history where human activities started having a significant impact on the Earth's geology and ecosystems. Some authors argue the advent of the Industrial Revolution around 1800 provides a logical start date for the new epoch (Steffen et al., 2011).

meanings, emerge a duality that is far from absolute: nature conceived as “external”, a thing, pristine; or nature as “universal”, a sweeping force controlling things in the world including humans (Ginn & Demeritt, 2008, p. 301)²⁴.

By drawing on nature’s duality, Smith (2008) argues that behind the notion of external nature, a new duality between society and nature emerges and consolidates the idea that nature ‘is out there’ ready to be conquered, mastered and manipulated; in this sense, scientific research and the scientific method are set to provide the mechanisms and forms of abstraction from the social context that mediate a labour process through which human beings transform nature into commodities²⁵.

In the conception of a universal nature on the other hand, biophysical characteristics are general rather than particular (thus, general theories about nature as elements can be elaborated) and nature encompasses everything including humans as part of a wider global ecosystem.

Following this line of argument, Smith states the dual conceptualisation of nature is not a mere ontological question but, rather, a material and political one, since it legitimates capitalism as the natural form of social organisation. In this sense, Smith’s perspective has two key elements to consider in my analysis: it positions capitalism at the core of nature-society relations (Ekers & Loftus, 2013) and nature and space are produced through uneven patterns of spatial relations shaped in material and ideological terms (Prudham & Heynen, 2011).

The notion of space is central to the debate about nature-society relations. The idea has evolved from space as absolute, neutral, unproblematic; a container or receptacle of things and social processes (Harvey, 2006; Kelly, 1999) to a relative spatial conception in which there are multiple relations between what Smith (2008, p. 95) calls “pieces of matter and material events”.

²⁴ A third notion of nature to be noted is “intrinsic nature” as a concept that sees nature as essential characteristics of a thing (Ginn & Demeritt, 2008); as a fixed and unchanging element that has been applied to both: external nature and to universal nature (Castree & Braun, 2001).

²⁵ In the so-called ‘technocentrism’ there is a strong belief that technology has the power and the ability to control nature and arguably, solve environmental problems (McGinnis, 1994).

From a structuralist perspective, there are two epistemological approaches to analyse the dualism of ‘nature and society’ and ‘natural and social spaces’: either as interacting but separate domains, or as a reflection of social structure. In human geography, this dualist perspective was criticised based on its positivist ontology and its arguable objectivity. Along these lines, there are two main critiques: one that expands on the idea of geographical space from an objective structure to incorporate the “social space” as the primary object of study. The other one more aligned with a post-structuralist standpoint, seeking to reconcile that both objectivity of geographical space and social forces simultaneously co-create; in other words, “the concern is not to deny the objectivity of geographical space but to explain it as simultaneously objective and the product of social forces”. The example provided by Smith of the spatial organisation of the capitalist city (with banks and transnational buildings at its core) in contrast to the feudal city (with the church at its core) illustrates that space has a specific (objective) form of organisation but always in articulation with a particular historical logic and societal structure (Smith, 2008: 105-106).

In this sense, notions of nature and space are far more complex than the dualisms of ‘natural and social spaces’ and ‘external and universal nature’. In what Smith calls the ‘production of nature’ in capitalism, nature is simultaneously transformed and produced, radically changing the social relations. Although the idea of the appropriation of nature is not exclusive to capitalist society, what makes it distinctive is that only in capitalism, nature is produced “within and through” capitalist conditions in a metabolic exchange between the human and non-human (Ekers & Loftus, 2013, p. 236) and space becomes a commodity itself, defined in its geophysical boundaries, discursively legitimized and interlinked to the transformation and production of nature.

These initial theoretical notions introduce the first concepts to be developed in my conceptual framework: commodification is the key mechanism of capitalist production, in this process, nature is not only seized and transformed through social relations but also produced and reconstituted into new spatial configurations. These elements will be further developed in the next sections of the chapter in relation to the State in neoliberal and post-neoliberal models.

2.3 Commodification, production of nature and the State

Jackson (1999) defines commodification as a process of expansion of the commodity status to things that were not previously commodified. From a Marxist perspective, the modern-day relation with nature originates from the social relations of capitalism. The exchange value is socially transformed into commodities and the appropriation of nature is socially mediated by class structures. The more complex the capitalist mode of production gets, different institutions facilitate and regulate the exchange and production of commodities (Smith, 1990). In other words, the production of nature is not the unique result of relations of production, but is also the result of a set of social relations and institutions that frame capitalist production.

Smith's main theoretical contribution is bringing nature into a Marxist analysis of the functioning of capitalism: Marx examined the means of production and focused on labour exploitation, but he neglected the way in which the resource base is also essential for capital accumulation – and not just in its raw state but transformed and organised in ways that facilitate the process²⁶ (Marx, 1887).

Although Marx did not specifically elaborate on a construct of nature *per se*, his analysis pointed to the process through which nature and human labour become entangled. This process has two key features: it is intrinsically contextual, providing a dynamic vision of nature and history (e.g. the transition from feudalism to bourgeoisie and the transition from bourgeoisie to socialism); and it is metabolic in that “nature is mediated through society and society through nature”; in this sense, nature is rather seen as an object (external) and the main force behind it is labour in the production process (Smith, 2008, p. 33).

On this point, Smith provides an alternative perspective to the dualism of nature-society and makes an important link of simultaneity between labour and nature in capitalism: labour radically transforms nature and in the production of nature, social

²⁶ Marx states: “Labour is, in the first place, a process in which both man and Nature participate, and in which man of his own accord starts, regulates, and controls the material re-actions between himself and Nature. He opposes himself to Nature as one of her own forces, setting in motion arms and legs, head and hands, the natural forces of his body, in order to appropriate Nature's productions in a form adapted to his own wants. By thus acting on the external world and changing it, he at the same time changes his own nature” (Marx, 1887, p. 127)

relations are also transformed. Based on a similar reasoning, Ekers and Loftus (2013, pp. 235-236) argue that through the conceptual and physical engagement of labour with “parts of nature” a new nature is produced, therefore they argue it is the “ontological key” to understanding how nature is produced and commodified.

The existing accounts by Smith and other contemporary Marxist analysts (see Castree, 1995; Duncan & Ley, 1982; Harvey, 2001; Peet, 1975) are criticised for their narrow focus on labour relations as the main force interacting in commodification and the strong emphasis on commodities. Some important assumptions are relevant to discuss here: first, as part of a structuralist tradition, this framework looks for the structures behind a phenomenon, in this sense, the debate on the production of nature and commodification is strongly rooted in the assumption that both phenomena have generic features that can be understood and applied to all contexts. Second, in a purist Marxist analysis, commodification is seen as a linear process through which nature is transformed and produced due to economic forces. Furthermore, according to Hicks and Beaudry (2010), in the Marxists’ materialist conception of history, objects and nature as commodities have been located as complementary elements in answering questions from an economic and social deterministic perspective. Third, commodification is assumed as solely a process driven by private capitalist logic.

In this sense, the different authors and critiques emerging not only highlight the strong assumptions behind structuralist analysis, but also expand on new elements to be incorporated into this epistemology.

Prudham (2009: 124-125, 128) for instance, suggests debating the notions of commodity and commodification beyond solely the production or exchange features. First, a generic notion of commodity defines it as anything that is exchanged or is exchangeable; however, the sole focus on exchange misses the fact that commodities emerge as part of a process in which things are transformed and inserted into a monetary circuit and linked to a market. This process entails a “sociological transformation” that is a feature of capitalism. Second, commodification could be understood as interlinked processes of production, consumption and reproduction of goods and services through exchange. In this sense, commodification is a dynamic and transformative process that seeks spatial expansion for capitalist forms creating

specific forms of socio-natural metabolism so “nature is appropriated, made and remade”.

In his critique, Castree (2004) points out that there is a lack of clarity in relation to what a commodity is, and its relation to commodification and commoditisation which in many cases are treated as synonyms thereby emptying their substantive content to reflect a multiple phenomenon²⁷. The logics behind the interchangeable use of commoditisation and commodification are not a minor detail. Both terms are related but different in their significance. Castree (2003, p. 277) argues that commoditisation is the extrinsic assignation of a “commodity status of a thing, object, idea, creature, person”. Conversely, commodification is a process in which the thing to be commodified is transformed by and simultaneously affects the process. In other words, commodification is a process transcending the commodity itself.

Appadurai (1988, p. 13) argues that a commodity from a purist Marxist perspective is an intended product for exchange, the representation of a capitalist mode of production within institutional, economic and sociological conditions; however, this conception has a positivist ontology that reduces the diversity and complexity of commodities to mere things in capitalist exchange. In this sense, he further argues that “things can move in and out of the commodity state”; in other words, commodities are not static products, they circulate in a commoditisation process and their commodity status depends on the juncture of contextual, cultural and social elements.

In a different but related perspective, some elements of the Marxist/structuralist analysis are expanded to describe commodification as a process not only confined to nature and resources but to all social life (cultural, political, biological and spiritual), which is mediated through and by the market, what Polanyi called the ‘embedding of social relations’ in the economy (Polanyi, 2001; Prudham, 2009; Watts, 2008). In a similar vein, Heynen and Robbins (2005) discuss commodification as an ongoing process rooted in capitalist structures and backed up by changes in institutions and

²⁷ Commoditisation reflects the transformation of something into a commodity, whereas commodification is the assignment of a commercial value to something previously valueless.

laws in order to expand access to common resources, to promote enclosure and privatisation through systems of property rights and governance and to implement market systems and logics of efficiency to solve problems of scarcity of key resources such as water. Although these changes actively promote private interests, there is an inherent contradiction between the strong emphasis on reducing to minimise State “interference” (i.e. via regulation) but at the same time, privileging the State to create and defend these mechanisms of commodification (McCarthy & Prudham, 2004, p. 276).

The ambiguity in relation to the role of the State role capitalist expansion shows that processes of commodification are not exclusively linked to private/profit driven logic. As Prudham (2009) rightly emphasises, State capitalist forms also entail processes of commodification either by state-owned companies or via alliances between State and private actors. In addition, commodification is far from a linear or unidimensional process. As Castree (2003, pp. 279-283) identifies there are different inter-related phases to be named: privatisation, alienability, individuation, valuation and displacement. I offer a succinct description of each: *privatisation* is understood as the assignation of more or less exclusive rights to an owner. *Alienability* refers to the ability of a commodity to be exchangeable in the market. *Individualisation* is the act of separating a thing from the context. *Abstraction* is the classification and distinction of a commodity from its initial state. *Valuation* denotes the value assigned to commodities mostly for-profit accumulation and *displacement* refers to the spatiotemporal separation of commodity producers and commodity consumers in capitalism.

In this sense, commodification is a process that situates the State at its core in different forms. The departure point for the argument is Marx and ‘primitive accumulation’ as the precondition for capitalism through private wealth creation. In his critique, contrary to Adam Smith’s conception of ‘original accumulation’ portrayed as a peaceful process of individual diligent work that builds up wealth, Marx argues that the emergence of capitalism is far from “idyllic” and is not sustained on “economic means alone” but also through “extra-economic means” sustained and backed by the State. In this sense, the State is seen as the power behind expropriations and differentiated rights of access to resources, but land in particular, and as the active agent of capital accumulation (Byres, 2005; Harvey, 2003). For Bridge and Perreault

(2009, p. 482) the state apparatus as extra means for regimes of accumulation has a dual essence: it serves to mitigate contradictory socio-ecological relations emerging from the commodification of labour and nature via administrative and legal structures and also, the State is a site of interaction and negotiation between a variety of actors.

Taken together, these elements are useful in my analysis to illustrate that commodification is a process that transcends the commodity itself and situates the State as a driver and mediator of socioenvironmental change (Rossotto, 2014). A first point to be emphasised here is that a critical notion of external nature prone to be commodified is highly relevant to exemplify assumptions about the salt flat of Uyuni for the State, mining actors and the communities. A second element focuses on how the commodification of the salt flat is closely – but not exclusively – linked to economic dynamics, in particular, at the local levels of the communities surrounding the Uyuni salt flat.

Other major points to be highlighted here relate to the limitations identified in the structuralist analysis in relation to a commodity fetish and the framework of commodification as a homogenous process solely driven by private capitalist logic. In this sense, the case of the Uyuni salt flat illustrates that it is not lithium *per se* that is the main commodity triggering change in social relations but the whole landscape that has been abstracted and valued in different forms. Second, although the phases identified above by Castree are illustrative of the multiple processes operating in capitalist commodification, they are neither sequential nor exclusive to private capitalism. In my analysis, the different points in time in which the salt flat was enclosed reflect different routes through which commodification took place beyond the solely private profit logic of capitalist extraction.

In my argument therefore, commodification is understood as a process located at the core of capitalist forms of production. This argument has three relevant aspects: first, it seeks to expand capitalist relations and the commodity status to new and unexplored spaces. Second, it examines processes of constant change through the articulation of material, discursive and symbolic elements; and third, it links the State to particular forms of environmental or resource governance as the frameworks to transform and appropriate nature and to reconfigure nature-society relations with and through the State.

The next section presents the key ideas in relation to capitalist expansion and production of space.

2.4 Production of space, territory and territoriality

The concept of production of space has been widely debated in geography (in particular from a Marxist perspective) as well within philosophy, science and social theory (Unwin, 2000). Originally the term is attributed to Lefebvre (1991) who argued that space is not an absolute property but a social product based on values and meanings that affect and shape spatial practices and perceptions. In Lefebvre's argument²⁸, the production of space is linked to the spatial process of capitalist expansion, with the reproduction of social relations of production (Smith 2008) and the notion of scale (as a neutral hierarchical division of the physical space) being critically questioned as space is socially produced and scales are reproduced in material power relations (Kelly, 1999). Harvey (2001) from a similar perspective, has explored the intricate relationships between space formation as an expression of capitalism with a particular emphasis on urban development. Two elements are relevant here: the notion that space serves as a tool of thought and action, in addition of being a means of production and control; hence, a means of domination and power. Harvey (2001: 213) for instance, links production of space to the State as the "primary site" for geographical knowledge and geographical configurations in order to enhance and maintain its powers and forms of territoriality.

Territoriality was traditionally linked to spatial enclosure, nation-state formation and geopolitical strategies of control and defence of territorial arrangements (Brenner & Elden, 2009; Klauser, 2012; Spíndola, 2016); yet, this particular interpretation reduces territory and territoriality to a State-centred domain, ignoring the complexity of other actors and how structures are created and changeable. In this regard, territoriality should be understood as the strategic use of territory for both: defining and dividing

²⁸ In his perspective, space is defined by a "multitude of intersections, each with its assigned location" (Lefebvre, 1991: p. 33) and distinguishes three categories: i) the spatial practice (defined as the daily interactions and relations contained in the social space where society members relate and perform specific roles); ii) the representations of space (linked to the relations of production and the order imposed by them in society relations) and iii) representational spaces (as the complex symbolism, codes and signs through which the physical space is described and overlaid).

forms of the organisation of people and boundaries; and also, for organizing and legitimizing forms for the exercise of power. Territoriality as the practice of power can have different mechanisms: by popular acceptance of classifications of space (e.g., “ours” vs. “yours”), through discourses that create a “sense of place” (in other words, territorial markers and boundaries evoke meanings), and by enforcing control over space (by surveillance and legitimation) (Badie et al., 2011, p. 2590) .

Hand in hand with the debate on territory, the concept of territoriality has been broadened to incorporate a relational character and issues of power in social relations. In a more post-structuralist view, Raffestin and Butler (2012) define, for example, territoriality as the ensemble of relations that in fact constitute the territory and how these relationships are mediated through different social, spatial and temporal scales (Klauser, 2012). In a similar perspective, Delaney (2005) further expands the idea that territory does not refer to limits of space, but the meanings attached to it that define difference, access, exclusion; in other words, *territoriality* as the social relationships through which power operates.

In this thesis, the term ‘territoriality’ will be used in its broadest sense to refer to the subjective meanings attached to a territory and the social relations through which power, culture and identity are in constant interplay to define spaces and the governance of resources.

In the debate around the production of space and territory, shared meanings and worldviews inform a particular definition of space and culture. By shared meanings I refer to the anthropological approach that defines culture as a system of shared meanings and symbols passed through generations in order to make sense of the surrounding world (Sorrells, 2015). In relation to territory and territoriality, cultures (plural) are essential in concretizing relationships between people and land; ultimately, these relationships become categories of access rights and exclusion of certain groups as Gilberthorpe (2013) states in her analysis of culturisation²⁹ in the context of oil extraction in Papua New Guinea. In my case, this link is particularly relevant to explore

²⁹ Culturalisation is defined as process of formal identification and documentation of a permanent unit as a “culture” for administrative purposes and benefits (Gilberthorpe, 2013, p. 262).

how particular perspectives related to territory emerge and articulate into narratives of territoriality in the communities surrounding the Uyuni salt flat.

The critiques to production of space are diverse and mostly focus on the limitations of Marxist analysis to explain contemporary capitalism beyond an economic determinism shaping physical and social spaces. Notably, critiques point to an abstract space of capitalist society as a homogenous social organization that nowadays cannot longer explain the complexity of globalization and the relativization of scale (Jessop, 2008) and the assumption of capitalism as an a-spatial system that produces geographical landscapes as “by-products” rather than as central elements in a dynamic system (Castree, 2009, p. 32). In this vein, Lefebvre’s conceptualisation of space is also criticised for being a pre-conceived meaning and at the same time, seeks to create a new meaning through the production of space. This ontological tension points out to an objectification of space as a social and political product closed and static, determined ultimately by the capitalist rationale (Unwin, 2000). Most importantly for the gaps to be addressed in my analysis is the critique about an external nature not only passive but damned in production of space. In Lefebvre’s words: “nature is now seen as merely the raw material out of which the productive forces of a variety of social systems have forged their particular spaces...nature is resistant and infinite in its depth but it has been defeated and now waits only for its ultimate voidance and destruction” (Lefebvre, 1991:31). This notion of nature not only subjugates nature to unstoppable capitalist forces but also assumes it has no agency in capitalist expansion.

Having defined the key ideas and limitations of production of space, let me highlight two important elements that will be further developed in my analysis: first, at the core of the transformation and production of nature, commodification is the process that simultaneously reshapes social relations and spaces. As Smith (2008) argues, societies produce spaces and at the same time live, act and work in them. Second, spaces and nature are mutually constitutive, what gives a place its specificity “is the temporary constellation of relation as a time-space in relation to the natural world” (Massey, 2005, p. 131). In this respect, spaces are dynamic, shaped by and reconstituted by heterogeneous relations and social processes in constant struggle (Murdoch, 2005, p. 4). Precisely from a relational conception of space, territory emerges as a functional form of governance and an important concept in my analysis because the limits of territory are not given but generated from agreements resulting from the power

contestation of different actors, in particular with and through the State as it will be further explored in relation to resource governance in section 2.5.

Both elements (commodification and territory) are relevant in the case of the salt flat to illustrate how the commodification of the salt flat came hand in hand with particular spatial delimitations over time. In this sense, territory emerges as a two-fold concept: the tangible demarcation of space within which biophysical elements of nature exist, but at the same time, territory is the social space within which social relations, forms of access and control and particular worldviews (in the forms of cultures and identity) shape arrangements of extraction, transformation and remaking of nature.

Most importantly, my conceptual framework seeks to address a gap in relation to spatiality and production of space as political outcomes that are essential in the understanding of socio-environmental changes and resource governance in mining. In this regard, the case of the Uyuni salt flat and the territorial arrangements and contestations over time will shed light on the links between frameworks of access to mineral resources and the relational approach to the State.

Having defined the links between commodification and production of space, the next section debates the links between resource governance, socio-political models for accessing and transforming nature and the State.

2.5 Neoliberalism, Post-neoliberalism and Resource Governance

So far in this chapter, I have discussed commodification as a process with different implications for social relations in terms of labour organisation and different critiques that point to framing commodification as a multidimensional process in social, political and symbolic terms. Now I will move the debate to environmental or resource governance and the interlinkages with the expansion of capitalism in its neoliberal and post-neoliberal forms.

Governance is an entangling concept in social science debate with different meanings and analytical categories. In a simplistic view, Heynen and Robbins (2005) define governance as institutionalised political negotiations through which capitalist societies are negotiated.

Far from reducing the concept to institutional arrangements the term ‘environmental or resource governance’ has a broad spectrum of analysis, from a managerial apolitical perspective applied to environmental problems, the concept has expanded to the politics of resource governance in a critical questioning of what is to be governed, by whom and to what ends. Within this perspective –broadly explored in political ecology– governance is linked to spaces and scales as social products and the hierarchies embedded in production and the power relations operating in these structures (Bridge & Perreault, 2009).

Considering the interdisciplinary debate of environmental/resource governance in human geography, sociology and political sciences, different elements have been combined in the concept. For instance, Himley (2008, p. 435) expands environmental/resource governance as a construct focused on two main aspects: i) the production and consumption of particular resources and ii) as a category to explore “multiple and overlapping organisational, institutional, and epistemological systems through which access to natural resources is structured/negotiated and decisions regarding resource use and environmental management are now taken”. Similarly, Perreault (2006) expands the concept from legal frameworks and institutional arrangements to practices through which those decisions are endorsed. In a parallel discussion, Liverman (2004) argues that environmental governance is dynamic and reflects the changes in nature-society relation as the commodification process takes place. Parenti (2015), on the other hand, situates resource governance and the property rights frameworks at the core of the link between the State and production of nature in capitalist expansion.

From these elements, it is important to highlight that resource governance is central to understanding why and how socio-environmental changes and conflicts evolve and what the political implications of these changes are within commodification.

While in a variety of works, the terms ‘environmental’ or resource governance’ are used interchangeably, in this thesis I will refer to ‘resource governance’ and will use the definition suggested by Baud et al. (2011), who state that resource governance comprises dynamic formal and informal practices constantly contested and reshaped in complex contexts of social, political, economic and environmental change at local, national and global levels. In this vein, Bridge and Perreault (2009) differentiate

resource governance as a specific type of governance that problematises the role of institutions (formal and informal) in influencing different property regimes (in terms of environments and resources) and Himley (2008) states that resource governance is an organizing concept and priority arena of research for nature-society relations under neoliberal forms of access and control over resources.

In this respect, resource governance is an important entry point for the body of literature focusing on neoliberalism within the Marxist political ecology debate (Castree, 2008a; Peet & Watts, 2002; Renfrew, 2011). As an ideological and political process, neoliberalism raises a series of political and ecological contradictions in the process of reconfiguring social relations with nature (Heynen & Robbins, 2005). Neoliberalism is linked to the contemporary processes of capital accumulation and dispossession³⁰ (Harvey, 2003, 2006; Himley, 2008) and many studies have focused on the impacts of neoliberal reforms particularly in developing countries (see for example, Harris and Seid (2000); Spronk and Webber (2007)) .

In my analysis, neoliberalism is understood as a “project of reorganizing capitalism at multiple scales” (de Freitas et al., 2015); rooted in a market logic of private maximization of profit, market responses to regulatory problems and the commodification in all aspects of social life (Brenner et al., 2010). From this definition, neoliberalism is an economic and ideological project strongly focused on resource governance and the instrumentalizing and redefinition of the State to implement structures and processes in nature-society relations.

Although neoliberalism and its impacts is a much debated topic in critical geography, McCarthy and Prudham (2004) highlight important gaps in the debate, for instance, neoliberalism has been explored from the policy point of view and not as an environmental project, in which ideologies, discourses and notions of power are central in the reconfiguration of resource governance and the tensions emerging as a

³⁰ As Harvey (2003, 2005) observes, the commodification of many of the fundamental elements of life including: labour, nature, forms of social existence, culture, tradition and the physical reproduction of the species, among others is a key element in the dynamics of capitalist accumulation. The term “accumulation by dispossession” relates to the expanding processes of commodification and enclosure of non-capitalist elements of life for the surplus production and reproduction. A central issue in this concept is how the right of ownership changes in the course of accumulation and what forms of exploitation are derived from it.

result. In a similar vein, another important critique focuses on framing neoliberalism as a single-ended and homogenous phenomena. Castree (2008a), in this regard, rightly argues for an understanding of ‘the neoliberalisation of nature’ as a process produced through different practices, with differentiated effects and under different logics. Brenner et al. (2010) expand this notion as a geographically uneven process, operating at different spatial scales worldwide. Similarly, Heynen and Robbins (2005, p. 6) question the idea of neoliberalism as a “monolithic thing” rather than as a diverse and interlinked “set of practices that reflect a more destructive form of capitalism”; thus, their argument seeks to transcend an ontological category and position the idea of neoliberalisation as an unnatural and political process. By transcending the debate from neoliberalism to the neoliberalisation of nature, the political ecology literature has placed emphasis on capitalist expansion as an adaptable and permanent process operating through different forms of governance, privatisation of natural resources, enclosure and exclusion of common resources and processes of commodification (Heynen & Robbins, 2005).

In the specific case of Bolivia, the academic research has paid particular attention to anti-neoliberal social movements since 2000, in particular the ‘natural resource wars’ over water and natural gas. The relationship between tactics of resistance to neoliberalism and the forms of social organisations that emerged around the privatisation of natural resources after 2000 has been investigated by Kohl and Farthing (2006); Spronk and Webber (2007) and Crabtree (2005) among others. Other studies have considered the relationship of environmental governance and resource rights at the core of social protests and politics in the Bolivian case (Haarstad, 2012b; Perreault 2006, 2011; Perreault & Valdivia, 2010; Spronk, 2007) . These existing accounts of environmental governance in neoliberalism highlight both: the structural factors that defined the struggles at the economic, political and social domains; and the particular historical context in which social movements emerged and resources such as water and gas became politically and ideologically important.

Considering the belligerent resistance to neoliberal policies in Bolivia, when Evo Morales took power in 2006, the expectations of a new and different model were high and branded the ‘new Latin-American left’. In this sense, the so called ‘post-neoliberal model’ sets a different scenario for resource governance and is characterised by a new State leading role in extractive industries and ownership of natural resources, broader

public investments, a set of social policies and cash transfer programs to segments of the population aimed to redistribute revenues and to legitimise the expansion of extractive industries.

To date there has been little agreement on what post-neoliberalism means for resource governance or as a conceptual construct. Yates and Bakker (2014) argue much of the conceptual debate about the transformation and transitions in post-neoliberalism is imprecise, functionalist and non-linear; mostly characterized as a utopian project (strongly rooted on political and academic discourses) and a political project (grounded on practices such as state intervention and control in decision making, institutional reforms, increased social control over market functioning among others) seeking to overcome neoliberal heritage. Some define it as an “ambiguous idea with few distinctive practices that can be defined” (Haarstad, 2012a, p. 6). Whereas others discuss post-neoliberalism as a governance project seeking to redefine the identity of the State within an export oriented economy based on extractive resources (Arsel, 2012; Farthing & Kohl, 2014; Grugel & Riggirozzi, 2012). Other authors argue that post-neoliberalism is more of a political project than an economic one and highlight the strong narrative of nationalism around extractive resources (Bebbington, 2011; Bebbington & Humphreys-Bebbington, 2011; Kohl & Farthing, 2012).

In my conceptual framework, I concur with the critique of Yates and Bakker (2014:64) about the inadequacy of representing post-neoliberalism as a “the binary other” of neoliberalism; considering neoliberalism itself is a complex and variegated political, economic and ideological project. In this regard, I borrow the definition of Ruckert et al. (2017, p. 1584) who argue post-neoliberalism is not an identifiable policy regime but rather a tendency to break with “certain aspects of neoliberal policy prescriptions”, for instance: in terms of economic policy, the State is the central actor in the economy, reversing privatisation policies and re-nationalising major extractive industries; yet, as the Bolivian case illustrates, this role is not homogenous in all extractive sectors, particularly in mining. Most importantly, beyond a nationalist rhetoric about natural resources, the same notion of nature as external and prone to be seized by capitalism maintains, is conceptually reconceived as the central pillar in development and is discursively legitimized at grassroots’ levels.

The existing accounts on post-neoliberalism focus on the State role and the use of discourse to shape policies of access to and control over extractive resources; however, differences and convergences in relation to neoliberalism needs to be contextualized within the boom in commodity markets during the past decade and its impact on Latin America. Bebbington (2012) states that governments in the Andean region -regardless of their political stance- were determined to make the most of this boom (both in term of revenues and implementation of social policies for reduction of poverty) therefore the inclusion of social policies also followed a route within a neoliberal logic and is not an exclusive feature of post-neoliberal regimes (Yates & Bakker, 2014) ³¹. The main point of convergence is then, the legislative changes to promote the expansion of extractive industries, deepening in this way the dependence to commodities (also known as ‘extractivism’). The main difference on the other hand, seems to be in terms of the ownership of natural resources and taxes, the cases of Bolivia and Ecuador had increased the share of revenue for the State under a strong populist rhetoric of resource nationalism (Ruckert et al., 2017). In this regard, Nem (2010) argues post-neoliberal model is more a continuity with change rather than the radical rejection of neoliberalism. And Peck et al. (2010) rightly point out that post-neoliberalism is by any means a post-capitalist model.

In this line of the argument, post-neoliberalism actively and purposely incorporated parts of the neoliberal extractivist model combined with new characteristics. The re-loaded role of the state and indigenous organizations in the governance of hydrocarbons for example, was explicitly published as a “breakdown with neoliberal corporatized governance”, yet in reality, there are limits in the implementation, a reversal in the gains of indigenous territorial rights and the demobilization of social movements co-opted by the Government (Andreucci, 2017: 177). The so called “neoextractivism or post-extractivism” is arguably a new version of the extractive model promoted under a ‘left progressive discourse’ (Bebbington, 2010b; Gudynas, 2010). Under neoextractivism, the social re-appropriation of resources is labelled as nationalization and redistributive policies acquired new meanings and political uses for the governments. As

³¹ Bebbington (2012) classifies as neoliberal the governments of Peru and Colombia, post-neoliberal governments in Bolivia, Ecuador, Venezuela and hybrid governments in Chile and Brazil.

Gudynas (2010) points out, under neoextractivism, the legitimacy of the extraction of natural resources lies in its positioning as the fundamental motor of economic growth, which in turn can finance social assistance programmes for the reduction of poverty, and any kind of critique or dissent is interpreted as opposition to ‘national progress’.

The combination of a historical legacy of extractive dependency and the short-term gains from revenues are structural elements shaping post-neoliberalism. Humphreys-Bebbington and Bebbington (2012) define the extractive growth plus redistributive social spending as a perverse confluence of authoritarian imposition and the use of force and discursive strategies to delegitimize any opposition to extractive’s industries expansion.

A key element to consider in post-neoliberalism is the normative framework of new Political Constitutions as in the cases of Bolivia and Ecuador. These Constitutions in different degrees incorporated two key elements: i) an indigenous worldview of ‘*Vivir Bien/Buen Vivir*’ as a framework focusing on the respect of mother earth and a harmonic development model and ii) the legal recognition of indigenous rights and the self-determination on their territories. In this sense, a central contradiction in the post-neoliberal model is the lack of coherence with the indigenous philosophy of *Vivir Bien* and the deepening of an extractive development economy in previous and new indigenous territories. A second important tension emerging is the conciliation of the State priorities to expand the extractive frontier and the resistance of indigenous groups in their territories. Haarstad (2012c) highlights that in post-neoliberalism there is an uneasy relationship between local territorial claims and the State strategies in extractive industries. In this vein, Anthias (2012) argues the lack of implementations of indigenous rights exposes a fundamental contradiction in the post-neoliberal discourse and practice. This last point is of particular relevance in my argument to illustrate that in post-neoliberalism, territorial claims emerge as a form of resource governance and a strategy to negotiate benefits from extractive activities with the State.

This circumscribed discussion of the literature on neoliberalism and post-neoliberalism makes evident some gaps that are important for this research. One is that the literature tends to consider neoliberalism and post-neoliberalism as monolithic structures in which nature and society are interrelated but different. The space (whether it is a mine, a landscape, a river) is an empty container within which the social domain

(and the eco-political model in place) will ultimately reconfigure it. The other, the resource governance analysis in both models tends to focus more on the impacts of policies and regulatory frameworks rather than the processes which take place in the reconfiguring nature-society relations. Most importantly, important gaps still remain in relation to framing socio-environmental changes and conflicts within a constant and adaptable process of the neoliberalisation of nature that transcends neoliberal and post-neoliberal models.

In this sense, one of the most disputed topics is the neoliberalisation of nature portrayed as essentially an environmental project based on forms of environmental governance and a series of reforms and ideological changes aiming to implement neoliberalism (Bakker, 2015; Castree, 2008a; de Freitas et al., 2015; McCarthy & Prudham, 2004).

Bakker (2015), for instance, questions how the current phase of neoliberalisation differs from previous phases of capitalist production in relation to the production of nature. In her view, the reordering of the rules in environmental governance shape the co-constitution of nature in an unprecedented way. Castree (2008a) and McCarthy and Prudham (2004, p. 279) argue for plural understandings of “neoliberalisation” considering the multiple political and ecological contradictions and tensions emerging from the nature-society reconfigurations.

Castree (2008a) argues that neoliberalisation processes need to be understood not only in ideological-political terms, but also in relation to institutional forms and the diverse socio-political effects and contradictions emerging from them. These processes are highly diverse in geographical and historical terms; thus, few generalisations can be done (Brenner et al., 2010). However, Bakker (2015, p. 493) made an attempt to outline some salient features: (i) it is a political project aiming to facilitate conditions for capital accumulation and elite economic power at multiple scales, (ii) it is a discursively legitimated process; (iii) it implies a combination of market-led strategies including privatisation, marketisation, deregulation and re-regulation similar and articulated to those mentioned by Castree (2003) in relation to commodification in section 2.3.

For Bridge (2013) neoliberalism has a hybrid nature in its economic policies which can be adaptable and articulated into different logics, yet it is worthwhile highlighting

that neoliberalisation is not only adaptable but mutable and always involves the State in different ways.

Although I partially agree with the definitions and features identified by previous authors, a key point to consider in neoliberalization is the ontology of nature itself. Regardless of the model (neoliberal or post-neoliberal) neoliberalization positions two core ideas that guide socio-environmental change: nature is inert and ready to be transformed and produced and capitalist expansion is ‘inescapable and evolutionary’ as discussed by McCarthy and Prudham (2004).

In my argument, post-neoliberalism is not a coherent model but more a tendency to break with certain aspects of neoliberalism as stated elsewhere. This tendency is not merely incidental but rather is a further step in a process of neoliberalization of nature. In this sense, I concur with Anthias and Radcliffe (2015) who argue for understanding neoliberalization as variegated and the outcome of socio-political contexts within which different arrangements are implemented and diverse kind of natures are targeted with different degrees of cooperation (or not) in these processes.

In my analysis, neoliberalism and post-neoliberalism are central concepts to explore different forms of resource governance and spatial delimitations in mining and in particular, in the case of the salt flat as a Fiscal Reserve. As it will be explored in Chapter 4 and 5, there are overlapping features of mining neoliberal governance that remain and are further expanded in a post-neoliberal model. Likewise, the ways local actors at departmental and community levels understand the state project of lithium extraction and the ownership of the salt flat will shed light on the tensions and contradictions emerging between the State in a post-neoliberal model and the autonomic scales of government recognized by the new Constitution. Most importantly, the way local actors and the distinctive natural features of a landscape are intertwined, will illustrate neoliberalization as a contextual process and closely linked to forms of materiality that shape nature-society relations as chapter 6 shows.

Having defined the links between resource governance, neoliberalism and post-neoliberalism, I will now proceed to add some complexity to the interlinkages with commodification and the State in defining property rights in capitalist expansion. In my argument, neoliberalisation is the process that transforms and commodifies nature to secure the expansion and accumulation of capitalism and sets the State at its core.

The State represents and mediates political forces that articulate institutions and public policies within a certain type of resource governance. These mechanisms not only serve capitalist expansion but deeply reconfigure spaces, social relations and symbolic meanings. In this sense, my analysis does not solely focus on a mineral resource to be commodified, but also on the landscape as a whole within which the resource is found. This broad perspective seeks to illustrate the different interlinkages between spaces, people and the State and how they are mutually constitutive. In this respect, the State is a key element, yet the notion of ‘the State’ is variable and not neutral, as I will now debate.

2.6 Hegemony and the relational notion of the State

Peck et al. (2010) suggest that in neoliberalisation, the State is never absent; on the contrary, they argue, it is reconstructed and reoriented either for a market approach or a more regulatory role. This view is articulated by institutions and the type of property regimes defined by the State. Castree (2008a) claims that neoliberalisation is more than just ideological foundations, it is about the institutions and drivers of development. Likewise, the capacity of the State to mobilise natural resources is fundamental to neoliberalisation. Wilshusen (2010) (cited in Bridge (2013, p. 7) draws attention to the significance of neoliberalisation, from the transformation in property regimes rather than marketisation *per se* since it is the State with “legal and extra-legal coercion powers” that is able to shape socio-nature relations and that could be seen as an extra-economic force in “enabling primitive accumulation”.

Prudham (2015, p. 477) presents the interconnections between property rights, commodification and governance of socio-natural relations from a perspective in which property rights and the governance frameworks that sustain them are not politically neutral. In his argument, enclosure processes and property rights defined and enforced by the State are political creations that “act as extra-economic preconditions to accumulation”, never politically or ethically neutral and defended by force and by discursive legitimisation.

Both in neoliberalism and post-neoliberalism, the State and its role are central for capitalist expansion and accumulation as stated elsewhere. Saad-Filho (2005, p. 114) draws out attention to a dual logic of the State in neoliberalism: on the one hand, the State is to be blamed for inefficiency, corruption and misguided economic incentives

-the *ethos* itself of underdevelopment and poverty according to neoliberals- and the main reason for the retreat of the State from the economic sphere. But on the other hand, the State is set to have three key functions: i) defence against foreign aggression, thus the monopoly of violence to be displayed; ii) the setting of legal and institutional infrastructure for the functioning of markets, in other words, governance frameworks that promote capitalist expansion and iii) a mediator role between social groups to “preserve and expand market relations” in face of grievances derived from the enclosure of common resources and property right frameworks. These functions - central to capitalist production- are key drivers of socioenvironmental change and situate the State with its complex structures and strategies as a balancing power and mediator of tensions and environmental consequences.

In this vein, Harvey (2006) linked the survival of capitalism to the production of space and geographical expansion in order to appropriate surpluses in different forms including natural resources. In these processes, the State plays a crucial role in supporting and facilitating different forms of accumulation comprising: commodification and privatisation, the conversion of forms of property rights into exclusive property rights, suppression of the rights of the commons, the commodification of labour power, and the suppression of alternative forms of production and consumption among other forms (Harvey, 2003).

In respect of the State in shaping socio-natural relations, Bridge (2013) states two points of view: first, the State and nature/resources are fundamentally linked since they are the “specific qualities of the territorial State” (Foucault cited in Bridge, 2013:1) and the management of resources is an intrinsic role of the State administration structure. Second, the contemporary State has new roles: from modes of resource and environmental certification, the hybridisation of neoliberal modes of environmental governance and the emergence of ‘neo-structural or post-neoliberal’ regimes.

In this view, the State is not only central in capitalism, but the State in itself is an environmental project in capitalist expansion. Parenti (2015, p. 830) draws on the idea that the modern capitalist State has always been an “environment making institution”: managing, mediating, delivering, and producing the environment. Andreucci (2017) further argues to recognize the State as a socio-natural relation rather than a only social one and Rossotto (2014) further argues for an understanding of the capitalist State on

two levels: as the primordial site of environmental ideology and as a set of wider connections between social classes, economic policies and grassroots demands. These notions illustrate two key elements that will be further examined: the State as a non-neutral entity defining resource governance and the State as an outcome of power struggles.

Having defined the centrality of the State in capitalist expansion, I will debate now the key perspectives on State theory that are used in my conceptual framework.

There is little agreement on how to define the State, since no single definition nor theory can capture the complexities and constant changes embedded in the State as an institutional apparatus and the State as power (Bridge, 2013; Jessop, 1990, 2008)³². On the one hand, the State has been defined as “institutional and territorial configurations through which human and non-human relations may be organised and managed” (Bridge, 2013, p. 2). Of particular relevance is the strategic-relational approach of Jessop (1990, p. 161) who defines the State as a “social relation” that needs to be explored in its different forms: as representation, as intervention and as articulation of an institutional ensemble. Each of these forms are essential in mediating the role of capital. However, in this mediating role, the state apparatus should be distinct from the wider political system. Both are articulated through institutional order and forms of civil society defined in material and discursive terms. The State consequently, is an arena where social power relations emerge in different forms, is the generator and the product of struggles and strategies of negotiation that define arrangements of societal organisation (Jessop, 2008; Robertson & Wainwright, 2013).

From a different perspective, Parenti (2015, p. 838) observes that “capitalism is an inherently political-geographic project with the State as its central mechanism”. In this view, the State functionality operates through direct and indirect forms. In its direct form, the State appropriates and monopolises the use of force and defines enclosure mechanisms in the creation of property rights. In its indirect form, the State leads a

³² Rossotto (2014) outlines three schools of thought in state theory: i) Pluralism and its emphasis on social groups and political parties interacting and being represented by the State. ii) Elitism and its focus on asymmetries of power in society and the influence on political elites on state action and iii) Marxism and the state as an expression of social balance of power and its centrality in the reproduction of capitalism.

development project in the landscape and in the construction of infrastructure. A key aspect of the ‘capitalist State’ is that it not only performs these direct and indirect forms, but that it also reproduces the conditions of capital accumulation, by acknowledging the use and exchange values of nature in production and most importantly, behind the definition of every property rights, there is the “enforcement power of the State” (Parenti, 2015: 830).

Gramsci and his notions of the integral State, hegemony and passive revolution are of particular relevance in the debate of the State in Latin America and Bolivia in particular. First, the integral State is defined as balance between the total ensemble of actors and institutions (machinery of government) of the so called ‘political society and civil society’. The State in Gramsci’s perspective is an instrument for “conforming and coercing civil society to the economic structure” (Gramsci, 1971, p. 208). Second, hegemony is defined as an ideological and moral mechanisms through which the ruling class maintains control and privilege in society. Understood as the “language of contention” (Roseberry, 1994, cited in Marston and Perreault, 2017: 255), hegemony is linked to the way discourses are built and articulated for particular interests in the political struggles of the integral state. In material and rhetoric levels, hegemony shapes actions and notions of ‘common sense’ (understood as the consciousness guiding daily actions for the majority in society) (Marston and Perreault, 2017). On this point, Harvey (2006) argues that capitalist functioning is propagated through discourse, meanings and behaviours, including too the common sense of Gramscian analysis which, as he points out is fragmented and incoherent but plays a constitutive role to everyday capitalist functioning. Last, the notion of passive revolution illustrates the unfinished nature of revolutions or radical transformations as long as the forces of production that sustained social forces can still be maintained³³. In this respect, Webber (2016, pp. 1858-1859) discusses passive revolution as “instances in which

³³ Gramsci (1971: 106) argues: The concept of “passive revolution” must be rigorously derived from the two fundamental principles of political science: i) that no social formation disappears as long as the productive forces which have developed within it still find room for further forward movement; ii) that society does not set itself tasks for whose solution the necessary conditions have not already been incubated”.

aspects of the social relations of capitalist development are either instituted and/or expanded, resulting in both ‘revolutionary’ rupture and a ‘restitution’ of social relations’. In other words, only partial elements of social relations are altered whereas other more “progressive elements of historical change” become diluted, thereby ensuring the reconstitution of social relations but within “new forms of capitalist order”.

The outlined concepts have been explored by different scholars in relation to the politics of post-neoliberal model in Bolivia (Geddes, 2014; Hesketh & Morton, 2014; Webber, 2010). Of particular relevance for my framework are Webber (2016), who states that the conceptualization of passive revolution better illustrates the extractive model in post-neoliberalism and how certain aspects are preserved within a novel configuration of class power. In a similar vein, Andreucci (2017) argues that a key feature of the passive revolutionary Bolivian process was an preliminary rupture of the neoliberal order but closely followed by a gradual adaptation to pre-existing economic and political arrangements. Marston and Perreault (2017), on the other hand, develop an argument on how a mining hegemony and the integral state have shaped the historical relationship between mining cooperatives and the Bolivian state. Together, these scholars highlight post-neoliberalism as an open-ended process, adaptable to previous neoliberal configuration and strategically selective in terms of radical changes.

In my conceptual framework, Gramscian hegemony will be linked to the notion of relational state to illustrate the Bolivian State as a mutable actor and an arena of power struggles in relation to mineral governance. The notion of hegemony will allow the exploration of the different discourse attached to perspectives of mineral resources and the mechanisms to enforce them through regimes of property rights by mining actors including the State. In chapter 4, analysis of differences and similarities in neoliberal and post-neoliberal models will further demonstrate the tensions emerging and how the notion of passive revolution could explain the way mineral governance develops with and through the post-neoliberal state.

Turning now to some of the critiques emerging in this part of the literature, I will outline some important assumptions and their implications for my analysis.

Similarly, and related to the critiques of the structuralist perspective outlined in the previous section, from a Marxist standpoint, resource governance and the role of the State are assumed as a reflection of the capitalist economic structure. Moreover, the portrayal of the State as an abstract entity, merely instrumental to capitalism, does not acknowledge that the notion and its functions are changeable and also interrelated to other aspects beyond the economic.

A critical assessment of the fixed/immutable notion of the State reveals a lack of understanding of the dynamic nature of capitalism itself. In particular, the State as the key element in neoliberalisation intervenes in the way nature and resources are regulated, appropriated and transformed, yet both are created and co-created simultaneously. Bridge (2013) expands this idea by arguing for a dual essence of both: as products and as mechanisms of socio-natural ordering and Rossotto (2014) argues for an understanding of the State as a force behind the production of nature as well as the result of contradictions of capitalist expansion in reorganizing social relations and nature.

A first issue to be raised here is that, in my analysis, the State is not a fixed entity with permanent demarcated roles and powers in defining resource governance. Moreover, resource governance has a dual essence: on the one hand, the State and institutions frame the rules of access to and control of mineral resources, but on the other hand, far from an apolitical perspective, these frameworks of access are deeply influenced by discourses, power relations and negotiations within formal and informal settings with a variety of actors. In the relational approach, the State is a field of interaction of power and strategies. As Jessop (2008) discusses, the State codifies, consolidates and institutionalises power relations; yet, far from being static, the State is in constant processes of reinvention. In this line, the strategic-relational approach to the State situates governance as a ‘product of correlation of forces’, canalised in institutional ensembles for regulatory forms and the State itself. The State as a social relation privileges capitalist interests, yet this is not a static condition since it depends on the societal struggles and actors interacting (Andreucci, 2017:172).

An important gap to be addressed by my analysis focuses on the diversity of actors intervening in resource governance of evaporite resources and how formal and informal mechanisms of negotiations with the State not only define mineral property

rights of access but ultimately, influence the delimitation of the salt flat space in its commodification process.

Another important assumption in the structural Marxist perspective is that all forms of enclosure in processes of accumulation are triggered by private profit seeking. In relation to this, Prudham (2015) argues that Marxist ‘primitive accumulation’ (and the more contemporary approach of accumulation by dispossession) are still powerful frameworks to analyse commodification and property rights frameworks in neoliberalisation processes, yet he argues that not all forms of enclosure lead to commodification. For instance, the establishment of collective (e.g. communal or State) forms of exclusive property as well as individual forms that are not alienable.

In my view, this critique of the Marxist perspective is predominantly valid. As will be further developed in Chapter 5, the Uyuni salt flat and the redefinition of the Fiscal Reserve illustrate two key aspects: first, that commodification, enclosure and governance of resources are neither static nor linear processes: the salt flat was firstly defined as a Fiscal Reserve (state-owned space), it was later reduced to promote private concessions, and in a later stage still, the salt flat was consolidated as a Fiscal Reserve again.

A second issue to be highlighted is that my case study can raise new questions in relation to the role of the State in terms of de-regulation and re-regulation of extractive resources and how these roles illustrate neoliberalisation as a continuous process beyond ideological narratives. Most importantly, contrary to the traditional Marxist perspective where dispossession and commodification are driven by private capitalism, in the case of the Uyuni salt flat, the establishment of the State as the sole owner and manager of this landscape seeks to strengthen State capitalist expansion. Although the same logic of space expansion for profit is maintained, the difference lies in the narrative that sustains this particular form of resource governance and the mechanism of wealth redistribution channelled through the State and its institutions.

Third, the relational approach to the State highlights the complexity, diversity of actors and the mutable nature of the State as a power arena and as an actor in socio-environmental change; however, this approach does not incorporate the materiality of nature into the analysis of both: commodification and the State in defining frameworks

of access to and control of resources. The next section of the chapter moves the debate to new angles of analysis in relation to materiality, with an emphasis on mining.

2.7 Materiality

Some of the critiques of the structuralist perspective of production of nature and commodification outlined elsewhere in this chapter focused on the inadequacy of deterministic links and totalizing systems to frame and analyse nature-society relations. Post-structuralism on the other hand, is strongly rooted in the idea of dynamic and heterogeneous relations between the natural and social and the human and non-human; knowledge needs to be contextualised, concepts are open and fluid, and theory and analysis are relational rather than representational (Murdoch, 2005). From this perspective, commodities and commodification processes need to be studied as dynamic including other elements such as meanings, materiality and the way humans are embedded in space.

In line with this, Kopytoff (1988, p. 73) highlights that commodification is not a single ended process, but rather a “process of becoming of a commodity”, and a biographical approach to commodities not only provides an historical perspective of the commodification process, but also, allows for different social relations to be revealed over time, since commodities are not only material things, but are also culturally distinct as certain kind of things in different contexts and for different groups of people.

This approach is at the heart of the material culture debate in anthropology, and expands the notion of the production of nature and commodification through an exploration of cultural meanings and social relations inscribed in the forms, uses and histories of things that become commodities. Cook and Tolia-Kelly (2010) highlight material culture as an approach that illustrates much deeper and complex social processes behind the mere commodity.

Materiality and material culture gave rise to a variety of perspectives, inspiring a number of influential authors (Appadurai, 1988; Bourdieu, 1977; Miller, 1998). Far from narrowing its perspective in time, materiality emerged as a field of exploration seeking to reconcile the multiple ways in which material things (objects and commodities) play important roles in the constitution of social relations; in particular,

materiality opens up the incorporation of nature's agency, power relations and plural materialities in the analysis (Bakker & Bridge, 2006; Latour, 2005; Law & Hassard, 1999).

In a literature review on materiality, Richardson and Weszkalnys (2014) highlight the interdisciplinary approach in political sciences, anthropology and human geography and the particular ontologies in relation to the processes, outcomes and interlinks of resource materiality, commodification and resource extraction developed in three main areas: Firstly, in cultural ecology and political ecology there is an emphasis on the way resource extraction affects and produces social structures through labour relations, income distribution of revenues or compensation and the centrality of discourse and power behind representations of nature and natural resources (see Bakker, 2003; Bennett, 2009; Escobar, 1999; Ferguson, 1999; Gilberthorpe, 2007; Nash, J., 1979; Taussig, 1980). Secondly, in what is labelled as 'resource materialities' (plural), resources are in constant reworking between nature and culture and are inherently distributed things that in essence cannot be understood exclusively by biophysical characteristics nor through socio-cultural meanings (see Appadurai, 1988; Bakker & Bridge, 2006; Goldman et al., 2011; Kaup, 2008; Latour, 2004; Le Billon, 2001; Swyngedouw, 2007; Watts & Peet, 2004).

In geography, there are two useful concepts for my conceptual framework that illustrate the dynamic process in socio-environmental change and the multiplicity of interactions. First, the notion of the production of nature is transcended to "coproduction of socionature" in which the human and non-human actors are in a constant interplay (Bakker & Bridge, 2006, p. 19). In this vein, Harvey (2006, p. 88) states that "by transforming our environment, we transform ourselves"; yet this interaction still maintains a dialectical division between the natural and the social. In this sense, Harvey argues for erasing hierarchical divisions in relation to the social and ecological, in his own words: "there is nothing unnatural about New York City...the circulation of money and capital have to be construed as ecological variables every bit as important as the circulation of air and water". By drawing on Polanyi's concept of embeddedness in the web of life, Harvey's argument seeks to transcend the spatial and conceptual divisions between natural and social and reaffirm that environmental and social changes co-constitute each other. In a similar perspective of co-constitution and mutual change, the concept of hybrid is introduced as the "perpetual metabolism in

which social and natural processes combine in a historical-geographical production process of socio-nature” (Swyngedouw, 1996, p. 70)³⁴.

Of particular relevance for my analysis is the concept of *hybrid landscape*. The term originally emerged from the critiques coming from environmental history and cultural geography to the notion of a singular, abstracted and pristine ‘nature’ and to the conservationist agenda and advocating of protected areas (White, 2004). In this critique, the effects of an industrial society paradoxically gave rise to a binary division between humanised landscapes and the fetishisation of a remote, pristine and inaccessible nature. In a pristine nature, landscapes were portrayed as “places of beauty and primal innocence” that should be preserved; ignoring -purposely or not- the different forms of human activity that had interacted in them. In this sense, nature cannot and should not be understood as a realm outside culture and history (Reade & Zanotti, 2014, p. 602).

In this vein, a hybrid landscape is a concept drawing the attention to the ways “humans and non-humans are actively involved in the co-constitution of nature-society relations” and the structural processes and power relations emerging as a result (Reade & Zanotti, 2014, p. 604). Similarly, Zimmerer (2007, p. 232-233) defines it as the “closely interwoven connections, of humans and nature” including the “biogeophysical materiality of objects, people, and landscapes” and the multiple discourses and narratives that form the history of a landscape.

For my analysis, three elements are appropriate to emphasise here: in the socio-nature approach, the process of commodification and the interlinking of society-nature are expanded beyond solely the resistance to “systemic structures of capital accumulation” to reconceptualise nature from something separated and affected by commodification and extraction to be thought as constituted by interconnected actors both human and

³⁴ In a more complete discussion about the definition of hybrids, (Swyngedouw (1996, p. 70)) states: “the ‘world’ is a historical-geographical process of perpetual metabolism in which ‘social’ and ‘natural’ processes combine in a historical-geographical ‘production process of socio-nature’ whose outcome (historical nature) embodies chemical, physical, social, economic, political and cultural processes in highly contradictory but inseparable manners. Every body and thing is a cyborg, a mediator, part social part natural but without discrete boundaries and internalizes the multiple contradictory relations that re-defines, re-works everybody and thing”.

non-humans (Gellert, 2005, p. 67). Also, my understanding of a hybrid landscape not only acknowledges the co-constitution as defined by Harvey (2006) but further expands the notion to include materiality (in plural), discourses and history as key elements to understand the multiple connections between people and nature. As previously mentioned in Chapter 1, the concept of hybrid landscape is particularly useful for my own exploration of the salt flat since it challenges two common ideas: either as pristine or solely as a reservoir of lithium. Furthermore, the Uyuni salt flat as a hybrid landscape seeks to illustrate the complexity of this location beyond the social relations emerging in capitalist expansion. As will be analysed in chapters 5 and 6, the social and the natural are entangled through the different spatial arrangements and territorial contestation of the salt flat, the symbolic meanings for local communities that have changed in time and the different forms of materiality emerging from this landscape that co-constitute socio-environmental change.

Turning the discussion to the specific body of literature that focuses on materiality of nature in resisting or promoting mining activities, I will present the main concepts in three stages: first, a perspective on materiality and capitalist expansion; second, an outline of the links of materiality and the neoliberalisation of nature; and third, an outline of the gaps identified and how I address these in my conceptual framework.

Of particular relevance for my research is the body of literature about the materiality of nature in resisting or promoting capitalist expansion and accumulation in mineral extraction. Several authors can be highlighted here, for example, Le Billon (2001, p. 568) investigates how the materiality of resources can influence socio-economic relations. Through an analysis of armed conflicts and extractive resources, Le Billon argues that beyond conventional accounts of scarcity or abundance of resources in triggering conflicts, the lootability of resources³⁵ due to biophysical characteristics,

³⁵ The 'lootability' of resources refers generally to resources that have high value and low barriers to entry the commodity market. Particularly in conflicts, lootable natural resources presents an opportunity for third parties to intervene and to profit from them. In contrast, non-lootable resources would be difficult to extract (Findley & Marineau, 2015).

Le Billon (2009, p. 17), states there are many components to the lootability of resources: the materiality of the resources, its mode of exploration and production, its spatial spread and accessibility to its revenues, and (il)legal and (il)licit character along its value/commodity chain.

plays a key role in the way violent conflicts and actors define strategies. In his perspective, the transformation of nature into “tradable commodities” is a deeply political process in which definitions of property rights, labour relations and allocation of profits are interlinked with resource materiality.

In a similar vein, Kaup (2010, p. 124) argues that the so called “sociomaterial characteristics of primary commodities” (including their physical and chemical features, scarcity, different degrees of quality and distribution around the globe) are central to understanding two key elements: the structure within which resource extraction operates, and the constraints and opportunities of different actors involved in the extractive activity. In his analysis of the gas sector in Bolivia, he argues that these characteristics heavily influence the power that the State and transnationals have in the economic dynamic of resource extraction and rent distribution. Following a logic of economies of scale, primary commodity sectors require large investments in technology and infrastructure thus, resource-rich countries grow dependent on foreign investment coming from capital-rich countries. Likewise, Bridge (2004) highlights that even the definition of mineral reserves is dynamic and its materiality (in terms of size, location, and availability) interlinks with societal demands and changes in the market price, costs of extraction and development of new technologies. Bridge and Perreault (2009) draw our attention to an understanding of the biophysical characteristics of natural resources as distinct from a factor of production and commodity status; whereas Valdivia (2008) explored the materiality of petroleum as a key element to understand grievances and its governance. Of particular relevance is the so-called “petro-subjectivities” understood as the molecular characteristics, the properties of movement across space and time (i.e. pipelines) and relationships of human behaviour and subjectivities to engage with this materiality in order to make claims of nature, technology and development. In this sense, these authors agree with previous analyses about nature’s features as barriers to or opportunities for capitalist accumulation; yet they argue that each resource possesses a particular problem in its metabolic interaction into capitalist production.

Building on this perspective, water is an excellent example explored through materiality and power issues (Bakker, 2012; Linton & Budds, 2014; Swyngedouw, 1999, 2007). Of particular relevance is the analysis of water governance and the

mining industry, as Budds and Hinojosa (2012) argue, the materiality of water needs to be conceptualised through different moments that encompass the physical flow of the resource, to patterns of access, technologies, institutional and legal reforms that shape governance frameworks. These dynamics and multiple processes are captured in the concept of ‘waterscape’ and illustrate that water is not a merely input/passive resource prone to be seized by the mining industry, but, on the contrary water co-produces social relations in material and discursive terms.

Related to this view, an important angle in the debate is the role of materiality in the neoliberalisation of nature. In this perspective, the limits in the process of the neoliberalisation of nature are related to opposing socio-political relationships emerging in this process and also, ecological/biophysical characteristics of nature that enact limits to capital accumulation within the process of the neoliberalisation of nature. The main assumption behind this approach is that nature is neither passive nor inert and the physical characteristics do play a role in the way capitalist expansion in neoliberalisation operates (Bakker, 2015; Budds, 2004; Castree, 2008a).

Perreault (2013, p. 1066) for instance, further expands on the idea of nature’s materiality influencing processes of accumulation and dispossession in neoliberal capitalism through an analysis of mining impacts on communities’ livelihoods in the Huanuni Valley in Bolivia. Accordingly, he identifies livelihood dispossession as driven by three factors: the accumulation of toxic sediments on agricultural fields, the accumulation of water and water rights by mining companies and the accumulation of territory by mining operators as the mining “spatial footprint” expands over time. Of particular relevance to my analysis is his argument that specific forms of nature (water, sediments, minerals, biotoxins) play an active role in shaping processes of dispossession. In this sense, his argument not only separates key elements of nature as functional but different in the process of capitalist expansion, but also, he expands the notion of materiality to sub-forms such as sediments and biotoxins as key elements to understand symbiotic relations in the production of nature-society relations. In a similar line of argument, Perreault (2006, p. 165) critically explores the social conflicts around resource governance of water and gas in Bolivia; both cases illustrating that popular protests are not only strongly rooted in past histories of contestation and conflict (at regional and national levels), but also, that the “physicality of the resource”

and the mechanisms through which it operates in socio-economic relations is highly relevant to understanding drivers and strategies of environmental conflicts.

These explorations have added important angles to the debate about socioenvironmental changes and conflicts in the literature, yet there are some critical points to discuss. First, most of the analysis about materiality and extraction points to materiality as an obstacle to or facilitator of capital expansion. However, there is a significant gap in which to expand the analysis on how actors relate to particular materialities and the strategies that emerge in these processes (Kaup, 2008). Second, the frameworks of analysis tend to privilege the State and transnational actors, underexploring the relevance of the local context and social relations in their interaction with resource materialities (for exceptions see Perreault (2006, 2013). Third, most of the research is focused on traditional mineral commodities such as oil, gas, gold, copper and diamonds.

In this sense, my research seeks to address some gaps in the debate through a micro scalar analysis of local communities interacting and managing the salt flat and its resources. From a theoretical point of view, two important links are to be raised here: i) materiality as an element resisting or facilitating capitalist expansion, and ii) materiality as a plural notion (or sub-forms of materiality) to explore how socio-environmental changes take place and how local actors relate to particular forms of materialities.

In the case of the Uyuni salt flat, two elements can be highlighted for the analysis: first, the materiality of the salt flat needs to be understood in three different forms as: salt, ulexite and lithium, since each specific materiality leads to a form of social relations and reconfiguration of the landscape. In the same way as Kaup (2008, p. 1736) claims that “natural gas is an uncooperative commodity”, in my perspective, lithium is an ‘intricate commodity’ for its chemical materiality in terms of Magnesium/lithium concentration (18g per 1 g lithium versus 6.4 g per 1 lithium found in the Atacama Chilean desert) (Montenegro & Montenegro, 2014). As will be developed in Chapters 5 and 6, this physiochemical feature is highly relevant for the type of technology to extract lithium, the production cost and sub-forms of materiality (sediments) emerging as a result.

Second, adding some complexity to this perspective, the case study of the Uyuni salt flat and evaporite resources seeks to provide an angle to the analysis in which materiality transcends the resource itself (lithium and ulexite) and locates the landscape at the core of the commodification process. The materiality of the salt flat needs to be understood as both its chemical features that form its resources and its spatiality (isolated location and its geopolitical limits); and as essential elements to understand the socio-nature relations emerging and shaping this landscape.

Having presented the main concepts of the chapter I will now move on to set out how they connect to form my conceptual framework.

2.8 A theoretical approach for the Uyuni salt flat

At the core of the theoretical approaches outlined above are the ontological questions of how and why nature is transformed into commodified resources in neoliberalism and post-neoliberalism and the central role of the State in shaping social relations and socio-environmental change. My initial point of departure is the Marxist/structuralist approach that locates commodity production as the *raison d'être* of capitalism and commodification as the process that radically transforms both nature and social relations.

In my theoretical argument, I borrow to a great extent from the centrality of commodities in Marxist structuralist epistemology to explore neoliberalism and post-neoliberalism. However I acknowledge and identify some tensions emerging in this approach: i) portraying commodification as a homogenous, linear process driven by private capitalist logic; ii) economic reductionism to explain nature-society relations and conflicts; iii) a fixed and immutable notion of both: the space within which commodification takes place and the State as an instrumental unchangeable supra-entity and iv) an omission of materiality of nature in influencing processes of socio-environmental change.

To transcend these tensions, my conceptual framework presents a set of concepts that, together seek to explore the transformation and commodification of nature in neoliberalism and post-neoliberalism from three interrelated perspectives. To begin with, commodification is the process through which capitalism operates and expands, and, in this expansion, space and nature are transformed and produced with material,

social and discursive implications. Next, in this transformation, the socio-political models in place are explored not as a mere reflection of the economic structure but as the outcome of political struggles in which the State is at the core in a dual role: as an actor defining resource governance and as a dynamic balancing force of diverse societal actors. Last, the State as an abstract and relational outcome of societal struggles is also explored in relation to the plural materialities of nature interacting in the spatial delimitation and resource governance frameworks shaping capitalist expansion.

The concepts selected will shed light on three key elements of my argument: first, the non-linear forms of commodification hand in hand with particular forms of spatial delimitations in capitalist expansion. Secondly, the variable roles and relations emerging with and through the State in a continuous process of neoliberalization of nature and thirdly, the materiality of resources as an important element in socio-environmental changes.

In a specific matter unique to my case study, neoliberalism and post-neoliberalism are central concepts to explore different forms of resource governance and spatial delimitations in mining and in particular, in the case of the salt flat as a Fiscal Reserve. This conceptual framework seeks to illustrate how the peculiar landscape of the salt flat can be understood in relation to capitalist expansion, the central role of the State in this process and the social relations shaping and interacting in the environmental transformation of this location.

Most importantly, the qualitative evidence to be discussed in chapters 4, 5 and 6 will shed light on the following issues: i) tensions and contradictions emerging in nature-society relations in neoliberal and post-neoliberal frameworks in mining; ii) the spatial and historical social struggles that shaped the Uyuni salt flat as a fiscal reserve and the relational role of the State in each; iii) The different expectations and tensions emerging from a state capitalist project of lithium mining and iv) the different ways local symbolic meanings and the materiality of the landscape play a role in a relational approach to the State and the production of space in the region of the salt flat.

In my argument, commodification is a process that radically transforms landscapes. However, this transformation is neither unidimensional nor reduced to economic drivers. The materiality of nature in its multiple forms plays a significant role in defining social relations and resource governance. Moreover, from the co-production of nature and society, a hybrid landscape emerges as a notion that illustrates a dynamic and perpetual process of production and recreation of nature in contemporary capitalist expansion.

By highlighting the multiple dimensions embedded in transforming and commodifying nature, I intend to exemplify the case of the salt flat of Uyuni salt as a hybrid landscape within which its peculiar social and natural features are essential to understand the different frameworks of resource governance that emerged over time.

Furthermore, over time and far from the idea of preserving a pristine nature in the salt flat, this landscape has been at the centre of social struggles for its spatial delimitation as a Fiscal Reserve and recently, it has been dramatically changed with lithium mining. In these processes, the State is an actor and a terrain of struggle in conjunction with other societal actors.

As it will be shown in chapters 5 and 6, the absence (or presence) of the State not only influences the way local people relate to a landscape and its resources but also, the relational approach to the State is embedded into different materialities of nature as the cases of ulexite and lithium mining will illustrate.

Each one of the concepts and links outlined above contributes to answering the research questions and the empirical data to be analysed, as shown in Table 2.1:

Table 2.1. Concepts and research questions

Research question	Concept	Empirical data and chapter
What are the material implications of a Fiscal Reserve in terms of the rights to access and control resources by the State in the salt flat?	Commodification and resource governance in neoliberal and post-neoliberal models The relational State, hegemony and passive revolution	Analysis of the mining legal frameworks and Government reports. Qualitative information from semi-structure interviews (Chapters 4 and 5).

What are the discursive elements behind the transformation of this landscape over the past 40 years?	Production of space and territory The relational State, hegemony	Secondary data in relation to historical background, social conflicts and geographical limits. Qualitative information from semi-structure interviews (Chapter 5 and 6).
What changes are emerging in terms of the perceptions and symbolic value of the Uyuni salt flat for the local communities?	Territoriality Materiality	Qualitative information from semi-structure interviews, focus groups and life stories (Chapter 6).

The chapter that follows moves on to present in detail the epistemological position of my research, methodology and the methods used during the fieldwork.

Chapter 3 METHODOLOGY

3.1 Introduction

The main purpose of this chapter is to discuss the methodology, objectives and research methods guiding my research. It begins with a personal reflection about my positionality as researcher and the challenges I encountered during the fieldwork in Bolivia. The next section presents my epistemological position followed by a discussion of the objectives, methods and how my methodology articulates with my conceptual argument. The third section provides a background of the fieldwork locations. Finally, I present a reflection on the analysis of data.

The fieldwork for this research was conducted in two phases over a period of seven months in the cities of La Paz, Potosí, and Uyuni, and the surrounding areas of the Uyuni salt flat and the lithium pilot plant in Llipi Loma.

At the beginning of this research, I was aware of two things. First, doing fieldwork in Bolivia is a fascinating experience considering the dynamics of the country and its history linked to mining and hydrocarbon extraction. This experience confirmed that as a researcher, immersion in the ‘field’ is an essential aspect in order to understand the complexity of an issue, but most importantly, it is a human experience in which a researcher faces different challenges and has deep and transformative contact with a particular reality. Second, lithium mining is a relatively new topic: controversial by nature and with multiple narratives around it. Most of my knowledge about it was based on the few studies carried out over the past eight years, the official reports from the National Agency of Evaporitic Resources (GNRE) and news from Bolivian and international sources.

The moment I confronted my expectation with the reality was when I visited the lithium pilot plant in Llipi Loma. Only then, was I truly able to capture the magnitude of this project, how it was transforming the landscape of the Uyuni salt flat and the multiple actors and interests behind the most ambitious state-owned mining initiative ever deployed in the country.

In this sense, when I started making contacts and conducting interviews with people I realised how the topic had contrasting views, some of them totally opposite in terms of the role of the State in extracting this strategic resource. My political stance in

relation to the project and the MAS government was at times challenged by some interviewees and institutions, and I had to constantly reflect on an open and critical perspective about the views and facts people argued about. In addition, I soon realised what a controversial topic lithium is and how delicate and sensitive an opinion can be in front of a perceived State machinery that can retaliate against divergent opinions. In some cases, some of my interviewees manifested fear and asked for total anonymity and confidentiality, which I have honoured.

3.2 Reflections on research and positionality

Nagar (2014) argues that identities and backgrounds not only situate the researcher in a particular position in the interaction with informants, but above all, create categories to which informants directly or indirectly relate. This external perception of the researcher conditions the acceptance and the type of information to be shared during fieldwork. In retrospect, my position as a non-indigenous, middle-class woman shaped my fieldwork in different ways, particularly with grassroots organizations and the indigenous communities, which are traditionally suspicious of outsiders.

By presenting myself as a Bolivian student interested in knowing the opinion of grassroots organizations and communities about the changes in the salt flat over time, it usually helped to establish a rapport and potentially dissipate any preconceptions of me in terms of gender, class and ethnic origin. I found it particularly useful to reveal my background as a researcher in different ways and depending on the context. In the communities, I presented myself as a simple student, whereas in encounters with State representatives and politicians, I introduced myself as a PhD researcher. Through this differentiation I sought to position myself in equal terms with both: communities and high-profile representatives. Also, during the visits to the communities, it was extremely useful to share my previous experiences visiting the salt flat and my knowledge about the quinoa economy in the southwest region of Potosí since local people found a common ground for interaction and allowed me to gain credibility and trust; most importantly, by demonstrating I am familiar with the problems and the dynamic of local people, I managed to establish a relation with local authorities, representatives of grassroots organizations and local residents.

As a female researcher, I encountered patronizing attitudes in mining institutions considering it is a sector mostly dominated by men. In a way, these perceptions established that my focus on the social aspects of mining were less of a threat and less important than any discussion on economic or technical aspects, and I found that informants from diverse backgrounds felt comfortable talking to me and offering their help. During my visits to the surrounding communities, my gender did contribute to establish a friendly link with some of the women I interviewed, although my situation as a ‘woman alone’ was constantly questioned by them.

Last but not least, although I come from a non-indigenous background and I do not speak any native language, I was surprised by the fact everybody communicated with me in Spanish, even elderly people in distant rural locations. This allowed me to interact in more direct way keeping in mind a careful selection of words to communicate in the simplest way.

Being familiar with the country, I was aware of the difficulty in accessing public institutions and the bureaucracy involved in asking for public information. Yet, the contrast in some public institutions was surprising; for instance, the GNRE was open and interested in my research, whereas the Ministry of Mining was totally inaccessible, suspicious and disconnected from the lithium project.

In terms of geographical accessibility, this fieldwork required travelling to distant locations with bad roads and a lack of adequate transportation; particularly when I spent time in the communities surrounding the salt flat. On a personal level, this implied facing uncertainty, risks and finding myself in unknown places. However, the encounters with people in remote parts of the Uyuni salt flat and the conversations and team work with a bilingual research assistant (Lucia Pacajes) during these visits became the most rewarding parts of this journey and provided me with a fresher perspective of the changes in this region over time.

3.3 Ontology, Epistemology and Methodology

The choice of a method in qualitative research is intrinsically linked to core assumptions about the object of study and how to understand it. Morgan and Smircich (1980) argue that in social sciences there are a variety of interrelated assumptions in relation to ontology, epistemology and human nature, thus qualitative research is not

a simple set of techniques or methods but an approach whose relevance depends on the nature of the social phenomenon to be explored.

The ontology – understood as the social reality and the essence of things – is dynamic and the result of complex forms of human action and interactions (Given, 2008; Mason, 2002). The selection of an ontological position needs to acknowledge that in the social world, there are different versions of reality and the ontology of the researcher is but a partial world view.

In this regard, I make two core ontological assumptions within the spectrum of subject-objective approaches: reality is a concrete process and reality is a social construction. As defined by Morgan & Smircich, (1980, pp. 494-495), in the first assumption, the social world is a constant process, “concrete in nature but everything interacts with everything else, and is difficult to find causal relationships between constituent processes”. In the second assumption, what we understand as the ‘social world’ is in a continuous process of creation as individuals construct and sustain their reality through “language, actions, labels and routines which constitute symbolic modes of being in the world”. In this sense, there are multiple realities coexisting . Both share a common ground in the idea that ‘social reality’ is not a concrete thing ‘out there’, nonetheless, the first assumption states processes of change are to be understood and theorised, whereas in the second assumption, what can be explored is how social reality is created.

In my research, the Uyuni salt flat is portrayed not as a static and pristine landscape subjugated to the unstoppable forces of capitalist mining expansion. On the contrary, the social reality I explore reflects multiple forms of social arrangements and variety of social actors, and material forms of access to and control of resources within structures that are influenced by discourses and symbolic meanings.

Based on the ontological stance, different questions will be framed and the epistemology (understood as the “theory of knowledge” that explores how a social phenomenon is understood and how knowledge can be demonstrated (Mason, 2002, p. 16) will provide the analytical lens to explore the empirical evidence, concepts and relationships. In one extreme of epistemological positions, there is the objectivists’ view of the social world, as a concrete structure and its relevance to studying “the nature of relationships among the elements constituting the structure”. In opposition,

the subjectivist view sees reality as a projection of individual imagination and stresses understanding “the processes through which human beings concretise their relationship to the world” (Morgan & Smircich, 1980, p. 493).

My approach is informed by the constructivist epistemological approach³⁶. In constructivism, the understanding of the world is inevitably our construction, thus, there is no objective reality and absolute truth (Maxwell, 2012). In this vein, reality is independent of human thought but knowledge is always a human construction, every theory and perspective is partial and a simplified version of a complex reality. The researcher is a critical observer and commentator in exposing hidden meanings. In this epistemology, the constructed social reality is based on hierarchical structures that reflect particular ideologies and power relations. People are unaware of the manipulation of social forces and the way society is structured is taken for granted and natural; in this sense, the way people perceive and believe is shaped by their assumptions and experiences as well as by the reality they live in (Wohlfeil, 2013).

This paradigm has important critiques to consider in terms of transparency, generalisation and authenticity. First, bearing in mind the role of the researcher as interpreter, any theorisation and interpretation is considered to be reliable only if the research process is transparent enough that sources can be tracked for public inspection. Second, in a constructivist approach, the context and thick description of that context, are essential in the understanding of social phenomenon; therefore, generalisations cannot easily be made and it is up to readers to transfer this understanding to other contexts and assess the similarity. Third, authenticity in the analysis is under constant scrutiny since constructivist research is “naturalistic— inquiry happens in the settings where a phenomenon naturally occurs (e.g., classroom, community centre)” therefore, the researcher must have a balanced presentation of all perspectives, values, and beliefs related to the subject of study. In relation to this point, in this epistemology, the role and the power relations emerging between the researcher

³⁶ Constructivism is divided into two main areas: i) linguistic constructivism (Saussure, Derrida, Levi-Strauss among others) and ii) Socio-economic constructivism (Marx, Weber, Althusser, Gramsci, Foucault, Bourdieu) (Wohlfeil, 2013).

and the subject of research need to also be acknowledged since they can influence the way a phenomenon is interpreted (Given, 2008, p. 118) .

Within the constructivist epistemology, my research explores the nature-society relations in the case of the salt flat of Uyuni through a combination of elements of the structuralist and poststructuralist perspectives. First, in general terms, in structuralism the emphasis is on the systems that allow meanings to be constructed; actions arise from the generative mechanisms that underlie social order, thus, the understanding of society should focus on these mechanisms rather than on social actors. These generative mechanisms are ordered, organised and patterned so as to generate surface phenomenon such as events, actions, beliefs and cultures. In this sense, the analysis tends to be reductive and universalistic: few elements can explain complex phenomenon and some structures are considered as basic and common to all (Clayton, 2012; Murdoch, 2005). Second, in a post-structuralist perspective, there is not a unique ‘reality’, moreover, realities are understood as “multiple, intangible constructions, socially and experientially based, local and specific in nature” (Guba & Lincoln, 1994, p. 110) and the ideas and perceptions of the reality are constructed through discourse. In this sense, reality could be independent from human action, but knowledge (in its historical, philosophical or scientific perspectives) is the result of human constructions deeply affected by ideology and social power relations.

In my research puzzle³⁷, therefore, commodification is not a solely profit-driven process of capitalist expansion, but also and primarily a political process in which discursive, symbolic and the peculiar materiality of nature shape and are shaped by the process of defining frameworks of resource governance. In this sense, my research acknowledges the differences and the importance of both perspectives without privileging either. As explained earlier in Chapter 2, my conceptual framework has its point of departure in Marxist structuralist analysis about the production of nature and commodification, to later incorporate post-structural notions of production of space, hegemony and multiple materialities in socio-nature relations.

³⁷ Understood as the different “forms connected to the ontological and epistemological positions and grounded in a specific context”- (Mason, 2002, p. 18).

In my analysis, this combined perspective deepens the understanding of the political dimension embedded in the transformation and commodification of nature. Furthermore, the combination of structural and post-structural elements facilitates an exploration of both: the nature of relationships emerging in the different historical changes in terms of resource governance in the salt flat and also, the processes, multiple actors and discourses behind that shaped socioenvironmental changes in different points in time.

Considering the ontological and epistemological stances of my research, a qualitative approach grounded in interpretative and exploratory practices was employed since this thesis seeks to understand meanings and political struggles around the mining of evaporite resources and at the same time, it looks for new angles and insights in relation to commodification and ongoing processes of the neoliberalisation of nature. As discussed elsewhere in the introductory chapter, this research attempts to explore new and novel qualitative information about the process of commodification of the Uyuni salt flats and the particular impact of lithium extraction on the process of commodification from different perspectives but particularly from the perspective of the people living in the surrounding areas of the Uyuni salt flat.

The fieldwork was conducted in two phases. During the first phase (October 2014-January 2015), different meetings and interviews were carried out with a diversity of actors including: government representatives, technicians and personnel from the GNRE, mining actors, academics, NGOs, and grassroots representatives both in La Paz and Uyuni cities. During the second phase (April-August 2015) I concentrated on extensive field research in the rural locations of Llica, Colcha-K and Rio Grande; with some additional interviews in Uyuni, Potosí and La Paz cities.

The time frames this research focused on were two main historical periods: a first period from 1970 to 2005, examined to establish the historical trajectory and changes in the mining framework of the country, and most importantly, to explore the different changes and social struggles that took place around the Uyuni salt flat over time. The second period from 2005 to 2015 is particularly relevant for the political context of Evo Morales' presidential election (2005), the approval of the new Political Constitution, the recognition of indigenous rights over indigenous territories (2008) and the approval of a new mining law (2014). At the same time, during this period,

Bolivia has undergone a change in its economic model with a renewed role of the State in key strategic sectors of the economy and a series of explorative projects including lithium. The different qualitative methods gathered different perspectives in relation to the history of evaporite mining in the southwest region of Potosí and the current challenges emerging in the post-neoliberal period.

Turning now to the research questions, the next section will present a detailed overview of the objectives and methods selected for this research.

3.4 Aims, Objectives and Methods

The main aim of this research is to understand how social relations in terms of the material, discursive and cultural dynamics of evaporite mining shape and are shaped by resource governance frameworks. Within this overall approach, three sub-questions explore:

- i) What are the material implications of a Fiscal Reserve in terms of the rights to access and control of resources by the State in the salt flat?
- ii) What are the discursive elements behind the transformation of this landscape over the past 40 years?
- iii) What changes are emerging in terms of the perceptions and symbolic value of the Uyuni salt flat for the local communities?

The first sub-question sought to examine the legal and political frameworks in evaporite mining in the post-neoliberal model. The evidence required was a mix of secondary data (mining laws and regulations, statistical information, official reports of the GNRE, academic and non-academic literature on mining in Bolivia) and primary qualitative data based on participant observation in relevant meetings and semi-structured interviews with key actors of the mining sector and civil society.

The second sub-question had the objective to examine the processes that structure people's perceptions and discourses around lithium at central, departmental and community levels. The qualitative information was based on semi-structured interviews to public servants from State institutions and the State mining company GNRE, public servants of the Autonomic Government of Potosí and public servants of the Municipalities in the southwest of Potosí, as well as indigenous grassroots organisations in the area.

Both research questions and the selected methods (participant observation and semi-structured interviews) sought to capture perceptions in relation to the mining framework, the role of the State in lithium mining and the conflicts around lithium and evaporite resources at the central, departmental and municipal scales.

The semi-structured interview approach was chosen in order to capture perspectives and experiences on defined topics, but from a flexible approach that allows deep exploration from the interviewee. In total, I conducted 71 semi-structured interviews and the informants were divided into nine distinct categories as Table 3.1 summarises:

Table 3.1 Summary of organisations and interviews

Type of organisation	Number of interviews
Grassroots organisations	24
Government public servants	18
Senators and Members of Parliament of the Central government	5
Mining actors	
Private	2
Cooperative	2
State mining Corporation COMIBOL	7
NGOs	5
Academics and consultants	6
Representatives of the communal truck leasing company of Rio Grande	2
Total	71

In relation to the background of the informants, the grassroots organisation representatives were selected and contacted based on their relevance for the research. The most important organisations identified were: i) FRUTCAS (*Federación Regional Única de Trabajadores Campesinos del Altiplano Sur-* Regional Federation of Peasants of the southern high Andean plateau), ii) *Confederación Nacional de Mujeres Campesinas Indígenas Originarias de Bolivia Bartolina Sisa* (National Confederation of Peasant, Indigenous, and Native Women of Bolivia Bartolina Sisa), iii) *Sociedad Provincial de Productores de Quinoa* (Society of Quinoa Producers – SOPROQUI), *Autoridades Originarias*³⁸ (indigenous authorities) of the southwest of Potosí and the

³⁸ *Autoridades Originarias* (Original authorities) are an ancestral structure of power and representation in the indigenous territories of the Bolivian high plateau. Every year, each community selects a male representative called *Jilakata* or *Mallku* (with his wife also called *mama jilaqata*) to represent the Ayllu or community. This indigenous authority is in charge of solving problems of intra-territorial limits of land and the different rituals for the agricultural cycle (Ayma, n.d).

Civic Committee representatives of Daniel Campos province, Nor Lipez province and *Comité Cívico Potosinista* (Civic committee Potosí department – COMCIPO). In all cases, an official letter was sent to the organisations and the network of people was created through personal contacts. An important criterion for my research was to find representatives in these organisations who were involved in the past social struggles of the Uyuni salt flat.

In terms of informants from the different levels of government, the central government informants were Parliamentary and Senators from Potosí. The criterion was to capture the official discourse in relation to the State project of lithium. In order to obtain the interviews, official letters explaining my research and background were sent and it took several weeks to obtain appointments. A similar procedure was undertaken to contact and to interview representatives at the departmental level, comprising representatives of the Departmental Assembly, the Planning and Environmental secretaries and Mining Technical Unit of the Departmental Government of Potosí. At the municipal level, the informants were current and former Mayors and Municipal Council representatives of Uyuni, Llica, Colcha-K and Rio Grande. Similarly, an official letter was presented upon arrival to the locations and the initial contacts were made with the Mayors.

Regarding the mining actors interviewed, the State mining informants were those linked to GNRE and COMIBOL. The private mining informants were former staff of San Cristóbal mining company and associates of the *Sociedad Colectiva Minera Rio Grande* (Collective Mining Association Rio Grande -SOCOMIRG). The cooperative sector informants were representatives of *Federación Departamental de Cooperativas Mineras* (Departmental Federation of Mining Cooperatives – FEDENCOMIN) and Cooperative Estrella del Sur in Rio Grande. In addition, representatives of the machinery leasing company *Empresa Comunitaria DELTA* in Rio Grande were interviewed in order to understand the links of this company with the GNRE and the government lithium project.

The informants with an NGO background were people working on environmental and land issues in Bolivia. In a similar manner, the academics and consultants were selected according to their relevance and published work in relation to mining history and political analysis.

Semi-structured interviews as a qualitative method proved to be highly effective in identifying key issues and different perspectives about the topic. As part of this method, I followed a strict verbal and written protocol for explaining the objectives of the research, who I was and the organisation I represented, the voluntary nature of the activity and the rights an interviewee had in relation to the interview process and the use of the information at any stage and always obtained verbal consent for recording the session. In the first part of the fieldwork, some questions were rendered irrelevant while other questions emerged and were incorporated into the collection of information in the second part of the fieldwork. In both phases, the interviews were recorded and later transcribed and translated.

The definition and selection of the guiding questions were key steps in the process and the first interviews were a pilot for the type of questions and the language used. In this sense, my questions had a semi-standardised format. As Berg (2009) defines, interview structure can range from standardised, semi-standardised and unstandardized interviews, each of these structures define the flexibility and degrees of freedom for the interviewer in relation to language, order and type of questions. As mentioned elsewhere in this chapter, the semi-structured interview was selected as a relevant method to explore different perspectives among a variety of interviewees and to deepen the understanding of issues I considered fundamental. In this sense, my questions were more or less structured into themes, the wording of the questions and level of language were adjusted according to the type of informant and as interviewer I had a degree of flexibility to define the order and priority of the questions.

The interviews themselves were divided into three main themes: i) post-neoliberal model, ii) decision making power, and iii) culture and territory. I had a set of twelve general questions and eight specific questions for grassroots and community representatives. Some general questions were reformulated depending on the background of the informant (government, mining sector or grassroots organisation).

In terms of limitations, this method has three issues to consider: (i) the processing of information is time consuming, (ii) the information collected is not representative of a population, (iii) and the data can be strongly shaped/influenced by the type of questions and the manner of asking. In this regard, the nature of the information collected depends on the interpersonal skills of the interviewer in developing trust, affinity and

a relaxed and profound conversation with the person and in identifying key issues an interviewee can provide. In some cases, an individual interview turned out to be a group interview; for instance, in public institutions where I agreed an individual interview but other public servants asked to participate, or as in the case of members of the Parliament, where my initial contact unilaterally decided he wanted to include in the interview the other members travelling with him. In these cases, my challenge was to reduce and to select the most relevant questions so the conversation could flow naturally. In this sense, I had to be flexible in relation to my questions and sometimes, I had to frame the question so the interviewee(s) could provide an insightful response.

The second method used was participant observation in meetings and other events in order to document characteristics, interactions and attitudes (Taylor-Powell & Steele, 1996). Commonly associated with qualitative research, participant observation is a method in itself and situates the researcher as an observer of organisational structures, social roles and norms in a particular setting or event (Berg, 2009). Above all, taking part in public events allows the researcher to observe both: how issues are presented, explained and framed, and to see the audience's reactions.

During the first visit to Uyuni, I was authorised to participate in a meeting with members of the Parliament visiting the Llipi Pilot plant. In this key event, I was able to observe the dynamics in terms of information, feedback and transparency between the people of the GNRE and the Parliament representatives of Potosí. Other highly relevant events included: the monthly meeting of the Original Authorities (Mallkus) and the Quinoa association yearly meeting with peasants; both events took place in Llica where I spent most time during the fieldwork in rural communities.

In relation to this method, a positive aspect is the opportunity to collect information about local processes and interactions as they naturally unfold. Yet, in my experience, this method requires bureaucratic authorisations, time to develop trust, and negotiation of access since most of these spaces tend to be closed to the public unless the researcher is properly introduced and authorised. Another challenge is to maintain a low profile so the researcher's presence does not disturb the natural flow of interactions. From my experience, it is fundamental to have a passive but observant profile and try to avoid opinions as much as possible. As stated above, in many of these meetings my political

positioning in relation to the government was constantly under scrutiny so I had to be extremely cautious about my views.

The third and final research sub-question sought to generate new knowledge about the cultural and symbolic meanings of the salt flat and the territory for the communities surrounding the Uyuni salt flat. The evidence collected was mostly primary qualitative data complemented with official documentation of the land titling process in the region. The official documentation was formally requested from the Vice-ministry of Land and the *Instituto Nacional de la Reforma Agraria* (National Institute of Agrarian Reform – INRA) and it took several months to obtain the required reports and land statistics of the titling process of Nor Lipez indigenous territory. The qualitative data was collected in order to understand the changes in this landscape over time, the impacts on local people and the importance of territory and territoriality within the political struggles of lithium. Two methods were selected: focus groups with young people in the communities, and life histories of key informants.

The method of focus groups was selected for two main reasons: first, to obtain several perspectives and experiences about a specific topic. In my case, I focused on the changes in the Uyuni salt flat and the prospects of lithium mining. Second, I wanted to observe the different attitudes and narratives emerging in groups of young people living in distant communities and the prospects they had for the future. A total of three focus groups were carried out in Llica and Colcha-K with young people in the final year of high school (average age 18 – 19 years old/male and female³⁹). With a previous authorisation and explanation to the School authorities, I was given access to the facilities of the schools for a period of two hours. Prior to data collection, participants

³⁹ During the fieldwork, no one under-18s were part of the focus groups. This confirms in a way that in Bolivian rural areas, the indicator of educational backwardness (the proportion of children and teenagers that have a superior age compared to expected age in a certain course/level) shows that almost 40% of the students in the last year of school have an age superior to the expected. In addition, in the rural areas, this indicator is particularly high considering young people take adult responsibilities early, particularly because they are part of agricultural activities within the families and the communities. It is estimated that 68% of young people between 15-17 years old are part of the labour force in the rural area with impacts on their school performance and average age to conclude high school (Ministerio de Educación, 2004).

received an explanation of the research objectives, the expectations about their participation and the voluntary nature of the activity.

In terms of guiding questions, the focus group was divided into three main areas to open the discussion: i) the changes over time in the communities, ii) the significance of the Uyuni salt flat and the territory for the people and iii) the expectations of the future for young people. The information collected reflected different views about how young people perceive their communities, the constant and ongoing migration to Chile, and the expectations and information about the State project of lithium in the region.

A major problem with this method is how to balance the role of the moderator in encouraging participation of all the subjects, but at the same time, allowing the group dynamic to emerge. Another important issue to consider is the peer pressure to provide similar and predictable answers to the questions. In my experience, I found three main challenges: first, it was particularly difficult to manage the big number of the groups (an average of twelve people) but since this activity was voluntary I did not have options to limit the number of participants in the Schools. Second, this method requires having additional help; although I hired a bilingual research assistant for the visits to the communities, during these activities I had to moderate the groups and observe; as a result, I did not have the opportunity to take notes. Lastly, the processing of information is time consuming since it requires the textual transcription of two-hours of recording per session, the analysis of the dynamics and the identification of issues that emerged.

The second method selected involved the collection of life histories of key informants in the communities of the Uyuni salt flat. This method was chosen to explore individual/personal experiences in the distant communities of the Uyuni salt flat within the dramatic changes this landscape has experienced over the past 40 years. As stated by Berg (2009), this method implies in-depth interviewing and it seeks to collect information of the past and the trajectory of life of a person. The main difference between a 'biography' and a 'life history', also called 'personal narrative', is the focus. Biographies are ways of writing about someone's life through different historical circumstances whereas in life histories – widely used by anthropologists – the focus is on the person's world view and personal narrative as a way to understand a particular society and culture (Caplan, 2015) .

In my research, a total of five life histories were collected in the second phase of the fieldwork in the communities of Llica and Rio Grande. The informants included three women and two men. The selection was based on the feasibility, the openness of the informant to share his/her story, and the process of building trust and familiarity with the informants which took several days; all of them were people with an average age of 60 years old. In most cases, I had previous informal encounters in the streets with the selected people and between one or two official conversations (average duration of two hours) either in a small café or restaurant or in the main town square.

For this method, the interview needs to be relaxed and flow naturally. In this sense, I had a set of five questions to guide the conversation and they focused on the history of the parents/family, the childhood in the communities and how their lives and the region of the Uyuni salt flat has changed since the informant was a child. The most important insights of this method are related to processes of transformation, enclosure and commodification that the Uyuni salt flat has undergone over the past 40 years.

This method is particularly useful to capture long-term changes in the social, cultural, economic and political spheres. Bird (2011) suggests this method places people at the heart of the research and it is useful in combination with other qualitative methods. From a different perspective, this method is not representative as a sample, it depends too much on the interpersonal skills of the researcher and, as explained earlier, it requires time to build trust and familiarity. In addition, the narrative will emphasise issues and experiences the interviewee finds relevant, which might not be related to the topic of research.

In my experience, this method was highly valuable to capture the transformation of the Uyuni salt flat and how people perceived the changes Bolivia has experienced over the past decades. An interesting aspect I found during these talks was that my interviewees spoke to me in Spanish even though I was expecting that older generations would only communicate in Aymara or Quechua. This detail was directly linked to the migration history of these people to Chile and Argentina and only through the direct recounting of people's histories was I able to comprehend the impact of migration on the economic and social dynamics of the region.

In relation to secondary data; the collection, review and analysis of various sources of information was used to complement the analysis in the different chapters. First, I

collected statistical data from the 2012 census in order to create a socio-economic profile of the municipalities visited during the fieldwork. In addition, the latest data available about mining activities was processed to provide a background of mining in the country.

A second step in this process included the revision of official reports from the GNRE and the Social Impact Assessment of the lithium project. In addition, I examined the archives of the Vice-ministry of Land and the Land Institute (INRA) to access the ‘Spatial Needs Report’ and the land titling statistics of the Indigenous Territory of Nor Lipez. Both documents were essential to understand the objectives and motivations of this land titling process, which is included in Chapter 6.

Third, a revision of different mining laws and regulations, policy documents and newspaper articles was carried out to set the background and analytical framework for Chapter 4. Last, I collected local newspapers and followed different groups debating the lithium project on relevant internet sites (e.g. Facebook and blogs).

Complementary to the methods described above, the informal talks with local people and observation in the field were used in order to capture perceptions and identify key informants in the various locations in both phases of the fieldwork. The interactions I experienced on public transport and during long hours of waiting in public institutions were useful spaces to share ideas about my work and in some cases, make contacts.

Also, my fieldwork reflections were greatly enriched by the ongoing conversations and insights from Lucia Pacajes, my fieldwork assistant during the visits to the rural locations. Lucia is a middle-aged woman, originally from a rural community in the department of La Paz, whose native language is Aymara although she has been living in La Paz city for many years and is fluent in Spanish. Although she does not have any formal educational background, she is an extremely intelligent and observant person. During the fieldwork, she had a passive but attentive role during the interviews and focus groups; most importantly she contributed to the reframing of some questions and helped me to understand the different behaviours of local people. Almost on a daily basis, we had reflection time about the events of the day and during these talks important insights in relation to migration and the cultural importance of land and territory were discussed.

During our time in the communities, with the exception of Llica, we stayed with local families who rented a room to us. In general terms, the people in the communities were polite, but it took several days to build trust and familiarity. The first step in this part of the fieldwork was to contact the Municipal authorities and explain the objectives of the research and who we were. In a way, this official presentation gave us the legitimacy to be in the towns and start contacting people.

In addition, a daily record of activities, observation and insights were noted in my fieldwork diary. This document has allowed me to reflect on the evolution of my ideas and to make links between the different phases of preparation and immersion in the field.

Having explained and analysed the methods chosen for each of the research sub-questions, I will now move on to briefly present the articulation of the qualitative data with the conceptual frameworks and the chapters that structure the thesis.

The first two sub-questions explore the material implications of the Fiscal Reserve delimitations and the different narratives that have emerged over time. Through a combination of semi-structured interviews, participant observation and the critical analysis of government reports and mining legal frameworks, four main topics guiding my conceptual framework will be illustrated and discussed in Chapters 4 and 5: i) frameworks of mining governance within a continuous process of the neoliberalisation of nature; ii) the different discourses consolidating forms of access to and control of evaporite resources; iii) the role of the State in processes of the de-regulation and regulation of mineral resources and iv) the political struggles embedded in the production of space and the case of the Fiscal Reserve of the salt flat.

The third sub-question focuses on the perceptions and symbolic value of the Uyuni salt flat for the surrounding communities. Through a combination of secondary information about the titling process of the indigenous territory and primary and novel information of the life histories and some elements of the focus groups, important issues about territoriality and materiality will be further explored in Chapter 6.

3.5 Fieldwork locations and socio-economic context

This research had a multi-sited ethnographic approach. Situated in the anthropological tradition, this approach seeks to “follow people, connections,

association and relationships across space”, with the objective of the study of “social phenomena that cannot be accounted for by focusing on a single site” and it implies the ethnographer moves in a spatially dispersed field in order to collect different perspectives and understand connections between places and scales (Falzon, 2012, p. 1).

Lefebvre (1991) postulates that space is socially produced, and in a multi-sited ethnographic approach, two key elements are acknowledged: geographical space is fundamentally social; and relations across territories have particular cultural meanings. In this sense, the local is incorporated as part of a larger scale of analysis and the connections between places allow exploring social relations and rhetoric of power.

The multi-sited approach is not exempt from controversy, and different critiques target a lack of depth and the assumptions of pre-existing fields (Döring, 2012). Falzon (2012, pp. 7-8), however, counter argues that much of the criticism lies at a “purist conservatism” level in ethnographic paradigms, in which the production of depth/thickness of knowledge requires a conventional approach in which “time transforms and makes”, arguing that; in many cases, it is “not just time that transforms and makes, but also space”. In a similar line of argument, Humphreys-Bebbington (2010) validates a multi-sited approach as a natural complement to a political ecology approach that aims to work across scales and territories. In her research about contradictions and forms of governance in natural gas extraction in Bolivia, a multi-sited approach allowed her to observe different experiences of distinct social and ethnic communities and to find linkages across scales – from ethnic territories to international scales.

In the particular case of the Uyuni salt flat, a multi-sited approach was essential to capture the complexity and linkages of the case. The municipalities I chose to visit were those directly related to conflicts with lithium and ulexite mining. The more I talked to different actors, the more evident it became that divergent opinions and views in relation to the lithium project and the transformation of the salt flat existed. In this case, the location (the province/community) and the background of the interviewee were essential to understanding the region of the Southwest of Potosí because it was linked to a political narrative and a particular understanding of identity and territory.

As will be discussed in the following chapters, in this case there is a scalar dimension related to the governance of resources and this dimension raises three different tensions: first, between local rights and the prerogative of the central state to extract and redistribute revenues under the post-neoliberal model; second, tensions between the Departmental Government of Potosí and the central government in relation to the attributes and competences in mining; and third, the tension between the provinces surrounding the salt flat (Daniel Campos, Antonio Quijarro and Nor Lipez) in relation to the territorial claims and the future royalty of lithium mining.

In the first part of the fieldwork, I visited Uyuni city and started building a network of contacts in the rural locations. In the second part of the fieldwork, the visits to the communities took place during the months of May-June 2015, in the municipalities of Llica (Daniel Campos province), Colcha-K and Rio Grande (Nor Lipez province) and Uyuni city (Antonio Quijarro province). In each municipality, I was able to observe the different livelihood activities (quinoa, tourism, ulexite mining and trade), the different degrees of development in terms of basic services and most importantly, different narratives of perspectives from a variety of social actors.

What follows is a description of the most important economic activities and their links with the locations of the fieldwork. The relevance of this background is to show the complexity already present in this region and will complement the analysis of chapter 5.

3.5.1 Tourism: Uyuni

Tourism has become a major activity in the Southwest region. Between 2004-2014 the influx of tourists increased from 524,000 to 1.18 million at the national level (La-Razón, 2015c), and the Uyuni salt flat and the Eduardo Abaroa National Reserve represented the most visited ecotourism attractions in the country with an estimated 185,320 annual visitors (Aguilar-Fernandez, 2009; Viceministerio de Turismo, 2011). In recent years, the government has been promoting the Dakar Rally in the Uyuni salt flat as a means of marketing the country, yet the environmental consequences, the elevated costs and use of public resources to finance it and the low benefits for the municipalities are controversial.

The city of Uyuni is the entry point to both the salt flat and the Eduardo Abaroa National Reserve where the fluorescent-coloured lakes, spectacular geological formations, Tunupa volcano and hydrothermal vents among other attractions are located. Also, Uyuni is the hub for the interprovincial transport network: all of the transport routes to the surrounding municipalities and communities depart from the city.

Uyuni is the most populated municipality of the region (28,348 inhabitants). Founded in 1890 as a trading post, Uyuni became intrinsically linked to the silver economy and the Huanchaca mining company⁴⁰. After Bolivia lost its coastline in a war against Chile in 1879, the railway system was built to reach Antofagasta for the export of minerals and Uyuni was the most important point on this route. Uyuni rapidly became a major city for mining revenue collection, trade and the railway industry for repair and maintenance (Blanco, n.d.; Lizarazu, 2006).

Although a detailed exploration of tourism in the communities of the salt flat is outside the scope of this research (for more details refer to (Aguilar-Fernandez, 2009; García et al., 2011), it is worthwhile mentioning that tourism is an important mechanisms for the commodification of the salt flat in two ways: i.) the profits derived from the economic activity and the touristic routes are in constant struggle with local communities that demand to be part of the touristic circuit (personal communication, tourist operator, Uyuni) and ii) the magnificent ‘spectacle of nature’ this landscape provides, has been symbolically and materially appropriated and inserted into a market circuit for private tourist operators.

3.5.2 Quinoa: Llica/Tahua

Quinoa is a traditional grain from the Andes; for centuries, indigenous farmers in Bolivia have grown and consumed quinoa. Since 2000, there has been an

⁴⁰ Huanchaca Mine Company was the most important mining operation for silver extraction at the end of the XIX century in Bolivia. The Company built the first railway connecting Pulacayo town near Huanchaca mine in Potosí with Uyuni and Antofagasta. Antofagasta was the 10th department of Bolivia and in 1879, Chilean troops invaded Puerto Cobija (the capital and the location of the only Bolivian port for exporting minerals)(Espinoza, 2010).

exponential growth in global demand for quinoa and Bolivia was the leader of production until 2015 (30,000 tonnes/year) when Peru took over the market and increased its production and exports.

The Southwest region of Potosí is particularly famous for the production of '*quinoa real*' with an estimated production of 36,039 tonnes /year⁴¹ (Pareja, 2010). Over the past decade, many people returned to the communities to produce quinoa and there has been an increase in the number of producers and associations such as CADEQUIR, ANAPQUI and CECOAP. However, the price has dramatically dropped from Bs. 2500/quintal⁴² (approximately GBP 250) in 2013 to Bs. 700/quintal (approximately GBP 70) in 2015 (La-Razón, 2015b), negatively affecting the livelihood of hundreds of families that depend on quinoa in the region.

The municipalities of Llica and Tahua, which were part of the locations of the fieldwork, are particularly significant for quinoa production (10,895 tonnes/year) and international trade with Chile (Poveda, 2014).

Llica is the capital of Daniel Campos province. It has an Aymara population and it is nationally famous for eradicating illiteracy many decades ago; something absolutely exceptional for the Bolivian context in the decade of the 1960s. The most important rural preparatory school for teachers (*Normal*) of the region is found there and the inhabitants are proud of these two facts.

Quinoa production is another important element to consider in the internal dynamic of commodification in the salt flat. The boom in international prices has expanded the surface of crops and this has exacerbated the internal conflicts for land (for more detail see (Jacobsen (2011); Kerksen (2015); Walsh-Dilley (2013)).

This background will be relevant in Chapter 6 to understand why in the past, quinoa was the main trigger for internal conflicts within the communities, but as it will be further explored, the territorial struggles are now more focused on control and access to future revenue from lithium mining.

⁴¹ The estimated production of the 4 municipalities in Potosí (Uyuni, Colcha-K, Llica, Tahua).

⁴² A quintal is a unit of weight equal to 100 kilograms.

3.5.3 Mining: Colcha-K and Rio Grande

The Southwest region of Potosí is inherently linked to mining with private and cooperative actors. The biggest private open pit mine in the country (San Cristóbal) is located in Nor Lipez province in the municipality of Colcha-K⁴³. Equally important is mining evaporite resources (ulexite)⁴⁴ as a fundamental source of income for different communities in the area, in particular Rio Grande.

Rio Grande is a canton/small district⁴⁵ of Nor Lipez province. Originally it was a passing point on the railway to Antofagasta and by the end of the 19th century it was part of the ulexite extraction network of the British Borax Consolidated Ltd⁴⁶ (Ali, 2013; Gomez, 2013; González et al., 2014). In 1980s, the private company COPLA operated in the area employing some locals and afterwards some community members of Rio Grande self-organised to extract ulexite (Ali, 2013). In addition to ulexite mining, since 2008, there has been a community company (*Empresa Comunitaria Delta*) that leases heavy machinery to COMIBOL and the GNRE to build evaporation pools in the lithium project area.

San Cristóbal mine⁴⁷ is one of the oldest in the southwest region. In the 1980s the region suffered a crisis due to the national mine closure, the collapse of the mining economy and a severe drought that affected agriculture. Most people, but especially young people migrated to the urban areas and to Argentina and Chile.

In 1997, the Andean Silver Corporation of Bolivia started prospecting in the area and later obtained a mining concession. In 2000, Minera San Cristóbal S.A (MSC) was

⁴³ Colcha-K is particularly rich in mineral deposits: potassium, magnesium, lime, sodium carbonate, sodium sulphate, borax, marble, tin, antimony, sulphur, gold, copper, and lead, among others (Poveda, 2014).

⁴⁴ As previously stated in the Introductory chapter (footnote 1), although the most common name for commercial purposes is Borax, in this thesis I will refer to ulexite only as the main resource extracted from the salt flat of Uyuni.

⁴⁵ A canton is a type of administrative division of a country. In general, cantons are relatively small in terms of area and population when compared to other administrative divisions such as counties, departments, or provinces (Wikipedia).

⁴⁶ The company was created in 1899 and was closed in 1962 (Ali, 2013).

⁴⁷ The proven and probable reserves of San Cristobal are estimated at 446 million ounces of silver, 3.45 million tonnes of zinc and 1.27 million tonnes of lead (Molina 2007 quoted in Aguilar-Fernandez (2009).

established and began an ambitious plan of investment in the mine. This initiative represented a new type of highly technological mining and it also required the relocation of the community of San Cristobal to a different place. This was a controversial aspect of the initiative; however, considering the previous years of crisis, the community agreed to be relocated. The people obtained monetary compensation for their plots and the houses were rebuilt by the company in the new location. The company established the *Fundación San Cristóbal* (San Cristobal Foundation) as part of their Corporate Social Responsibility programme and there are direct negotiations between the company and the community to define local development projects, and resolve and manage conflicts; although, water access and use has been at the centre of social conflicts for some years (for more details see (Morán (2010); Olivera (2014)).

San Cristóbal S.A pays an average yearly royalty of USD 91 million, from which 85% is transferred to the Departmental Government of Potosí and 15% is transferred to the municipality of Colcha-K, making it one of the wealthiest municipalities of the country (Poveda, 2014).

Empresa Tierra S.A was a mining pioneer in the Southwest region of Potosí. It started operating in 1983 producing quicklime (calcium oxide) and also contributed to organise peasants to produce quinoa through the *Central de Cooperativas Agropecuarias Operación Tierra Ltda.* According to its mission, the company seeks “to develop industrialisation projects of evaporite resources and to contribute to the socioeconomic development of the Lipez province” (Olivera 2014: 129). In 1990, the company started the production of boric acid and obtained ulexite concessions in Capina salt flat in Sud Lipez province. The manager and owner of the company (Guillermo Royland) has been an important actor throughout the history of the region. He was the advisor of FRUTCAS in the lithium project and he was part of the technical committee of the State project.

Ulexite extraction comprises the removal of the salt crust in the surrounding area of the salt flat and the manual extraction of ulexite (see Figure 3.1). Next it is dried, powdered and mixed with sulphuric acid to remove impurities; then the boric acid is crystallised by cooling, separating and drying with hot air to obtain a 99% degree of purity (Ballivian & Risacher, 1981). Ulexite is used in agricultural fertilisers, ceramics, glass, fiberglass and also is an input for casting of metals (foundry). There are five

mining operators in the area, but *Sociedad Colectiva Minera Rio Grande SOCOMIR* and *Cooperative Estrella del Sur* are the most relevant in terms of production levels (12,095 and 13,138 tonnes, respectively) (Poveda, 2014).

The history behind these two organisations is intrinsically connected to the social struggles in the region and the definition of the Fiscal Reserve of the salt flat. These aspects will be further developed in chapter 5.



Figure 3.1. Ulexite process of extraction (Source: SOCOMIRG)

In addition to the mining activities described above, salt extraction is a semi-manual activity done by eight communities in the salt flat⁴⁸. Each community pays an annual lease fee (*canón de arrendamiento*) to COMIBOL⁴⁹. The community of Colchani has the highest level of annual production (29,250 tonnes) and sells the natural salt to a milling industry in Oruro and iodized salt to the departments of Potosí, Tarija and Chuquisaca (Poveda, 2014).

The different aspects discussed in this section are relevant to understanding the complexity already present in the region and how mining has deeply impacted the economic dynamic of the local people.

⁴⁸ In Colcha-K: communities of Atucha, Santiago de Agencha, Puerto Chuvica.

In Tahua: communities of Chiquini, Caquena, Cacoma and Chiltalco.

In Uyuni, the community of Colchani.

⁴⁹ Before the new mining law, the institution in charge was CIRESU.

3.6 Analysis of data

The decision of what to include or exclude from the rich amount of data from the fieldwork is an intricate process. In my case, although I had a coherent focus on resource governance when I started the fieldwork, the links between culture, commodification, territory and territoriality were revealed to me along the way. The interviewees I chose to quote in this work are those whose narratives and concerns were insightful and helped to illustrate a particular angle of the problem in the analytical chapters. As mentioned earlier, anonymity is strictly adhered to and only certain background information of the informant is revealed.

In terms of processing the information, I created a database in which the interviewees were classified according to affiliation (government, type of mining operator, local government, NGO, academic and grassroots organisation). All of the interviews were transcribed in Spanish, and then translated into English, after they were carefully reviewed and important quotes and ideas were incorporated into an analytical matrix. The secondary data was also classified and organised into files according to quantitative information, news, laws and legal framework and social media debates.

The life histories were recorded in Spanish and later transcribed. An initial step in the processing and analysis of the data was to create a timeline of the person's life and then make links with the different themes the informant highlighted. In some cases, a textual translation to English was used to illustrate different arguments in Chapter 6.

The processing of focus group information was similar. I recorded the sessions, transcribed in Spanish and then examined themes that emerged during the interventions and the type of wording used by young people. This analysis allowed me to identify issues such as future expectations of lithium mining and the perceptions of the Uyuni salt flat as a strategic space. These topics were incorporated into Chapters 5 and 6.

Overall, the collection of qualitative data among a range of different actors – from politicians to local residents – provided me with a vast variety of perspectives in relation to three key issues that form the structure of this thesis: the continuous process of neoliberalisation of nature; the State role in socio-environmental changes; and mining expansion and the symbolic meanings in nature's commodification.

In the next chapter, the focus moves to the mining legal frameworks and the impacts on the governance of mineral resources in Bolivia. The analysis will introduce two different problematics in terms of forms of access to and control of resources: the mechanisms perpetuating neoliberal forms of access; and the role of the State.

Chapter 4 THE NEOLIBERAL AND POST-NEOLIBERAL MINING FRAMEWORKS

4.1 Introduction

The purpose of this chapter is to examine the role of the Bolivian State in the governance of mineral resources from 1985 to 2014. During this period, the country implemented a series of neoliberal and later post-neoliberal policies with particular impacts on the mining sector and the ownership of mineral resources.

Through a critical analysis of the definition of property rights in mining frameworks and quotes from interviews, I present an overview of the different mechanisms through which neoliberalisation as a process takes place. This discussion is guided and driven by the broader conceptual debates discussed in Chapter 2, on the discursive and material elements of defining resource governance and the role of the State in the neoliberalisation of nature.

In my argument, neoliberalisation is the process that transforms and commodifies nature. This process, regardless of the ideology in place, is in constant flux, searching for new and unexplored spaces to expand capitalist forms of production. Far from being an economically-driven process though, neoliberalisation and commodification are, I argue, articulated in material, discursive and symbolic ways that shape particular forms of resource governance. As I will show in this chapter, the State is located at the core of these processes in a dual role: i) either as facilitator of market relations or in a more regulatory role and; ii) as a social relation through which power struggles and strategies redefine social arrangements and mineral governance.

Peck et al. (2010, p. 95) argue that “neoliberalisation is an adaptive regime to socioeconomic governance” that has proven to be flexible and dynamic as a political project, an ideological construct and institutional matrix. Both neoliberalism and post-neoliberalism adequate an ensemble of social relation for the main aim of capitalism: the accumulation and expansion of capital either for private or State interests. As

Castree (2008a) points out, both share a capitalist common ground in terms of a global system of production, social relations, transformation and appropriation of nature. However, the most important difference is that in post-neoliberalism, the State not only defines rules, but also competes in markets and in particular in extractive industries.

In this sense, the Bolivian case is particularly interesting to explore the dynamics of neoliberalisation in relation to mineral resources for two main reasons. The country is an example of the de-regulation and the later re-regulation of extractive resources. Since 2006, the government of Evo Morales made a series of changes to regain control of the most important source of income (natural gas) (Kaup, 2010). Yet, in spite of the strong nationalist rhetoric, mining remained as an ambiguous arena for the re-regulation of mineral extraction and to some authors, so-called post-neoliberalism is labelled as a “gentler inclusive neoliberalism” (Bakker, 2015, p. 493).

Also, the new Mining Law has been at the centre of debates about mineral resources ownership in Bolivia since 2006. This new regulatory framework for mining took six years to be formulated and approved and during the Legislative Assembly debate of the law, violent confrontations emerged between the *cooperativistas* (small and intermediate miners), the State mining workers (COMIBOL)⁵⁰, and peasant organisations. In March 2014, Evo Morales presented a new Law of Mining to be approved by the Legislative Assembly; however, controversy around several articles of the law, in particular those related to the approval of mining contracts and leasing rights (Art. 132 and 162), immediately triggered a violent conflict. After four dead, dozens of wounded, six regions of the country blockaded and the Minister of Mining removed from his post, the government reached a new agreement with the *cooperativistas* to approve the law with some changes.

The lengthy process of negotiating a new mining framework is not coincidental and reflects multiple hidden interests and historical processes. Although the new mining law sets the State as the only entity with rights over mineral resources, there are

⁵⁰ COMIBOL – *Corporación Minera de Bolivia* (Bolivian Mining Corporation)

different mining actors (State, cooperatives, private) and forms of access from the previous neoliberal framework that remain and set the scene for potential clashes (Olivera, 2014).

This chapter begins by laying out the historical background of mining in Bolivia during the neoliberal⁵¹ and post-neoliberal periods. The next section introduces the first element of the analysis: the State in its role as negotiator and mediator of mining governance. This is presented through a discussion of the process of negotiation of the new mining law and by highlighting the mechanisms through which the cooperative sector became a dominant actor within the mining sector and within the State. The analysis then continues by contrasting the Law of Mining No. 1777 established in 1997 during the neoliberal period, against the new Law of Mining proposed by the Morales government in 2014. The analysis focuses on a typology of property rights in resource access and how the State defines ownership of mineral resources and a Fiscal Reserve area in mining governance. In section 4.3, I focus on the main neoliberal continuities in terms of access to non-mineral resources like water and the social impacts on communities and their rights. The empirical evidence will shed light on the mechanisms through which forms of dispossession and accumulation operate in the post-neoliberal mining framework. Section 4.5 outlines the implications of the new mining law for the Departmental governments and identifies the mechanisms through which the State centralises decision making in mineral governance. The concluding section summarises the main findings.

By examining the property rights framework, I will shed light on the relationship between the State and mining actors within a process of neoliberalisation and on the contradictions that exist in terms of resource governance in a post-neoliberal regime. This chapter sets the scene for the Chapter 5, by outlining how the new mining law defines a Fiscal Reserve and how evaporite resources are framed as strategic resources.

⁵¹ The neoliberal era in Bolivia started in 1985 after a severe crisis of debt burden, the collapse of the state mining economy and hyperinflation. The New Economic Policy (NEP) introduced the Presidential Decree 21060 which established the market economy and the liberalisation of prices, exchange rates and labour (see (Huber and Solt (2004); Kohl (2006); Kohl and Farthing (2006))). In the mining sector, the Decree 21060 eliminated the monopoly of the State in mining, promoted the free trade and exports of minerals, liberated prices and the labour recruitment conditions. The state company COMIBOL had a significant reduction and the federal mining areas were eliminated (Arsel et al., 2014).

4.2 Mining in Bolivia

4.2.1 The neoliberal period

The history of Bolivia is intrinsically linked to mining. The mining sector has been the main pillar of the economy since colonial times and miners have been key actors in the social changes that have occurred over time. Before the National Revolution in 1952⁵², the mining industry was managed by three big companies: Patiño, Hoschild and Aramayo (also known as the tin barons). The nationalisation of the mines in 1952 was a powerful rhetoric that mobilised and articulated different social sectors in this social uprising (Jordan, 1999; Toranzo, 1999). As a result, the mining State company COMIBOL was created and all mines were transferred to State ownership.

In its early stages, COMIBOL had more than 20 mines in operation and, was the second largest tin company in the world after the Indonesian State company P.T. Timah (Espinoza, 2010). Over four decades, minerals represented more than 80% of the country's exports, and was one of the most important sources of employment and the main income for the State (Machicado, 2003; Oporto, 2013)

At the beginning of the 1980s, the resource-based economy and COMIBOL entered into a deep crisis in conjunction with a structural crisis of debt, the collapse of international tin prices and a process of hyperinflation in the country (Crabtree et al., 1987). This was the context within which Bolivia adopted neoliberal reforms (Kingstone, 2011).

The restructuring of the country towards a market economy was the most radical in Latin America after Chile (Kohl, 2006)⁵³. It encompassed three phases: the structural

⁵² For more details refer to Chapter 1, Footnote 13.

⁵³ The policies of Chile focused on attracting foreign investment and expanding the export sector. The market policies included the elimination of price controls, reduction of tariffs, deregulation of interest rates, drastic cuts in government spending in healthcare, social security, education. The privatisation took place in many public enterprises, mostly in the financial and industrial sector (Huber & Solt, 2004). The mining sector was privatized and 63% of the copper reserves were given as concessions to Exxon and others. The State kept 37% of the mineral production (Vergara, 2005).

adjustment program (SAP) and the Decree Law 21060 (1985-1993) focused on cutting government spending, opening the economy to trade and floating exchange rates, closing inefficient mines and making cuts to COMIBOL (between 1985 and 1990, more than 30,000 workers from COMIBOL were made redundant⁵⁴). The second phase (1993-1997) was the consolidation of neoliberalism through a further process of the privatisation of State owned enterprises and the decentralisation of 20% of the national budget to municipal governments, among other policies. The third phase (2000-2003) was characterised by further attempts to privatise natural resources like water and the subsequent ‘water and gas wars’ that reflected the public rejection of the neoliberal reforms (Kohl, 2006).

Of particular interest is the strong focus the neoliberal regime had on liberalizing the mining sector and progressively dismantling COMIBOL. During the first phase, COMIBOL was reduced and decentralised; but in the second, COMIBOL lost its role in the productive sector and became a mere administrator of concessions (Córdova, 2015; Michard, 2008). The Mining Code of 1997 (Law 1777) established the concession regime and reduced the role of the State to the faculty of ‘alienation’; in other words, the State had the capacity to sell or lease the rights over all minerals but no longer had the rights over management (Arsel et al., 2014). At that time, this Mining Code was considered by some lobbying groups as the “best mining code” in Latin America (Espinoza, 2010, p. 376). In particular because of several articles that: i) defined the mining concession as a property asset (transferable, able to be inherited, tradable and mortgageable); ii) was more technically oriented and introduced the GPS system to map and define concessions; as a result the country was divided into 4.453.488 grid mining (*cuadrícula minera*); iii) simplified the mining concession procedures and the only condition for the reversion or expiration of mining

⁵⁴ It is estimated that a total of 35,198 mine workers lost their jobs. The State company COMIBOL underwent the most dramatic reduction: 24,575 workers of a total of 30,174 were dismissed and many intermediate and small mining companies also were closed, leaving another 10,443 unemployed. Soon after, 5000 miners and their families led the social protest called “*Marcha por la vida*” (March for life). However the march was repressed and stopped by the Government, marking the end of an era of political prominence of the Worker’s Union Confederation (COB) and the Union Federation of Mine Workers (FDTMB) ((Crespo, 2009) cited in Silva et al. (2014)).

concessions was the non-payment of the annual mining patent; iv.) established the Mining Complementary Tax (*Impuesto Complementario a la Minería*- ICM) based on the gross sales value of minerals and transferred this income to the Departmental Prefectures (now known as Departmental governments) (Espinoza, 2010).

This mining framework strongly focused on minimising the role of the State and generating favourable conditions for private investment and the expansion of mineral extraction (Andreucci & Radhuber, 2015). However, these incentives were not necessarily beneficial to the Bolivian mining sector or to the country. For instance, the controversial mechanism of payment and annual patent for mining rights regardless of whether the mining concession was producing or not, contributed to the ability of powerful actors to acquire concessions for an indefinite time without any type of work or investment. The transfer/lease/rent of mining concessions to third parties could thus be done without the consent or knowledge of the State; and the tax structure was considered too lenient (Córdova, 2013; Espinoza, 2010).

The majority of the State mining workers who were made redundant during this neoliberal phase were forced to migrate to find alternative livelihoods (Silva et al., 2014). These so-called artisanal and small-scale mining cooperatives⁵⁵ began in 1930, but strongly re-emerged in the context of the crisis in 1985. This sector is defined as rudimentary mining operations with less than eight workers, with few investments in technology and machinery (Espinoza, 2010). Many of the relocated miners who had some capital to invest affiliated themselves with existing and new cooperatives to access mining concessions in areas that were previously managed by COMIBOL (Michard, 2008). This change was possible due to the decentralizing process of COMIBOL and the Decree Law 21337 which stated that the State company could

⁵⁵ The origin of cooperative workers (*cooperativistas*) can be traced back to the colonial times. The so called *Kjachas* were considered thieves of minerals of the Spanish-owned mines. Groups of five people used to organize and illegally entered mines and extract minerals to be latter manually refined and sold (Escobari De Querejazu, 2012). In modern times, *cooperativistas* are miners without a formal employment relation that self-organize to extract minerals. The mining cooperatives are not homogenous, some vary in size, organisation and in labour conditions for the members (*socios*) and wage labour workers (*peones*) (Andreucci & Radhuber, 2015).

operate through: i.) direct management of the remaining subsidiary State enterprises (16 in total), ii.) leasing contracts with Cooperatives; iii) shared risk and leasing contracts with private companies (Espinoza, 2010). The cooperatives represented a “miserable alternative” for most of the miners who still lived in poverty and were hired as temporary workers without labour security or health insurance. In many cases, the sons of miners used to take the place of their fathers in the mines in case of death or sickness (Carrillo et al., 2013, p. 239)⁵⁶.

In theory, the cooperatives represent a collective enterprise with democratic internal control based on values of cooperation, equality and solidarity (Francescone, 2015). However, in reality, the mining cooperative sector is heavily criticised by its exploitative labour conditions to temporal workers and women, the different categories of associates, the unfulfillment of environmental norms and the resultant conflicts with communities, the small contribution in taxes to the National treasury considering its volume of production and the agreements and associations some of them have with private foreign companies (Absi, 2005; Carrillo et al., 2013; Espinoza, 2010; Michard, 2008).

As a result of these processes, at present the mining sector is divided into the following categories: i) large-scale private (transnational or transnational-Bolivian capital); ii) State sector, iii) small and medium-scale private (non-cooperativised), iv) cooperative sector and v) other small scale (non-cooperativised independent miners). The State mining operates through COMIBOL and has a heavy and slow bureaucratic apparatus unable to compete with the private sector. As Figure 4.1 illustrates, COMIBOL is the State mining operator, it has three regional branches, seven productive units, four foundries and six mining companies. The GNRE has a special status as a semi-independent unit, but recently, in March 2017, the Congress approved the creation of the *Empresa Estatal Yacimientos de Litio Boliviano* (State company of Bolivian

⁵⁶ For a detailed account about mining cooperatives in Bolivia see (Absi (2005); Carrillo et al. (2013); Francescone (2015); Marston and Perreault (2017); Michard (2008); Mogrovejo and Vanhuynegem (2012)).

lithium deposits -YLB) which eventually will replace the GNRE and will operate independently from COMIBOL⁵⁷.

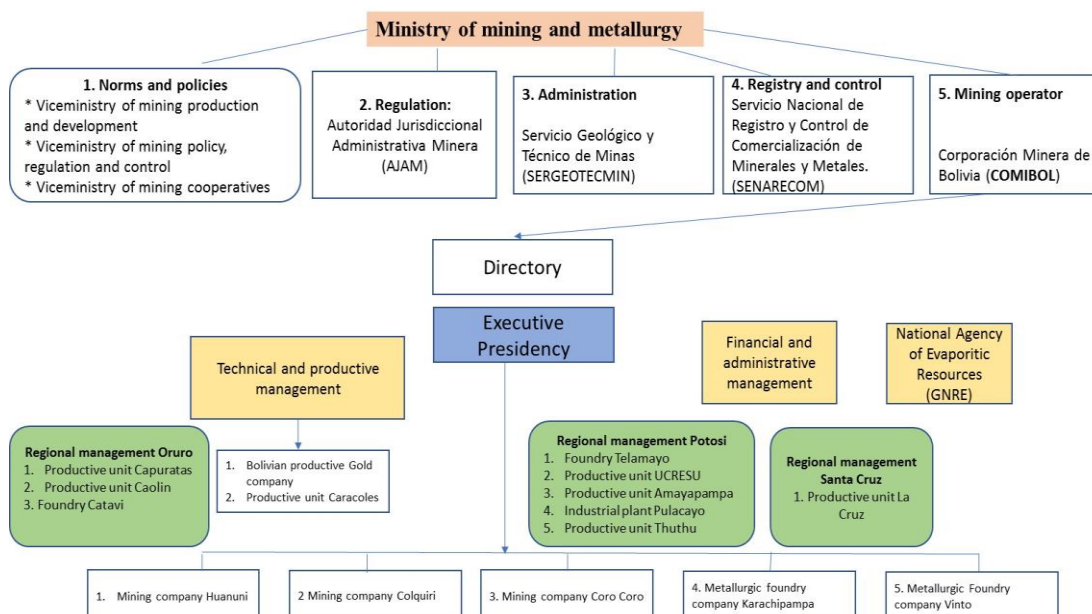


Figure 4.1. Institutional Structure Mining sector and COMIBOL (Source: Own based on (COMIBOL, 2016; Córdova (2013)))

The private mining companies have modest investments compared to neighbouring countries like Peru. The biggest private mining company is Minera San Cristobal, followed by Inti Raymi (subsidiary company of Glencore), Panamerican Silver, Manquiri (subsidiary company of Coeur d'Alene). Most of the private initiatives are Canadian and Asian, including a number of Chinese companies that are in partnership with local cooperatives (Córdova, 2015).

The cooperative sector generates more employment but contributes the least to the State. The internal structure is formed by associates, a general assembly, a directory democratically elected and different working committees. Each cooperative form part of a local associations (10 in total in Bolivia with an estimate of 1,642 mining cooperatives) and all departmental associations are affiliated at national level to the

⁵⁷ Law project N°064 (Urgentebo, 2017)

‘Federación Nacional De Cooperativas Mineras’ (National Federation of Mining Cooperatives – FENCOMIN)⁵⁸(Canaviri, 2015; Espinoza, 2010; Michard, 2008).

The State company COMIBOL produces a small amount of the total production, while the medium-scale mining accounts for 77% of mineral production, even though it employs a similar number of workers to COMIBOL. The cooperative sector is particularly relevant since it contributes 22% to national mineral production, has around 52,130 associates and more than 100,000 direct and indirect workers representing 88% of the economically active population (Canaviri, 2015; Marston & Perreault, 2017). As Table 4.1 shows, the mining royalties are very disproportionate; the intermediate industry contributes almost 70% whereas the cooperative sector contributes 23%.

Table 4.1. Mining Production, employment and Revenues by type of mining actor

	State mining COMIBOL	Medium- scale mining	Small-scale mining and cooperatives
Percentage of production (sales value)	2%	77%	22%
Number of Employees	4,950	5,138	52,130
Percentage of total royalties	7%	70%	23%

Source: Own based on data of Viceministerio de Política Minera Regulación y Fiscalización (2008)

4.2.2 The post-neoliberal model

Under the Morales government the State has regained a leading role in the economy; in particular, the nationalisation of the hydrocarbons⁵⁹ sector in 2006 has been prominent in the government discourse of sovereignty and redistributive policies through social programs (Durana, 2012; Laing, 2014). The extent to which the nationalisation of gas took place is debated since it had different characteristics from

⁵⁸ The department with the greater number of mining cooperatives is La Paz (1,220), followed by Potosí (184) and Cochabamba (77). Most of the mining cooperatives extract gold (1,069 cooperatives) and traditional minerals like tin and silver (366 cooperatives) (Canaviri, 2015)

⁵⁹ The first step was to declare the Supreme Decree 24806 unconstitutional since according to Article 139 of the Bolivian constitution, the country's hydrocarbons are the property of the state, and no concession or contract can transfer this right to another entity. This legal strategy recovered the state's right to commercialize its hydrocarbons and increased the prices it received from the sale of its natural gas (Kaup, 2010).

past models of nationalisation⁶⁰. For instance, as part of the negotiations, the government incorporated transnational enterprises as partners in a new scheme of State participation, with variable taxes between 50 to 82% over the profits (Barié, 2007). According to Kaup (2010, p. 130) the nationalisation was more of a “hostile takeover” since the State bought previous capitalised assets of the State company YPFB. In this sense, the nationalisation was less about the recovery of capitalised segments of YPFB and more about control of the gas itself. The State did renegotiate prices with buyers and taxation rates but the contracts did not allow the renegotiation for export quantities.

Whether or not this was a total or partial nationalisation, the new scheme did establish a royalty structure that benefited the State to a much greater degree than previous regimes Perreault (2008) . In concrete terms: prior to the nationalisation, transnational companies paid a combined 18% royalty and taxation rate on the hydrocarbons, after the nationalisation this combined rate was increased to 50%. In this way, and considering the increase in international prices, the State experienced dramatic growth in financial resources. In 2004, the State took in close to USD287 million. By 2007, the State was taking in close to USD1,572 million and between 2006-2015, the total income generated for the State was USD 31,000 million (Cambio, 2016; Kaup, 2010, p. 129).

⁶⁰ The nationalisation of hydrocarbons is not new in Bolivia. As Andersen et al. (2006, pp. 5-9) describe, the first nationalisation was done in 1937 after the Chaco war with Paraguay. The main reason for the nationalisation was the accusation against the Bolivian Standard Oil of having smuggled oil to Argentina, evading the 11% royalties, and the annual patents for its concessions in a time of war and national need. Later in October of 1955, the government passed a new law, which opened the hydrocarbon sector for foreign direct investment again. In addition to the royalties of 11% that already existed, this law added a tax of 19% on gross production. In 1969, the government nationalized the company Bolivian Gulf Oil for the second time. During the dictatorship in the 70s and the international oil boom, the government passed a new law which allowed a joint venture between the state company YPFB (*Yacimientos Petrolíferos Fiscales Bolivianos*) and foreign companies. Royalties were raised to 12%, the additional tax was kept at 19%, but another 19% of gross production was to be paid to YPFB, which in total gave an intake for government of 50%. After the fall of prices and the subsequent economic crisis during the 80s, the neoliberal model and adjustment policies were introduced to the country. As part of the liberalisation of the economy, YPFB was capitalized (semi-privatized) in 1996, and foreign companies took over the management of the sector.

The nationalisation of hydrocarbons is highly relevant to understanding the narrative and the material impacts of the post-neoliberal model. The massive influx of resources for the State allowed an increase in public investment⁶¹, overwhelmingly concentrated on infrastructure (highways) and cash transfer programmes for the sector of population considered as vulnerable. In rhetorical terms, nationalisation is portrayed as “the most transcendental policy of President Evo Morales and the decisive step towards the recovery of sovereignty for the State” (Cambio, 2016, p. 28).

However, in the mining sector the nationalisation rhetoric and practice has been much less emphatic. For instance, San Cristobal mine – the largest private company and mining operation of the country– was not considered for nationalisation and since 2006, there were no changes in the tax structure and the State lost the opportunity to generate more income during the boom in mineral exports between 2002-2012.

In concrete terms, in 2006, the Huanuni tin mining company was reintegrated into COMIBOL, leading to a violent conflict between cooperative and State workers⁶². In 2007 and 2010, the Vinto foundry and Metallurgical Company (*Empresa Metalúrgica y Fundidora Vinto*) were nationalised; in 2011, the mining complex of Karachipampa⁶³ was also integrated with COMIBOL and in 2012 the silver mine Mallkhu Khota and the zinc and tin mine Colquiri were also nationalised (Andreucci & Radhuber, 2015; Espinoza, 2013).

⁶¹ Between 2006 and 2015, the public investment rose from US\$ 629 a 8.200 million (Cambio, 2016). The public investment is overwhelmingly concentrated on infrastructure: 79% on highways. Other sectors had received much less resources: industry (1.2%), agriculture (6.4%) of total public expenditure (Webber, 2016)

⁶² The Huanuni mine was nationalized in 1952 and was privatized in 2000 through a joint venture between COMIBOL and Allied Deals. The conflict of 2006 started when cooperative workers tried to take over various areas operated by COMIBOL. The violent encounter between COMIBOL workers and cooperatives resulted in 16 deaths and 100 injured. After a mediation process, the Government nationalized the mine and incorporated the cooperative miners (around 4000) into the state company (Andreucci & Radhuber, 2015; Perreault, 2013).

⁶³ The Karachipampa lead and silver foundry is located in Potosí. It was built in 1984, with a total cost of US\$ 180 million. Initially imagined as the nation's largest foundry, it had an enormous capacity of 51,000 tonnes per year. Widely criticized for its overcapacity, the plant suffered continual delays due to insufficient lead and silver inputs and lack of investment. Thirty years later and despite its deterioration and obsolete technology, in 2011, the Government decided to activate the foundry under the control of COMIBOL (Espinoza, 2013).

In terms of investment in the mining sector, when Morales took power in 2006, public investment represented 6% and private investment 87%. In 2013, State investment dramatically increased to 58% (USD 112 million) and private investment declined to 42% (USD 80 million) (Ministerio de la Presidencia, 2014; Riveros, 2013).

Arsel et al. (2014) identify three main policies in the mining sector that sought to strengthen the State. First, the sentence of the Constitutional Court 0032/2006, which determined that several articles of the Mining Code of the neoliberal era were unconstitutional in regarding the mining concessions as indefinite private property rights (which could be inherited and used as collateral for loans). Second, the Supreme decree No. 29117 declared the entire national territory as a fiscal mining reserve and it stopped the granting of new mining concessions (Espinoza, 2010). This decree was the first step to give back to COMIBOL the jurisdiction over exploration, exploitation and management; nonetheless, pre-established private mining concessions were exempt (Art. 1). Third, the most important reform was written into the New Political Constitution of 2009, which ruled that all natural resources come under the perpetual ownership of the Bolivian people and are administered by the State. This meant that private actors could only access mineral resources through the granting of rights and contracts, as opposed to permanent property rights.

Since 2007, the international context has been very positive for the mining sector. The continuous increase of commodity prices (tin, silver, zinc, gold and lead among others) has contributed to a revival and expansion of mining operations in the country (Crabtree, 2013). By 2013 the contribution of the mining sector represented almost one third of the country's exports, and, together with hydrocarbons, accounted for 81% of total exports (see Figure 4.2). According to Gandarillas (2014) the volume of mineral extraction reached an historic peak (from 176.000 tonnes in 1999-2005 to 450.000 tonnes in the period 2006-2013) yet the participation of COMIBOL was minimal (8% of the total exports). The State revenue was low considering the volume exported and the exceptional international high prices. Most importantly, the increase in extraction and exports during Morales' government was mostly driven by transnational mining companies and the ever-expanding private cooperative sector (Andreucci & Radhuber, 2015).

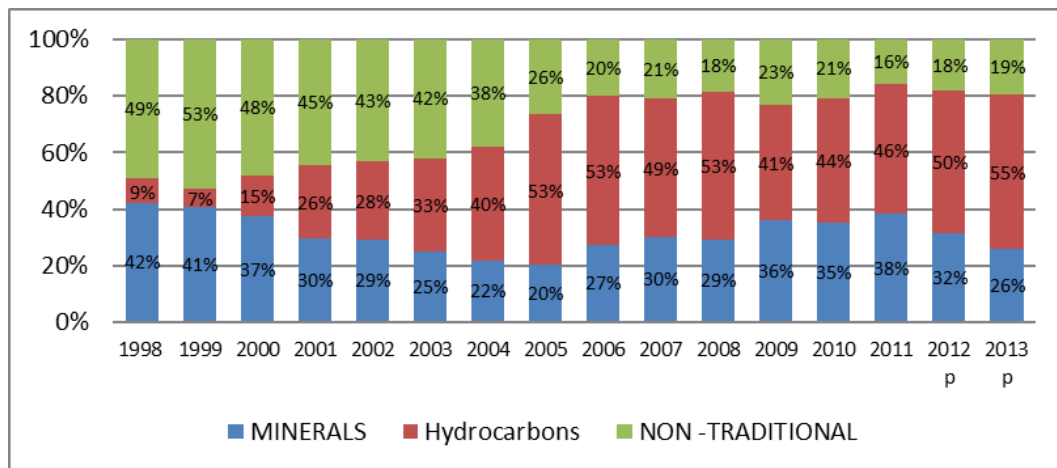


Figure 4.2. Value of Bolivian exports by type of product (Source: Banco Central de Bolivia based on Instituto Nacional de Estadística (INE))

The royalties and transfers from mining show an increase over time, yet a minimal contribution compared with the hydrocarbons sector, which was nationalised and resulted in the renegotiation of contracts in 2006 (see Figure 4.3)⁶⁴.

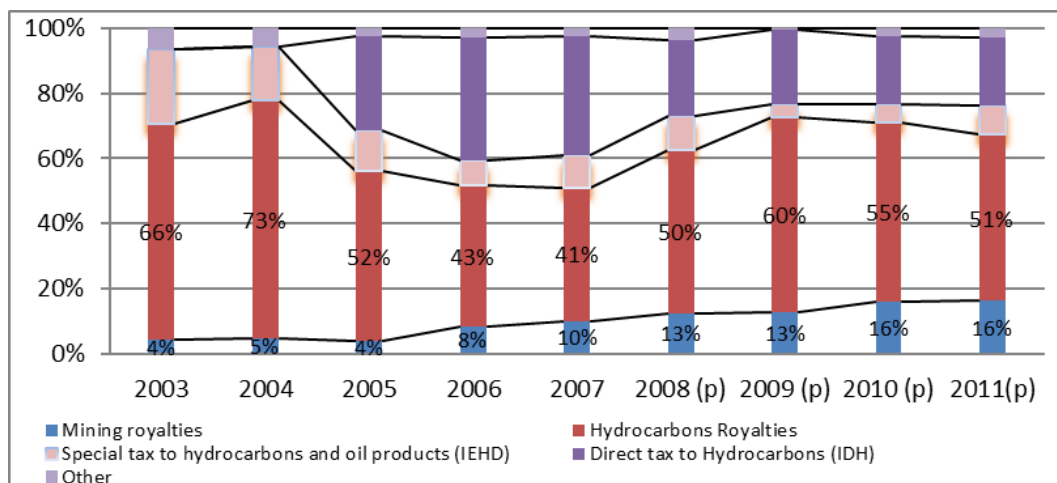


Figure 4.3. Percentage of royalties and transfers in Bolivia according to activity (Source: Ministerio de Economía y Finanzas Públicas, Viceministerio de Presupuesto y Contabilidad)

4.3 Negotiation and power in mineral governance: the new mining law No. 535

Since the approval of the new Constitution in 2009, a new mining law was pending. The official process of writing the new law started in 2011; however, it was

⁶⁴ Before the mining crash in 1985, the mining sector represented 85% of exports and the most important source of income to the national treasury (Crabtree et al., 1987; Kohl & Farthing, 2006).

a slow and extremely complex process involving different stakeholders, including technocrats of the Ministry of Mining, representatives of the private and cooperative sectors, and COMIBOL.

In January 2014, the draft law already caused controversy in relation to the tax structure that would exempt the cooperative sector from paying certain taxes. In the end, the government announced that the new mining law would not define the tax structure and the issue would be dealt with later, in a special regulatory framework.

In March 2014, the law was submitted to the Plurinational Legislative Assembly⁶⁵ with strong support from Evo Morales, who publicly stated: *“nothing has to be changed, [the Assembly] has to approve what has already being approved, agreed and consented by the miners of the three sectors”*⁶⁶ (La-Razón, 2014). Nonetheless, some members of the Assembly questioned several articles of the law: Article 132 in relation to the approval of mining contracts through the Plurinational Legislative Assembly, Article 151 regarding the rights to sign association contracts with private companies, Article 62 in relation to COMIBOL’s functions to grant mining areas under concession to cooperatives, and Article 162, which grants cooperatives the right to lease the concession areas. The articles were originally written to benefit cooperatives particularly because they were able to sign contracts for the exploration and exploitation of minerals with other private actors – including transnationals –thus contradicting the New Political Constitution (that asserts that only the State has the right to manage and define extraction rights with private actors) and still benefiting from tax exemptions as ‘social cooperative companies’ (CEDIB, 2014a; Francescone, 2015; Marston & Perreault, 2017; Vargas, N., 2014).

After the Assembly collected comments and raised concerns on the proposed law, the cooperative sector started a protest demanding the approval of the original first draft of the law. As a result, there were violent encounters with the police, four deaths,

⁶⁵ According to the New Political Constitution (2009) the State is divided into: i.) executive body (President, Vice-President, Ministers); ii.) legislative body (Legislative Plurinational Assembly: 36 senators and 130 deputies); iii.) judicial body (Supreme Tribunal, Departmental Tribunals, Higher Council of the Magistracy); iv) electoral body (Supreme Electoral Tribunal).

⁶⁶ Own translation from Spanish

dozens of wounded and road blockades in six departments of the country. The government suspended debate over the law, called for its re-elaboration, and appointed a new Minister of Mining.

In addition to the debate over the provisions of the law, it was observed that some social groups such as peasants, water association representatives and indigenous communities had been excluded from the definition of the law. The government position was quite hermetic in this regard, for instance in response to the question of why consultation over the law was only held with mining actors, the President of the Senate stated: *“which other sectors should be included?...the peasants? What do they have to do with it? Is it of interest of the environment? The citizens? The answer is No⁶⁷”* (Página-Siete, 2014b).

In April 2014, dialogue and negotiation between the cooperative sector and the government resumed. As a result, an agreement was reached about the contracts (Art. 62 and 132) which do not alter the previous concession contracts of the neoliberal law and only affect the contracts signed *after* the new law, which will need the approval of the Plurinational Assembly. Also, the controversial Article 151 was agreed, stating that cooperatives cannot associate with private companies unless they change their status to mixed companies (*empresa mixta*) and comply with the adequate legislation for that category. According to Marston and Perreault (2017) the negotiations around Article 151 in particular, show how the Morales’ government capitulated to cooperative demands through different legal tricks that preserved their interests. In concrete terms: cooperatives now have the legal right to subcontract their concession areas (Article 130-e); they are able to maintain their nearly tax-free status as not-for-profit entities; in addition to the possibility to form mixed associations. At the end of May (2014), the Law was approved and promulgated.

This process of the constitution and approval of the new mining law shows that the State in its mediator role is not neutral. As discussed in the Chapter 2, the state apparatus, as instrumental to capitalist expansion, operates through institutional and legal frameworks in defining resource governance. Yet these structures are not static;

⁶⁷ Own translation from Spanish.

on the contrary, they are contested and shaped by interaction and negotiation between different stakeholders. In the line of the relational approach, resource governance is constantly remade as the outcome of changing power relations among social forces operating through the State. In this sense, the State is not a mere reflection of changing forces but an actor balancing power. For instance, the State has a “strategic selectivity” that privileges access for certain social forces more than others (Andreucci & Radhuber, 2015) .

In my analysis, the Bolivian State is an example of a corporatist State in the mining sector (corporativism understood as a “State playing a major role in structuring, supporting, and regulating interest groups with the object of controlling their internal affairs and the relations between them”(French, 1991, p. 13)). On the one hand, the post-neoliberal model claims an economic development strongly rooted in state capitalism and state sovereignty, but on the other hand, private capitalism (mining cooperatives in particular) not only co-exist with state capitalism but also benefit from it and have special privileges that are negotiated with and through the State.

Two main points illustrate my argument of the State as a social and corporatist relation with private mining companies: the material and political power of cooperatives in defining mineral governance; and the omission of other less influential societal actors such as peasantry from the debate in the making of the law.

4.3.1 Material and political power of the cooperative sector

First, the mining cooperatives are powerful stakeholders in the governance of mining both in terms of production levels (and their economic relevance) and number of affiliates (with an estimated number of 100,000 to 114,000 direct and indirect affiliates) (Córdova, 2015; Espinoza, 2010; Marston & Perreault, 2017). In 2009, the New Constitution formally recognised the cooperative sector as an economic actor (Art. 310) and it was publicly represented as ‘the biggest political achievement’. In concrete terms: the number of mining cooperatives has tripled from 488 in 1990 to 1,642 in 2013 and the mining concession areas expanded from 30,000 to 360,000 hectares in 2014 (Canaviri, 2015). Part of this power is rooted in their political support of the Morales government and the political spaces they had won within the state apparatus.

In terms of political support and alliance with Morales' government, the cooperatives represent a considerable constituency that supports the MAS political party and is a social sector with a remarkable capacity for collective mobilisation and protest strategies. In this sense, mining cooperatives are one of the most influential societal actors and the most feared sector for any government (Espinoza, 2010). However, it is worthwhile mentioning that the cooperative sector has an ambiguous political behaviour. In the era of neoliberal governments, the sector was a closed ally to right-wing political parties, and benefited from 20 Supreme Decrees and laws (Francescone & Diaz, 2014) . In Morales' government, their political support is in permanent negotiation and they are willing to use force when their interests are threatened as the case of the new mining law in 2014 illustrates. Something similar happened in a recent event in August 2016, when the government tried to implement a new regulation for cooperatives allowing the formation of unions for wage labour workers and stronger rules on associations with private companies. In response, *cooperativistas* blockaded roads, violence escalated and resulted in the death of five miners, and the kidnapping and assassination of the Vice Minister of internal affairs, Rodolfo Illanes during negotiations. As a result, the leadership of cooperatives was changed, judiciary investigations are still taking place and the government is seeking to implement stronger controls on cooperatives (El Mercurio, 2016; Marston & Perreault, 2017; Spuntnik Mundo, 2016) .

In terms of political spaces, the cooperative sector has six elected members in the Plurinational Legislative Assembly and two senators. In this sense, the cooperative sector sees itself as so powerful that during the crisis of the new mining law in 2014, its main representative, Alejandro Santos, publicly stated that “*FENCOMIN and all the cooperatives of the territory have taken Evo [Morales] to the Presidency of Bolivia, but in the same way we can pull him down*”(Chuquimia, 2014; El-Deber, 2014).

The following discourse given by the Vice President during the official promulgation of the mining law illustrates three key elements: the symbolic relevance of the new law, the significant role of the cooperative sector given and legitimised by the government and the ‘strategic selectivity’ of the State in its mediator role:

“This law has the smell, the taste and the writing of the worker, of the cooperative worker, it is not perfumed with foreign scents nor has a foreign

language, it is the first mining law in 190 years of existence of our Republic made by workers with their sweat, their effort, their thought, their sacrifice and their needs” (Vice President Álvaro García Linera, Ministerio de Minería y Metalurgia (2014, p. 9)

García Linera’s statement clearly legitimises the process and the approval of the mining law as a historical landmark and the outcome of workers, but in particular of cooperative workers. In terms of the metaphors used, his discourse strongly emphasises an anti-foreign narrative that is linked to the neoliberal past and interestingly enough, he refers to the ‘Republic’ and not to the ‘Plurinational State’. This selection of words is not coincidental, since the conceptualisation of a Plurinational State in the New Constitution indicates that the State recognises communitarian economic forms of organisations and the rights of indigenous people and territories (Ministerio de la Presidencia, 2014). Both elements, were mostly ignored in the new mining law as it will be analysed in section 4.4.

A recurrent theme amongst interviewees in my fieldwork was that *cooperativistas* are empowered actors defining the governance of mining. This is a reflection of a ‘novo corporatism’ in the government of Morales in which there are new groups in power that used to be the grassroots organisations within social movement in the past, but have now adapted an ideology and its mobilizing capacity in line with the interests of rich mining elites. For example:

[...] The corporatism now is formed by: *cocaleros*, *cooperativistas*, *transportistas*, the bureaucracy of the State, rich peasants... The *cooperativistas* are a small group with a union ideology. They build an imaginary for the sector, claim to defend interests of both rich and poor miners. They have an ideological and mobilizing capacity and a new elite that is part of the state apparatus (Academic, La Paz)

[...] The cooperativism is inherent in extractivism, the mineral resources are public, they organise to extract them, the more money they concentrate, the more political power they get. The MAS is the result of a corporatist democracy. This existed before Evo but has deepened with him. The mining law has a rhetoric change, more bureaucratic, less transparent. Some environmentalists see it as the worse mining law ever. The language changed

from transnationals to medium companies, the social function of mining as the legitimacy for expansion the mining frontier (Mining consultant, La Paz).

4.3.2 Excision of other societal actors

Second, the exclusion of peasant and community organisations from the debate and writing of the law is not a technical detail, it reflects the corporate interest behind the mining sector and how mining activities are considered of higher value than agriculture when both compete within a single territory (Andreucci & Radhuber, 2015). Since 2012, emblematic indigenous organisations such as CONAMAQ⁶⁸ and other civil organisations have criticised the lack of transparency and participation in the discussion of the mining law. During the time of the deliberation of the law, more than 21 public pronouncements were delivered denouncing how the new mining law prioritises the mining rights over collective, individual and indigenous rights (CEDIB, 2014b; CONAMAQ, 2014; CONAMPROMA, 2014).

In sum, these elements illustrate how power relations are operated through and by the State in defining resource governance. The cooperative sector was the most influential actor in defining mining governance in the post-neoliberal era. In the making and approval of the new mining law, the State as mediator was not neutral, and power relations among different mining actors were rationalised through and by the State, giving privilege to the cooperative sector. The mechanisms through which power relations between the cooperative sector and the government emerge are: on the one hand, the massive workforce this sector represents and its capacity to collectively mobilise in support of the Morales' government; and on the other hand, the political representation within the state apparatus.

Having presented the political struggles that led to the new mining framework, the analysis now moves on to discuss in detail the differences and similarities between neoliberal and post-neoliberal mining frameworks.

⁶⁸ *Consejo Nacional de Ayllus y Markas del Qullasuyu* (National Council of Ayllus and Markas of the Qullasuyo-CONAMAC)

4.4 Contrasting Resource Governance in Bolivia: ownership of mineral resources

As mentioned elsewhere in this chapter, neither the State nor the laws are neutral in terms of defining access to and control of extractive resources. In the particular case of mining in Bolivia, both the neoliberal mining code (Law No. 1777) and the post-neoliberal mining law No. 535 are controversial, reflect different ideologies and directly affect the institutional structure that sustains mineral governance⁶⁹.

In Bolivia, the new Political Constitution (2009) sets out its governance framework: “the property of natural resources [is held] by all Bolivians and the State is in charge of the administration according to the *common interest*” (Art. 349, emphasis added)⁷⁰. However, the understanding of ‘common property rights’ is ambiguous in practice because its meaning can range from the definition of common interest to the mechanism used by the State to administer. In this sense, the definition of property rights is fundamental to analysing the incentives, the types of actions and the outcomes these promote in resource management (Schlager & Ostrom, 1992). Furthermore, in capitalist expansion processes and socio-environmental changes, the economic structures, including property rights and regulation, are central to understanding drivers and impacts at different scales (Heynen & Robbins, 2005).

The changes in the Bolivian regulatory framework of natural gas in the context of nationalisation in the post-neoliberal regime has been analysed by different authors as discussed in section 4.1.2 (see also (Bebbington & Humphreys-Bebbington, 2011; Humphreys-Bebbington, Denise & Bebbington, 2010; Kaup, 2008, 2010; Perreault, 2008; Spronk & Webber, 2007).

⁶⁹ The mining normative framework is constituted by: the National Political Constitution, the mining law 535, the law of public companies, the royalty law, law of restitution of COMIBOL competencies, Decree of the fiscal reserve, Law No. 3787 for the mining tax system, decrees of creation of State strategic companies and other sectorial rules (Córdova, 2015).

⁷⁰ Own translation in all articles in the Mining Laws

In the mining sector, a preliminary analysis of property rights within the legal frameworks was undertaken by Arsel et al. (2014). With a particular emphasis on the nationalisation processes in Bolivia and Ecuador, the work suggests the need to transcend the meaning of nationalisation by focusing on property rights in order to identify the type of political economic system in place. The authors further argue that through the examination of the property structures and how they are transformed over time, it is possible to see the transformation of the State itself beyond the economic process embedded in the post-neoliberal model.

Also, a significant analysis and discussion on the new mining law was presented by Andreucci and Radhuber (2015). In their analysis, the new mining law is a condensation of social relations and power struggles to maintain arrangements and privileges of the neoliberal period for private and cooperative sectors. As a result, two key elements are highlighted: i) despite the government's discourse on State control in mining, the nationalisation process has taken place in incomplete and ambiguous ways; and ii) despite the legal and symbolic empowerment of peasant/indigenous communities in the new Constitution, in the new mining law, the mining sector continues to be prioritised over environmental concerns and peasant livelihoods.

In what follows in this section, I expand the exploration of previous research by focusing on a property rights analysis in relation to the ownership of mineral resources and the definition of a Fiscal Reserve (details in Annex 1). The analysis differentiates from previous research about nationalisation by focusing and contrasting types of rights according to the actors involved in mining governance and by highlighting the differences and similarities in the neoliberal and post-neoliberal models.

A detailed examination of a property rights framework by Schlager and Ostrom (1987, p. 9) points out that property rights are dynamic systems that change according to context. In this framework of analysis, the legal position of an actor or "claimant" of a particular resource is determined by possessing specific types of rights within a property regime. In this sense, property rights are defined as "the entire array of rights that individuals (or collectivities) may hold relating to the access, harvesting, and management of a resource, as well as the rights to exclude others from a resource and the rights to transfer any or all of the above rights". Accordingly, there are four positions: owner, proprietor, claimant, and authorised user; and five types of property

rights: access, withdrawal, management, exclusion and alienation (Schlager & Ostrom, 1992) (see Table 4.2).

Table 4.2. Property Rights typology

	Type of rights	Beneficiary
Access and Withdrawal	Rights to enter a property and rights to extract a resource	*Owner ** Proprietor *** Claimant **** Authorised user.
Management	Rights to determine how, when and where the extraction of a resource takes place.	*Owner ** Proprietor *** Claimant
Exclusion	Rights to define the conditions that individuals must meet in order to access a resource.	*Owner ** Proprietor
Alienation	Rights to sell, lease or transfer rights (management / exclusion) to another individual or group.	*Owner
*Owner: Can transfer the rights of management and exclusion to others ** Proprietor: Rights to participate in management and exclusion. Have the faculty to who and how a resource is extracted *** Claimant: Have the access and withdrawal rights plus management right **** Authorised user: access and withdrawal rights are defined by others who have the management and exclusion rights over the resource.		

Source: Schlager & Ostrom (1992, p. 250-253)

Based on Schlager and Ostrom (1987) property rights typology, the category of ‘owner’ is the most extensive when it comes to defining rights and setting the conditions for management and extraction. In the Bolivian mining neoliberal framework of 1997 (Law No. 1777), the State is the owner of all mineral resources with the exclusive right of alienation. Through this right, the concession regime was established whereby the State transfers or leases the rights of management, exclusion or both (Arsel et al., 2014).

Within this structure, COMIBOL as the State company had the rights of management without a direct involvement in the activities of exploration and exploitation, and could only operate under contracts of shared risk and service leasing with private companies or cooperatives (Art. 91). The concession regime transferred the rights of exclusion to private cooperatives and intermediate companies. According to Art. 4, the mining area under concession is treated as an asset, transferable and transmissible to inheritance, mortgage and subject to any type of contract of association. This particular aspect of the law was very controversial and was later declared unconstitutional in 2006 (Arsel et al., 2014).

In the new mining law, all mineral resources whatever their origins on the surface or subsurface of the territory are declared the property and direct domain of the Bolivian people and whose management corresponds to the State (Art. 2). As such, the alienation right is exercised through provision of mining rights to the three recognised actors: the state company COMIBOL, the private, and small-scale and cooperative mining. Contrary to the former law, the holder of a mining right is not considered the owner of the mineral and the right is limited to the extraction and its economic benefit.

In this sense, the main difference with the neoliberal law (and the former concession regime) is that the holder of mining rights cannot lease or rent the rights to third parties and these rights are non-transferable, non-labile to confiscation and not subject to inheritance. Likewise, in the new mining law, a mining operator is compelled to present a working and investment plan in accordance with an economic and social function to the Ministry of Mining (Córdova, 2015).

It could be argued that the new law reduced the scope of action in the rights of private mining companies and cooperatives, but in reality, the so-called pre-constituted rights of the concessions under the previous law are kept and respected. Except for the possibility of leasing previously mentioned, the change from ‘concessions’ to ‘mining rights’ under the modality of mining contracts seems to be more of a semantic shift than an actual change in the way mining resources are governed. This is because i.) the private mining sector – intermediate companies and cooperatives – still have the majority of extractive areas under the concession modality and can continue operating (Art. 130: a); ii.) the law does not place a time limit on the expiration of contracts and previous concessions can be renewed for further terms of 30 years (art. 142). Most significantly, the new law did not define a new tax and royalty scheme that would have ensured a larger share of the revenues accruing to the State. It is only in the future shared-risks contracts with private mining operators that the State company COMIBOL will be entitled to 55% of the utilities (Art. 148) (CEDIB, 2014a).

A common view amongst some interviewees, in particular, one environmental activist, who highlighted that the so-called sovereignty of the State over mineral resources is not necessarily better. As seen from the extract below, he claimed that the law and the State policy in relation to extractive resources are a continuation of a savage capitalist expansion:

[...] [the new mining law] is a setback. The previous law was bad, it was designed to give benefits to the mining companies like Inti Raymi or Sánchez de Lozada companies [former President of the country] but this one is even worse: now it opens protected areas to mining, these activities are by default polluting, it is stupid to argue that the areas will be conceded as long as the companies do not affect the environment.

In a similar vein, another interviewee stated that:

[...] In economic terms, the law did not increase the taxes. The conditions for investments seems to benefit transnationals, but above all it benefits cooperatives that do not even pay taxes or royalty, they had become the alternative in mining but they are not enforced to have environmental regulations or proper investments. This is even worse than having an open pit mine like San Cristobal which is bad anyway.... Now they need to write a new regulation according to new mining law and in environmental terms, it will be a downgrade of what we already had (NGO representative, La Paz).

To date, the State receives only around 11% of the sold mineral production. In the current structure defined by Law No. 3787 there is one royalty scheme and three taxes for the mining operators (private and State companies)⁷¹. The cooperatives have exemption from the tax regime⁷²(Córdova, 2015).

⁷¹ The Law No. 3787 promulgated in 2007 changed: i) the ICM to Mining Royalty, keeping the same percentages and structure of distribution. ii) It created an additional aliquot of 12% on the IUE (Utility tax for companies), iii) It established additional aliquots for minerals that were not previously taxed (Espinoza, 2010)

⁷²The Royalty is based on the gross value of volume of sales and represent a percentage depending on the mineral and the international price. To the private and State companies the royalty is around 5-7% depending on the type of mineral extracted. For the cooperatives, the royalty is less than other mining actors and depends on the type of mineral.

The taxes include the IT (Transaction tax), IVA (Added value tax), the IUE (Company Utility tax) and the ICM (Complementary Mining tax) now called Mining Royalty. The IT is not charged in case of exporting activities, the IVA is pay by the final consumer and not the companies. The cooperatives are exempt of paying all these taxes (Córdova, 2015).

Contrary to the previous law, COMIBOL recovers its exclusion rights and has a leading role in the extraction, commercialisation and industrialisation of mineral resources (Art.161). However, the areas that were previously conceded to private mining will remain under the same contracts. Even though the new law states that the new mining contracts require the approval of the Plurinational Assembly, the same article excludes the ‘mining administrative contracts of former concessions’ (also known as *Autorizaciones Transitorias Especiales* /Special Transitory Authorisations – ATE) from the revision and approval of the Parliament (Arts. 132, 94). This aspect is not a simple technical detail; on the contrary, it reflects the sectarian interests of private mining behind the writing of the law⁷³. Contrary to what would have been expected, the mining privileges that characterised the neoliberal period were kept almost intact and the strong lobbying behind the writing of the law clearly secured the ‘respect of pre-constituted rights’ through all the key articles of the law.

During fieldwork, when asking about the mining law and the reloaded role of the State, I had different responses: many people did not know about the law, especially in rural areas, some people were very critical of it, specifically those in NGOs and academic institutions. Interviewees of COMIBOL manifested some ambiguous opinions and contrary to what I was expecting, the private and cooperative informants manifested the law does not provide enough incentives. As one interviewee said:

[...] The law recognises the cooperatives just as the Constitution did before. We are important mining actors and the mining law considers this. The negative part is the inability to do agreements for private investments. Mining operations require lots of investments and the Cooperatives do not have financial capital. We could not negotiate this with the government, there was a violent opposition from us but at the end, cooperatives cannot subscribe contracts of association with private actors unless they change the legal status to private company and start paying taxes [...] We wanted the Cooperative

⁷³ In September 2013, the Government promulgated the Law of reversion of mining rights (Law 403) which would return to the State the mining concessions that did not fulfil the investment and prospection, exploration and exploitation activities. The initial estimation of the Government was to recover 1.700 of 2.454 private mining concessions (Página Siete, 2014). By 2016, there were 522 reverted concessions to the State and there is still a long chronogram of inspections in different mines (Página-Siete, 2016b) .

sector to have access to private investments or we demanded the State should invest in us. We have a State loan institution (FOFIN) to give money to Cooperatives, but it is not enough [...] It took many years to reach agreements among the Cooperatives, the State and the private mining. Reaching consensus was difficult. Many people criticise *cooperativistas* but cooperative mining is a labour option and there are not many in the country. People organise and start exploiting a natural resource somewhere. Everywhere in Bolivia there are cooperatives. They generate jobs, FENCOMIN represent us all.

The cooperatives give opportunity to everybody: children, women, elderly, anyone can work. The cooperative does not discriminate, if you need to work, you come and work. The critiques are there, but the needs of jobs are there too (Member Directory FENCOMIN, La Paz).

The process of migration from former concessions to mining contracts was supposed to be enforced in 2009 after the approval of the new Constitution. By 2010, the deadline for this process was passed and no further progress was done; then the government approved Decree No. 0726 that stated that mining concessions were automatically transformed into '*Autorizaciones Transitorias Especiales (ATE)*' (Special transitional authorisations) and the process was relegated until the new mining normative was set in place. The new mining law of 2014 defined that the migration process is responsibility of the AJAM (*Autoridad Jurisdiccional Administrativa Minera* or Mining Administrative Jurisdictional Authority) (Art. 40), yet three years after the promulgation of the new mining law and more than seven years after the approval of the new Constitution, this process has proven to be conveniently slow. In 2017, the Ministry of Mining announced that the migrating process of contracts will finally begin. This process seeks to regulate the mining activities of around 7,000 former concessions, enforce a tax controlled system (NIT or Number of Tributary Identification) in particular to mining Cooperatives, as it is estimated that only 20% of

them (from a total of 1,700 nationwide) pay any kind of taxes⁷⁴, and identify how many cooperatives and their concessions have partnerships with private operators (Imaña & Vásquez, 2015; Urgentebo, 2016). By the time of writing this thesis (April, 2017) no further information about this migrating process was made public.

According to one private mining official I interviewed, the main differences between the former neoliberal mining law and the new mining law are the restrictions to transfer and lease mining rights and the return of COMIBOL in a productive role with many deficiencies and challenges inherited from the neoliberal period:

[...] The new mining law is more rhetorical than technical, it changed the inheritance of concessions however in reality there are other tricks to maintain the legacy of concessions. But besides that, nothing changed and got even worse. The pre-constituted rights are maintained. The AJAM (Mining Administrative Jurisdictional Authority) is in charge of giving all the new

⁷⁴ The NIT allows mining operators to legally sell and export their production. Mining taxes are divided into four categories:

- i) Mining royalty [*Impuesto Complementario a la Minería* - ICM] – variable from 1 to 6% of the value of production and type of mineral. Payable by private, State and cooperative operators.
- ii) Profit tax [*Impuesto a las Utilidades* - IUE] – 25% from the net profit + additional aliquot of 12% (when mining prices are higher or equal to the stabilised aliquots of the law)
Payable by private and State mining operators
- iii) Added value Tax [*Impuesto al Valor Agregado* - IVA] - 13% of net income.
Payable by private and State mining operators
- iv) Transaction tax [*Impuesto a las Transacciones* - IT] – 3% of gross value
Payable by private and State mining operators

Cooperatives argue they do not export minerals and they only sell their production to intermediaries. The cooperatives pay 1% of the value of production to COMIBOL as a leasing fee and 3% of royalty to the producing departments (Paredes, 2015).

The tax exemption of cooperatives is based on the arguments of the institutional structure and the non-profit essence of them. In theory, a cooperative is an association without lucrative ends. A cooperative is an aggrupation of people seeking to solve common needs from their associates (e.g. access to credit, commercialisation channels, supply of productive inputs, etc.). Also, all the economic benefit generated from this association, is to be re-distributed to all the associates; thus, there is no profit per se to be taxed (Cracogna, n.d.; Francescone, 2015).

mining contracts, to revise the old contracts, but they are not doing anything, the *status quo* is good in a way for us, but new investments will be affected (Private mining consultant, Potosí).

[...] The law does not resolve the mining complexity, too pervasive with cooperatives who are looting the non-renewable resources, it damages the country, they generate negative environmental and social impacts. There is no juridical security for big transnational capital. The private pays 65% in taxes and royalties, whereas the Cooperativities pay 1% (Member of community mining company, Rio Grande).

The different elements outlined in this section seem to confirm that the mining cooperative sector successfully managed to maintain the favourable conditions granted in the neoliberal period and it represents an obstacle to any counter-neoliberal reform in the mining sector (Andreucci & Radhuber, 2015).

Although the new mining law sought to reposition COMIBOL (thus the State) as a key economic actor, the private logic in mineral extraction did not change. As the levels of mining production show, COMIBOL lacks capacity and enough capital to compete with private mining⁷⁵. Most importantly, the post-neoliberal narrative strongly advocates more revenues from extractive resources for the State, yet in the mining sector, royalties and taxes were not changed and purposely omitted from any debate.

In my analysis, the sole ownership of mineral resources by the State is not enough to set a different resource governance. Property rights are articulated in complex institutional and regulatory frameworks that are far more complex to modify and through which neoliberalisation is in a constant process of adaptation and powerful actors' privileges are perpetuated.

To complement the argument of section 4.2 about the State as an arena where social power relations define and are defined by institutional structures and societal arrangements. I draw on the perspective of the State as not a unified and omnipresent

⁷⁵ From the 6 mining companies that COMIBOL manages, only three generated profit in 2015 (Colquiri (US\$ 20 million), Coro (US\$ 1.5 million) and Huanuni (US\$ 1.5 million) (Cambio, 2016).

field of power; on the contrary, multiple power relations operate within it and precede the different modalities and forms the State can take (see Jessop, 2008).

In this sense, the detailed analysis of the alienation, exclusion and management of property rights in mining show that the negotiation of these rights happened within an already complex network of power relations in which private and cooperative mining actors had consolidated material and political power over two decades and were thus able to shape institutional and legal changes in the mining framework according to their interests.

Turning now to the specific case of mineral resources and the delimitation of a Fiscal Reserve, the next subsection outlines the most relevant aspects of this legal delimitation and its implication for strategic resources like lithium.

4.4.1 The Fiscal Reserve and the State

A significant difference between the two mining laws, is that in the latter, the faculty of the State to declare a Fiscal Reserve in order to prospect and explore the mineral potential is clearly defined. In Law 1777, this attribution was nonexistent whereas in Law 535, the State gives preferential rights to State mining companies and is entitled to declare certain resources as strategic for the exclusive use of the State (Art. 24-28).

The logic behind the declaration of a mining Fiscal Reserve⁷⁶ is to close access to private actors so the State can explore mineral deposits and determine a strategy for future actions (Cordoba, 2015). As discussed above, the Supreme Decree No. 29117 in 2007 was a major step in recovering the State's role in mining. The logic of this decree (Art. 1-3) was to declare all the territory as a Fiscal Reserve to achieve three goals: first, to explore all possible mining resources by SERGEOTECMIN (National service of geology and mining technology); second, to exercise its property right, by giving COMIBOL the rights of exploitation and administration (except in conceded

⁷⁶ Some governments in the past declared certain areas as fiscal reserve, for example the mining operation of La Gaiba (for extraction of semi-precious stones and bolivianita). To the present, the most important fiscal reserves are Mutún (iron ore deposit) and Uyuni's salt flat (lithium and potassium) (Espinoza, 2010).

areas of the previous mining law); and third, to stop any new concession from being granted (the concession regime was still operating according to the neoliberal Mining Law 1777). Cordoba (2015) argues that this Decree intended to give COMIBOL new deposits to start operating, but this objective was not achieved because the exploration of mineral deposits can take ten or more years and requires big investments. With the approval of the new Mining Law 535, this Decree was abrogated.

In the new mining law, the State in the category of owner, exercises the right of alienation (Art. 24) defining certain areas of the national territory to be declared a Fiscal Reserve, and to carry out activities of prospection, exploration and evaluation of mineral deposits. All these competences, to be done only by the State and its institutions. Likewise, of particular interest is the exclusivity that COMIBOL and the State mining agencies⁷⁷ have in relation to strategic resources⁷⁸ such as evaporite resources (Art. 26: IV). In the specific case of lithium and potassium, the new mining law establishes 100% ownership by the State in the extraction and processing phases, and a majority share participation in any future joint venture contracts for the large-scale production and industrialisation of lithium batteries (Art. 73). A detailed examination of the history and implications of the Fiscal Reserve in the Uyuni salt flat will be provided in Chapter 5.

In relation to the rights of exclusion and management, the State exercises these rights (Art. 24: III and 25: I-II) through the enclosure of areas and the impossibility for private actors to demand mining rights over a period of five years. In practical terms, the law gives COMIBOL the preference to explore and to demand mining rights in Fiscal Reserves but at the same time, private mining actors can claim mining rights in areas where COMIBOL will not operate after the five-year period.

In the mining law, the Fiscal Reserve is not exempt of being contested. The most critical points being the extent to which the State recovers its alienation rights in a Fiscal Reserve. For instance, the five-year term seems to be insufficient to accomplish

⁷⁷ COMIBOL operates 8 mining agencies, for details see Figure 4.1

⁷⁸ A strategic resource is defined as a natural resource that is vital for a country's productive system. It is closely linked to an increasing global demand and the ability of a country to extract and export commodities (De Paula & Lorenzo, 2009; Galafassi, 2010).

the technical objectives of prospection and exploration for COMIBOL, and the wording in the law clearly closes any option for time extension. Also, the definition of *fiscal* and *non-fiscal* areas could be subject to private interest negotiations. As expected, any pre-constituted right (former concessions) remain and are not able to be as declared Fiscal Reserves by the State.

COMIBOL, as the administrator of mining areas, now has two types of contracts in Fiscal Reserve areas: leasing, and joint venture. In the case of leasing, the contracts signed with Cooperatives have a royalty fee (*canon de arrendamiento*) of 1% of the gross selling value. In the case of small companies, this fee can reach up to 6%. In the case of joint venture contracts with intermediate/transnational companies, the State company is entitled to 55% of utilities⁷⁹.

This scheme of royalty provision was defined in the new mining law and disproportionately benefits cooperatives and disincentives big private investments. As I discuss further in Chapter 5, this preferential treatment with cooperatives within the Fiscal Reserve of the Uyuni salt flat has already caused local grievances in Rio Grande and in the extraction of ulexite.

4.5 Water access and withdrawal rights (details Annex 2)

Water is a very sensitive issue in mineral extraction and is part of the legal frameworks operating in mining. The processes of dispossession – in terms of access to, use of and disposal of water – affects surrounding communities. Budds (2013) states that access to water consolidates power relations, and is particularly central to consolidate a neoliberal agenda. In the Bolivian case, Perreault (2013) highlights how mining is subsidised by poor peasant communities and social exclusion is reproduced through institutional configurations in mineral extraction and the control and use of water. In this section I outline three issues in relation to the mining law: water rights, the process of consultation with indigenous communities and environmental regulation.

⁷⁹ This royalty scheme was last defined in the Ministerial Resolution No. 222/2013.

Under the neoliberal mining law, the mining concessions included access and withdrawal rights over land, wood, water and other resources in the mining areas *by default*. Three aspects are important here: first, water was defined as a public resource to be used indiscriminately by mining actors and the law was vague defining the ‘duty of protection and restitution of water to the watershed’ (Art. 36). Second, the concessionaires had the right to divert water courses if required subject to a formal notice to any affected parties. There was a right to compensation to private owners of land and business, but not to communities. Third, the opposition and obstruction to mining activities was strongly penalised by this law (Art. 39).

Under the new mining law, the holders of mining rights have the *same default rights* to access and withdraw non-mineral resources, including water in mining areas as the neoliberal law, and there is a further expansion of access rights to surface water and groundwater around the mines. It is stated that these rights should not affect water supply for human consumption, irrigation and the environment, but again, the wording of the law is intentionally vague in relation to water access and management.

In both laws, water is conceptualised as an input for mining activities and in terms of water governance, the new mining law seeks to further consolidate a centralised framework of water rights. These two features contradict with the concept of *usos y costumbres* (customary use) understood as a system to regulate and organise rural water management practices and local rights in the communities of the valleys and high plateau of the country (Bustamante, 2002). Customary use is important because: i) it represents an essential notion of water as a public resource and social good rather than a commodity (Kohl & Farthing, 2006); ii) it signifies the material practices and claims of cultural rights over water resources, but most importantly, it is the organizing principle for governance of water in terms of how decisions are made, by whom and at what scale Perreault (2005); and iii) it is formally recognised by the new Constitution (Art. 374: I-II) and during the water war in 2000, the grassroots organisation of irrigators (nowadays called ANARESCAPYI - *Asociación Nacional de Regantes y Sistemas Comunitarios de Agua Potable de Bolivia*/ Association of Community-based Water Committees or Irrigators’ Association) successfully converted water management into a national political issue (Perreault, 2005, 2006).

The new mining law perpetuates the exclusion of communities not only by not considering any form of community-based mining but also, in terms of decision making and water use. According to Art. 111-112, the licences and authorisation for water use in mining activities are responsibility of a National Water authority until a new legal water framework is approved. Furthermore, if under the former law 1777, there was a mechanism of compensation (Art. 37) for water use in the private domain, under the new law neither private nor communal actors have rights of compensation or direct negotiation. In practice, this implies that the centralisation of decisions at the central government (and the Water Authority as the main institution) has created a total omission of affected communities in the evaluation and approval of environmental licences.

When protests over the new mining law erupted in April 2014, the ANARESCAPYS and other grassroots organisations demanded to be included in consultations over the mining law. In a public manifesto, this association stated that more than 25 articles of the mining law were against ‘the rights of the *Pachamama*’ (Mother Earth) defined in the Constitution, the Environmental Law No. 1333, Irrigation Law No. 2878 and the Water Law No. 2026. In concrete terms, the new law promotes water privatisation and prioritizes water rights for mining over agriculture; fails to specify the replacement or treatment plants for wastewater; and permits the use of surface and ground water for mining activities (ANARESCAPYS, 2014; CONAMPROMA, 2014).

It was later announced that the Cooperative sector and ANARESCAPYS reached an agreement in relation to some articles affecting water resources (Página-Siete, 2014a), however no further information about the details were made public. According to Andreucci and Radhuber (2015, p. 9) a weakened indigenous sector was unable to participate and influence the making of the mining law, although the constituencies of indigenous groups actively opposed it in the streets, the leadership representatives of these organisations were “too tied to the ruling party MAS” to express any dissent. From the author’s perspective, the State has played a key role in not only privileging private mining actors, but also in weakening any social resistance to mining expansion.

In this sense, the centralizing nature of water governance in the law clearly benefits mining operators, and seems to confirm fears that this type of water governance will favour mining expansion at the expense of peasant farmers (Perreault, 2005). As a

State mining official I interviewed in Uyuni acknowledged, the new mining framework facilitates access to water and non-mineral resources for both private and State mining operators:

[...] Now we officially must ask permissions to the State for the use of water. The communities no longer have rights to demand us compensation because the State and institutions should compensate them indirectly. This is interesting because the communities demanded too many conditions and the compensations were detrimental for mining”.

In relation to indigenous communities’ rights⁸⁰, the mining law gives the right of consultation in cases of exploitation; however, prospecting and exploration do not require consultation with communities. The consultation mechanism will be only applied to the *new* mining contracts after the promulgation of the law (Art. 207), ignoring the already complex map of conflicts in indigenous territories (See Annex 3). In reality, the law excludes 6,972 contracts (covering an area of 21,741 Km²) from consultation with communities, as well as 947 new claims of mining rights already in process (CEDIB, 2014a). To the point, Perreault (2105) rightly argues that although the right of consultation is well established in the Bolivian legal frameworks including the Constitution and the mining and hydrocarbons regulatory laws; these public consultations are non legally binding; therefore communities have little influence in the ways extractive projects are implemented, and the participatory mechanisms are manipulated to depoliticise asymmetrical relations of power and social exclusion and to legitimize extractive activities at local levels.

⁸⁰ According to the New Political Constitution (Chapter. IV, Art. 30; Chapter. IX, Art. 403) indigenous groups have collective rights over their territories - including land, renewable and non-renewable natural resources - and the “rights to consultation, autonomy and self-governance” regarding projects and activities that affect their livelihoods⁸⁰. These rights are also recognized by ILO Convention No.169 (1991) and the United Nations Declaration on the Rights of Indigenous Peoples (2007) (Bolivia was the first country in the world to sign the latter and incorporate it into its Constitution).

Schilling-Vacaflor (2013) examined the consultation process in communities in relation to natural gas. Between 2007 and 2012, around 27 consultations with communities were held and leading to several critiques of the procedures and the political space that communities have in which to address modifications or to negotiate with the State and the companies.

Although the mining law mentions indigenous communities, they lack any real right of decision making in mining operations. The omission of communities excludes them as economic and political actors to be considered in mining issues, meaning that their environmental concerns are completely ignored in the new law despite being disproportionately affected by mining pollution.⁸¹

For instance, Andreucci and Radhuber (2015) highlight the tensions between peasant/indigenous communities and mining actors in the particular case of Huanuni mine and how due to years of extraction and pollution, the Huanuni river can no longer be used for agricultural irrigation. Probably the most dramatic example of environmental disaster caused by mining (among other factors like climate change and the diversion of the Desaguadero and Mauri (in Perú) rivers for urban drinking water and irrigation) is the disappearance of Poopo Lake (the second largest lake in the country) downstream from Huanuni. In 2016, the lake officially disappeared; dramatically affecting the livelihoods of fishing communities, but in particular the indigenous group of *Uru-Muratos* who were mostly forced to migrate to cities and the Chilean border (CENDA, 2016; Erbol, 2016).

In the same manner as the neoliberal law, there is a legal penalisation to anyone – individual or collective – that opposes and obstructs mining activities. Accordingly, this article not only penalises the right to protest but also violates the indigenous rights of self-determination and self-government in different territories with mining areas (CEDIB, 2014a).

⁸¹ The Huanuni mine consumes 28 million litres of water per day, making it the second most water consuming extraction operation in the country (Andreucci & Radhuber, 2015). Likewise, Perreault (2013, p. 9) estimates the impacts of Huanuni's mining operations are severe: the of water and soil samples found extremely low pH values, and elevated levels of cadmium, copper, zinc and sulphates. The solid waste and sewage from the town of Huanuni, at the base of the mine, are deposited directly into the Huanuni River and affect water quality for communities.

Historically, the environmental liabilities of the mining industry are very significant in Bolivia. It is estimated that the mining industry has consumed 31.5 thousand million m³ of water per year. The processing and recirculation of water in mining plants is just 10-20% and the lack or inadequate maintenance of tailings dams (*diques de cola*) has produced that 30-50% of polluted residual water is discharged into rivers and nature affecting the livelihoods of communities (Jordan, 2008).

Depending on the background and institutional affiliation, some interviewees argued that the mining law is the reflection of the privileged position extractive activities have in relation to other economic activities, especially agriculture, and most were quite critical about the lack of empowerment and mechanisms in place to enforce consultation rights with indigenous communities. While others, on the contrary, argued that the consultation with indigenous communities has become a mechanism for extortion and is politically manipulated. For example:

[...] The extractive activities are privileged over the rest of activities, for instance the agriculture. The consultation recognised within the constitution is quite vague in the law. The consultation sets the indigenous groups in a weak position since there is no decision-making power in terms of political administration. The communities are not recognised as mining actors, and the expansion of mining activities is contradictory with a Plurinational State” (Academic, La Paz)

[...] The label ‘previous consultation’ is a mistake, there is nothing like that in the world, you only have consultation -with or without indigenous-. And it should be permanent, in all the stages of the mining project. The consultation seeks credibility, it should be participatory. But this participation cannot be guaranteed by the mining company, it should be the government that guaranties the participation of the communities. The regional governments should have the authority to do this type of things, not the central government only (Private mining consultant, Potosí).

Under the neoliberal law, the concessionaire was in charge of the environmental audit to be sent and evaluated by the Environmental Authority (Ministry of Environment and Sustainable Development), but it was not responsible for any environmental damage prior to the start of their concession. Protected areas were open to mining activities, and the legal actions to be taken in cases of environmental damage ceased after three years (Art. 86, 89). Under the new mining law, these same conditions remain and the Ministry of Mining is now the authority in charge of environmental norms and evaluations, even though there might be an obvious conflict of interest for expanding the mining frontier and the independence and neutrality of environmental assessments might be compromised (Art. 219, 222).

Two recurrent themes in the interviews emerged from a variety of informants from different backgrounds: the lack of transparency in the elaboration of the law and the lack of participation of civil society organisations. For example:

[...] The law did not change anything in comparison to the Sanchez de Lozada (former President neoliberal period) Law. The royalties should have been changed, we are talking about non-renewable resources and this key aspect was omitted in the law. We made comments about the law, but as Civic committee we have no power in face of the government. The law was not socialised at all, we knew about it when it was approved. It was approved despite the claims we did (Representative CONCIPO, Potosí).

Together, these elements illustrate Harvey's argument that in processes of commodification and capitalist expansion, the State plays a critical role in backing and promoting forms of property rights (and, I would add the institutional mechanisms that enforce these rights) that suppress common rights and define exclusive forms of access. In his analysis of capitalist expansion, its survival and response to crises of over-accumulation are strongly based on generating surpluses – including natural resources – to be put into circulation and at the service of capitalist expansion. The accumulation by dispossession is a continuous process with different forms of coercion by superior powers (e.g. merchants, states, colonial powers, multinationals) that penetrate some pre-existing social orders and geographical spaces to appropriate resources (Harvey, 2003).

Perreault's (2013) argument demonstrates how the Bolivian indigenous/peasant communities experience dispossession through three interconnected forms of accumulation: accumulation of toxic sediments on agricultural land, accumulation of water and water rights by mining companies, and accumulation of territory by mining operations.

The analysis of the new mining law seems to corroborate this perspective and further adds a new angle: in a neoliberalisation process, the resource governance in place will not only reflect the interests of powerful actors in terms of expanding access to mineral resources; but will also set in place a series of mechanisms that will legitimise *via* the state apparatus, forms of accumulation that will affect weaker actors.

In my analysis, the dispossession legitimated by the new mining law is not singular: indigenous-peasant communities are materially and politically disposed of water rights and power of negotiation with the State and with mining operators. In concrete terms, the law excludes indigenous communities from both: mining activities and mining decision making. Furthermore, the process of discussion and approval of the law shows that the MAS government has disarticulated any inconvenient opposition from indigenous organisations in relation to mining activities.

The evidence presented here shows that, following and deepening the legacy of the neoliberal framework, the new mining law privileges mineral extraction over agriculture and other economic activities. In this sense, non-mineral resources like water are accessed by default with mining rights.

The environmental concerns that should be strictly kept according to the Constitution and the government philosophy of *Suma Qamaña*⁸² are purposely vague in the law. In a way, an ambiguous socio-environmental regulation and a weak institutional capacity to enforce it are indirect incentives to mining companies (Andreucci & Radhuber, 2015) and contribute to different forms of accumulation for mining operators.

Having analysed the process of the making of the mining law (section 4.2), the concrete effects in terms of ownership and rights (section 4.3) and its effect on non-mineral resources and indigenous communities (section 4.4), the next and final empirical section briefly outlines the material effects in terms of revenue management and the conflicts emerging as a result of the mining framework at different scales.

4.6 The scales in environmental governance: Departmental and Municipal governments

Before the approval of the New Political Constitution (NPC), the competencies and scales of local governance were different (Prefectures at

⁸² The "Vivir Bien" or *Suma qamaña* is an indigenous worldview formally incorporated into the new Political Constitution (Art. 8: I-II). Accordingly, the National Development Plan and public policies must seek a type of development equitable, sustainable, integral and diverse; in which human beings and nature live in harmony. Furthermore, development is understood as a process to conserve and to respect the Earth (Pachamama/madre tierra/ mother earth); it is the reciprocity and complement between the community and nature (Farah & Vasapollo, 2011)

departmental level and municipalities at provincial level). With the approval of the new NPC in 2009 and the Law of Autonomies in 2010, there was formal recognition of autonomies and the reconfiguration of the scales and decentralisation of certain powers to Departmental, Regional, Municipal and Indigenous Territorial governments. However, this process has proven to be slow, complex and contentious; in particular because of the definition of competencies of a multi-level system and the struggles with a central government that seems less willing to decentralise power and responsibilities (Crabtree, 2013).

Of particular interest is the understanding of autonomy in the NPC (Art. 272) since autonomy is understood as the direct democratic election of authorities at local levels, the management of economic resources (but not natural resources) and the functioning of a Legislative Assembly with regulation and audit capacities.

The NPC gives the State and central government exclusive responsibility over natural resources. This alienation right over the extractive/strategic resources (including mineral resources) excludes the departmental governments and other scales from any rights in terms of access to and control of resources. The only responsibility in terms of mineral/extractive resources focuses on the royalties, which according to the Constitution (Art. 300: 36) must be managed by the producing Departmental and Municipal Governments after they are transferred by the National Treasury.

The former mining law 1777, the alienation right in mining concession, was responsibility of the central government through the executive body and the Superintendent of Mining (Art. 2). The other scales of government did not have any responsibility in mining concessions but Art. 102 of the law defined the Complementary Mining Tax (ICM) as a mining royalty to be directly transferred to the departmental governments where minerals were extracted. The distribution of this income was divided 85% for the Prefectural Government (nowadays Departmental Government) and 15% for the producing municipality (Espinoza, 2010).

In accordance with the new Constitution, the new mining law 535 centralises the governance of mineral resources at the central government level. For instance, by law (Art. 23: I-II) the departmental governments are outlawed from establishing any kind of mining company and are not allowed to have any kind of - direct or indirect - participation in any part of the mining production chain (prospection, exploration,

exploitation, concentration, foundry and refining and commercialisation). The only participation the Departmental government can have is in the industrialisation of minerals and in shared partnership with State companies.

The central government through its rights of alienation and by default on the rights of exclusion, management, access and withdrawal, excludes the departmental governments from any kind of involvement in mining production not even as an authorised user of the resources within their jurisdictions.

This framework not only eliminates the option for local governments to be part of the mining production chain, but also, restricts any type of agreement with private actors that a departmental government would like to make.

A common view amongst interviewees linked to the departmental and municipal governments was that the new mining framework centralises all the governance in terms of decision-making, management and institutions. These not only contradict the vision of autonomy originally expected, but also, reduces the scope of economic action in the mining producing departments.

Some predominant themes in the interviews with people linked to the departmental government, the Civic Committee of Potosí and other civil society organisations were: i) the lack of opposition and negotiating power with the central State due to the political co-optation of the MAS party at local levels and in different institutions including the Departmental Assembly and ii) the State ownership and management of Fiscal Reserve areas perceived as a threat to departmental autonomies and local governance. For example:

[...] The law was not made through consensus. It was imposed according to the interest of the central government. The law restricts the mining initiatives as departmental government we could have. The Fiscal Reserve is not positively seen by the Departmental Government Potosí, we have no voice, no authority over the Uyuni salt flat. We are the owners of the house but we cannot say anything. It is not only Uyuni but also the others small salt flats are now exclusive competence of the government; most of them are in Potosí [...] The government of Evo does not give the authority to the Departments to even elaborate the regulation of the mining law. The government do not like Potosí.

The departmental government was in hands of the MAS party, so there was no opposition to anything during the elaboration of the mining law. Here, is different to Santa Cruz for instance, in that department there is strong opposition and the government listen to their demands, here we are totally ignored (Group interview, mining technicians of the Departmental Government of Potosí, Potosí).

[...] We made a mistake from the beginning with the new Political constitution, the departmental competencies in terms of resource management is closed, only the central level has rights. The central government does not want to give more power to the departmental governments. It is an economic issue, the emergence of Macro regions with autonomy and economic power. Some said there was the risk to have new countries within a big country and the State would be only an administrator (Member Departmental Assembly, Potosí).

[...] The mining law should have been thought within the autonomic context but no one said anything or oppose. As a departmental government, we can decide in terms of departmental laws in the Departmental Assembly, but they are not structural or economic, it is only administration. The autonomies do not have power to change or manage structural issues such as the economic or extractive resources. We have political autonomy to elect a governor by vote. But the regions that have royalty are under centralist pressure (Public official of the Planning Secretary Departmental Government, Potosí).

[...] The Fiscal Reserve for us is where there is a conflict for resources: the government has the competences to define and we cannot say or define anything there. The State manages it, we are not part and it is harmful for the Department of Potosí. All the communities involved should have the opportunity to negotiate. Now there is no chance, those in conflicts lost, the benefit is only for the State (Representative CONCIPO, Potosí).

Similar to the neoliberal law 1777, the only responsibility given at departmental and municipal levels is the management of mining royalties. As stated above, the new mining law did not change in relation to taxation or royalties, as a result the same framework remains for departments and municipalities, the only difference is that

departmental governments now must pay an extra 10% from the royalties to the SERGEOMIN (Mining geological and technical service).

To sum up, the current mining framework centralises the decision making and eliminates the rights of access to and control of mineral resources and extraction from departmental and municipal governments.

In relation to my argument about the State as mediator and driver of socio-environmental changes, the governance of mineral resources seems to consolidate the resistance of the central government to decentralise responsibilities and in particular, decentralise the decision-making mechanisms and spaces of negotiations to subnational scales.

In a way, the centralism defined in the new mining law in terms of access to and control of mineral resources is a form of political dispossession for the departmental and municipal levels. As expressed by many interviewees, mineral governance is a potential focus of conflicts because the expectations of Autonomy were particularly focused on more flexibility and power of decision-making over extractive resources within their jurisdictions.

The relational feature of the State as generator and product of political struggles (Durana, 2012) illustrates the non-neutrality of governance frameworks, in particular, it exemplifies that departmental governments and municipalities are in a weakened position to negotiate with the central government. This power unbalance could be linked to the conflicting vision of a Plurinational State (with decentralised and autonomic geopolitical scales) and the *realpolitik*⁸³ of a post-neoliberal model that seeks to consolidate a centralised State power.

4.7 Conclusion

This chapter aimed to assess the role of the State in defining resource governance and the different mechanisms through which neoliberalisation takes place. Through a critical analysis of the definition of property rights and the legal frameworks

⁸³ *Realpolitik* is a system of politics or principles based on practical rather than moral or ideological considerations (Oxford dictionary).

of mining in Bolivia, the chapter contrasted the neoliberal and post-neoliberal legal frameworks of mining in relation to: ownership of mineral resources, access to and control of water in mining and the implications of mining governance on other geopolitical scales.

One of the most significant findings emerging from the analysis is that the neoliberal framework transferred the management and exclusion rights of the State to the private sector – intermediate companies and cooperatives. Although the new mining law seeks to establish the sovereignty of the State over mineral resources and strengthen the State company COMIBOL; in reality, most of the mechanisms that sustain the concession regime remain intact and have not been subject to revision.

In this regard, the ownership of resources is exercised through the rights of alienation, exclusion, and management by the State; what Schlager and Ostrom (1992) define as *de jure* rights (legal and formal rights). But the different conditions of the mining rights regime and the pre-constituted rights of the ex-concessions are forms of *de facto* rights (rights defined and enforced by the users), which reduce the capacity of the State to implement a different type of environmental governance.

Another important finding is that the neoliberal approach to mineral and non-mineral resources such as water remains and it is even reinforced in the new mining law. The fact that the indigenous communities (and forms of community-based mining) are not recognised as actors in mining not only excludes them from decision making spaces and thereby disempowers them, but also, highlights the privileges that the mining sector has always had in the history of Bolivia.

Although the New Political Constitution and the rhetoric of Evo Morales' government are strongly focused on indigenous communities and the rights of *Pachamama* ('Mother Earth') in reality, the different articles of the new mining law dispossess communities of water rights, penalise social protests, restrict prior consultation, and treat environmental permits and evaluations as mere administrative processes.

Another significant finding is the centralizing feature of the new mining framework in terms of decision making by the central government and institutions. Through the exclusive responsibilities defined by the Constitution and the new mining law, the departmental and municipal governments have no rights of access to and control of

mineral resources or to extraction within their jurisdiction and they only have the responsibilities of management of the mining royalty.

By similar logic, the definition of a Fiscal Reserve excludes the departmental and municipal governments from any kind of access rights. This aspect not only has immediate effects on mining governance but also could be seen as a type of spatial-political ordering being defined and redefined within a territorialisation by the State (Bridge, 2013). In the next chapter, I will explore in detail the implications of the Fiscal Reserve and the intra-societal conflicts emerging as a result of this.

Overall, these findings suggest that a legal framework in mining and the definition of property rights are not a mere technical domain but the result of the negotiations and power struggles of different actors within State structures.

The theoretical implications of my analysis focus on a critical debate of the State as a facilitator of socio-environmental changes and the State as a social relation through which different power struggles define resource governance.

Prior studies have noted the importance of the State and its intermediary role in the capitalist economy, society and nature as discussed in chapter 2 (Jessop, 1990, 2008; Poulantzas, 1969). The State mediates relations between resources and society through laws, regulations, property rights and frameworks of benefit distribution of extractive resources (Perreault, 2011) . In these structures, the State is not a homogenous and static entity that merely reflects capitalist interests; on the contrary, the State is in a constant process of formation in its structures and its relational features with societal actors. As Castree (2008b, p. 148) highlights, the State must manage the “consequences of capitalist contradictions for capital, labour and the wider public while maintaining its own fiscal stability and credibility as a governing body”; this inevitably leads to internal contradictions in material and discursive terms.

Of particular relevance to Latin American scholars is the analysis of internal contradictions through the postulates of Gramsci and his approach to hegemony and the integral State (Dagnino, 1998; Marston & Perreault, 2017; Webber, 2016). Hegemony is defined as an articulating process of different interests around a project of the transformation of society. Through this notion, societal relationships come into being (Dagnino, 1998) and the integral State (conceived as a political society and civil

society⁸⁴) is a strategic and coercive actor in a dialectic relationship with civil society and in a terrain of struggle of hegemony and domination (Davies, 2010). By drawing on these concepts, Marston and Perreault (2017) analyse how the relationship between mining cooperatives and the Bolivian State came into being: in the past, State policies have shaped and supported cooperative formation for economic and political interests whereas now, mining cooperatives are actively shaping the State and are identified as central in maintaining hegemonic processes. The perspective of a dynamic and non-hierarchical process of State formation is particularly relevant to illustrate two points: the centrality of mineral resources in defining social relations and the identity of the State itself, and the power dynamics shaping resource governance by societal actors that had accumulated material and political power over time.

In a related but different vein, Webber (2016, p. 1860) discusses the Gramscian concept of ‘passive revolution’ (defined as “neither a total restoration of the old order, the full re-enactment of the *status quo ante*, nor radical revolution; instead a dialectic between revolution/restoration and transformation/preservation”) to understand the contemporary politics (and contradictions of post-neoliberal model) in processes of capital accumulation and configurations of class power. Of particular relevance for my analysis is the perspective of the State in the co-optation, incorporation and subordination of social actors and the advantage other powerful actors (e.g. agro-industrial capital of the eastern lowlands, multinational capital in the hydrocarbon and mining sectors (including the bourgeoisie layers in cooperative mining)) make of these social arrangements done with and by the State.

These Gramscian perspectives are highly pertinent to the debate of the State since both situate it as a dynamic formation with multiple actors. In my analysis and argument, I combine the Gramscian approach with the typology of access rights in mining to illustrate how the social relations of mining actors with and through the State raise contradictions in terms of *de jure* and *de facto* rights and the different forms embedded in dispossessing indigenous communities in mining expansion. Also, I further seek to

⁸⁴ “Political society” denotes the coercive power of the state. Civil society is the ‘terrain upon which social classes compete for social and political leadership or hegemony over other social classes’ (Davies, 2010, p. 17)

position the State and its contradictions in the definition of mineral governance as a multidimensional relational process influenced by material and rhetorical mechanisms.

In the relational approach, the State is a field of interaction of power and strategies. On the one hand, the State plays a key role in mediating socio-environmental changes and conflicts, this mediating role is strongly influenced by class interests, class power and class strategies. On the other hand, the State is central in the institutional codification of power relations. Power does not operate in a vacuum, but always operates in pre-existing relations and forms of institutionalisation. The State is not given but is constructed and reconstructed through changing practices of government sustained and legitimised by hegemony in a Gramscian sense (Jessop, 2008).

Discourses not only transmit and perpetuate capitalism and elite's interests but also, in a relational approach to the State they are actively mobilized to legitimise political gains and access rights to mineral resources. In my argument, the State mediates and also is an actor in power struggles over mineral governance. A first point raised in the analysis is the corporatist feature in the relational role and how this is sustained and backed by hegemony. The different extracts presented in the chapter illustrated how hegemony is discursively articulated and sustained by the cooperative sector in defining mineral governance and how this hegemony consolidates three aspects: i) its material power (in terms of levels of production and access to mining concessions from the State); ii) its political power (as a grassroots constituency backing up their representatives in the Parliament and in the streets) to lobbying their interests and iii) by the selectiveness of the State (and the government representing it in opening and inviting (or not) other less powerful actors to negotiate their interests (indigenous and peasant grassroots organisations).

Behind the post-neoliberal model is a strong discourse of the return of the State in mining as sovereignty. However, the sole ownership of mineral resources is not enough to set a different resource governance. In the case of mining property rights, they proved to be articulated through institutional and regulatory frameworks far more complex to change and through which neoliberalisation is in a constant process of adaptation and powerful actors perpetuate privileges. The chapter presented evidence of how hegemony not only mirrors capitalist functioning but shapes and is shaped in defining framework access to mineral resources. In concrete, the typology of rights

discussed according to different mining actors and the tensions emerging between *de facto* and *de jure* rights shed light on the tensions emerging in the State as a social relation in terms of implementing legal frameworks of access and the legitimacy claims that back up or obstruct this implementation.

The analysis of the neoliberal and post-neoliberal mining frameworks demonstrated that in neoliberalisation as a continuous process, elite societal actors can be replaced but always within the logic of capitalist expansion, as the case of cooperativistas show, they now enjoy a hegemonic power although this power is still shared with transnational mining actors. Both actors subordinate other actors and are inserted into the State functioning and in the spaces of negotiation.

In concordance with previous scholars, my analysis of the mining frameworks corroborates key elements of a passive revolution in post-neoliberalism. Although in ideological and rhetoric terms, this model claimed a renewed sovereignty for the State, in practice, neoliberal mechanisms in mining are kept intact and further consolidated via discourses and the co-optation of opposing societal actors -paradoxically, indigenous grassroots organizations-.

Furthermore, the Bolivian case shows important contradictions for the State. If in post-neoliberalism, the State is to set a new configuration of private-public alliances in extractive resources to capture of more revenue for public investment, the mining case proves that private capitalist actors were able to maintain and to adapt their power in the new mining framework. Despite the historical legacy of mining, the State was not able to capture more income from this extractive sector. Also, the participation of indigenous groups in mining was purposely omitted, not only contradicting the Constitution and the discourse that sustains Morales 'government; but also, actively dispossessing indigenous communities from water rights.

These elements illustrate that neoliberalisation as a process is backed up by different forms of accumulation that dispossess weaker actors of both access rights and control mechanisms over resources. These forms of accumulation are the result of power strategies and are legitimised via the state apparatus. In my analysis, the dispossession legitimated by the new mining law is not a unidimensional process: indigenous/peasant communities are materially and politically disposed of water rights and powers of negotiation with the State and with mining operators.

Overall, the Bolivian mining governance is an interesting example of internal contradictions between the model of a Plurinational State based on principles of interculturality, decentralisation and autonomies and a framework of access to mineral resources deeply entrenched in a centralizing logic that seeks to monopolise all the negotiating spaces and power struggles of societal actors.

Mining in Bolivia is a good example how, despite the rhetoric, and even the symbolic importance of mining in the country's history, the bases and structure of neoliberalism remain. Post-neoliberalism is a form of centralised State-led capitalism that seeks to enhance the role of the State in the economic sphere and at the same time, mediates and promotes private interests. The post-neoliberal era has expanded and deepened a capitalist expansion of private and cooperative interests and the new mining legal framework sets the ground for new dynamics of neoliberalisation in mineral resources.

The next chapter will focus on the specific case of the Fiscal Reserve of the Uyuni's salt flat, the different social struggles that have emerged in this landscape and the implications of the enclosure of spaces by the State.

Chapter 5 THE UYUNI SALT FLAT: FROM WHITE DESERT TO HYBRID LANDSCAPE

5.1 Introduction

As legend goes, when Neil Armstrong set foot on the moon in 1969, he saw a massive spot of reflection on the earth, which initially he thought was a glacier but later was informed that it was Uyuni salt flat in Bolivia. Many local people affirm that the astronaut was so impressed that years later he visited the Uyuni salt flat and that is how the world-renowned fame of the white desert called *Salar de Uyuni*, *Salar de Tunupa* or *Gran Salar de los Lipez* began.

In 1974, a research agreement between a Bolivian public university (*Universidad Mayor de San Andres -UMSA*) and the ORSTOM (*Office de la Recherche Scientifique et Technique Outre-mer*) was made to explore the Uyuni salt flat. By 1976, the United States Geological Service confirmed there was mineral richness in the brines and the process of identifying lithium, potassium and ulexite deposits in the Uyuni salt flat officially began (Aguilar-Fernandez, 2009; Espinoza, 2010).

This was the beginning of a long and conflictive process of the exploitation of the so-called evaporite resources⁸⁵ and the foundation for the commodification of the salt flat over the past 40 years. This chapter aims to explore the dynamics in material and social terms emerging as a result of the commodification and enclosure of nature. The analysis focuses on two elements: i.) the material implication of a Fiscal Reserve in

⁸⁵ In the present study, ‘evaporite resource’ is defined as a variety of individual minerals (sodium, lithium, potassium, magnesium, boron, chlorine) found in the sedimentary deposit of soluble salts that results from the evaporation of water (Encyclopædia Britannica, n.d.; Kyle, 1991). Most lithium brine deposits are in “geologically recent enclosed basins containing lacustrine evaporites that were produced by high rates of evaporation relative to precipitation”. The most important lacustrine evaporites, or salt flats are in the central Andes and China, with smaller deposits in the western United States and northern Africa (Kesler et al., 2012, p. 61).

terms of the rights of access to and control of resources by the State in the salt flat; and ii.) the local strategies of resistance and negotiation behind the transformation of this landscape.

As discussed in Chapter 4, the Fiscal Reserve is a particular type of spatial-political ordering in which the State exercises all the rights of ownership and management. This resource framework centralises all decision making in the central government and is not exempt of controversy and power struggles. In this sense, the historical perspective of the evolution of evaporite mining hand in hand with the definitions of the Fiscal Reserve in the salt flat, sheds new light on commodification as a process backed by three elements: i) the delimitation and enclosure of spaces and resource governance; ii) the discursive elements that legitimise particular frameworks of access; and iii) the power struggles (influenced by perceptions and interests) at local levels that shape the different conditions within which commodification takes place.

As discussed in the conceptual framework (Chapter 2), commodification is a process through which a thing, object, idea, creature or person is given commodity status. Far from being unidimensional and static, commodification and commodities are transgressive since they are at once things and relations, they transform and re-create nature and social relations and they exist in interconnected ways between places and people, with material and discursive practices (Castree, 2001a).

How and why nature is transformed into a resource is inherently linked to historical processes of social construction where “resources are not; they become” (Zimmerman (1951) quoted in (Le Billon, 2001, p. 565). This transformation is intrinsically political in terms of the governance of resources, the processes of enclosure (via definition of property rights) and the social struggles emerging as a result. Bebbington and Bury (2013a) rightly point out that the links between enclosure, commodification and social struggles are essential to understand the transformation of landscapes: enclosure is central to commodification since it divides parts of a landscape laying the foundation for new transformations as access to its resources takes place and at the same time, it transforms relations of access to other resources, politicizing landscapes in new ways.

In my analysis, the enclosure of spaces is relevant because it entitles a particular notion of nature and a narrative that sustains mining expansion, while the State is central to defining the mechanisms through which capitalist expansion and enclosure take place

(Prudham, 2009). As I will explore in this chapter, the enclosure and commodification of the salt flat has two key elements to consider: the spatial boundaries in terms of access to and control of the resources in its brines under the legal definition of a Fiscal Reserve area are part of a changing history in resource governance both in neoliberal and post-neoliberal governments. Also, as a cause and as a result of this spatial enclosure, there has been a reordering of social relations and a change in how local people perceive and relate to this landscape. Most importantly, lithium is presented by the media and the government discourse as both: as the key commodity to insert this landscape into the global capitalist system and also as the most important example of contemporary state capitalism.

What is unfolding in the case of the Uyuni salt flat is not only an economically-driven process of capitalist expansion; but also the transformation of a landscape that is linked to perceptions about its symbolic meaning and its reconfiguration in a constant process of the neoliberalisation of nature. I argue that this case demonstrates that commodification is neither static nor linear: the different points in time in which the salt flat was enclosed reflect the different routes commodification took beyond the solely private profit logic of capitalist extraction. Most importantly, the socio-environmental changes over time exemplify the salt flat as a hybrid landscape. A hybrid landscape is a notion that critically questions the idea of a rather fixed and unproblematic landscape that has characterised the ontology of environmental history (White, 2004) and the narrative behind mining capitalist expansion in general and also illustrates a landscape in which humans interact in the co-constitution of nature (Reade & Zanotti, 2014). In this sense, this landscape – once known as the ‘white desert’ (an isolated and valueless landscape) – nowadays has become a strategic space and a Fiscal Reserve for the largest state-owned mining project for extracting and industrializing lithium carbonate.

This chapter begins by laying out the geographic context of the southwest region where the salt flat of Uyuni is located. The next section examines the history behind the four different delimitations of the salt flat as a Fiscal Reserve. This is achieved by analysing the scientific discourse that sustained the enclosure of the salt flat and by exploring the different narratives around the social conflicts that have emerged over time; the empirical evidence will shed light on the different routes and political dynamics that the process of commodification has had. In Section 5.3, I explore the State project of

lithium and present a map of the actors and various dynamics emerging around the project. The findings show this mining project as the culminating point in the commodification of the salt flat and highlight how the reordering of space and social relations are central elements in commodification processes. The concluding section summarises the main findings in relation to the social and material dynamics emerging as a result of the commodification and enclosure of this landscape.

This chapter sets the scene for the final empirical chapter by outlining the background and history of the region and the Fiscal Reserve and by presenting commodification as a process with material, social and cultural elements. This last element (culture), will be further explored and linked to territoriality in Chapter 6.

5.2 Geographical and Socio-Economic Context

The Uyuni salt flat is the largest salt flat on earth, located in the Bolivian high plateau (*altiplano*) (southwest region of Potosí) it covers an area of 10,582 km² and reaches an altitude of 3,653 meters above sea level. Due to its size and remarkable flatness, it is considered as an ideal reference surface for NASA and its satellite-based altimeters – in particular, the Geoscience Laser Altimeter System (GLAS) (Aguilar-Fernandez, 2009; Borsa, A. et al., 2002; Borsa, A. A., 2005).

The salt flat was formed as a result of transformations between several prehistoric lakes. Around 46,000 to 36,000 years ago, this area was the location of Lake Michin. This saline lake concentrated significant amounts of salt since its basins were originally sea water. When the lake dried, a new lake, Lake Tauca, was formed around 26,000 to 15,000 years ago, followed by a dry season of several thousands of years that shaped two major salt deserts – Salt flat de Coipasa and Uyuni salt flat – and the river delta of Rio Grande (Olivera, 2014; Risacher, 1989).

The surface of the salt flat is covered by a thick salt crust. It is estimated to comprise around 64×10^9 tonnes of salt (NaCl). Underneath the surface, the brine has a high concentration of potassium (K), ulexite/borax (B), magnesium (Mg) and lithium (Li) among other elements. The richest area in mineral concentration is located in the south of the mouth of the Rio Grande River (Ballivian & Risacher, 1981).

The brine is formed and fed by subterranean water and mineral salts. Its renewability heavily depends on geomorphological factors such as the water channel, composition

of the mineral salts and levels of evaporation, among other factors⁸⁶. In the Uyuni salt flat there are 21 river basins, however only some of them reach the brine, the basin of Rio Grande being the largest and most important (see Figure 5.1) (Olivera, 2014).

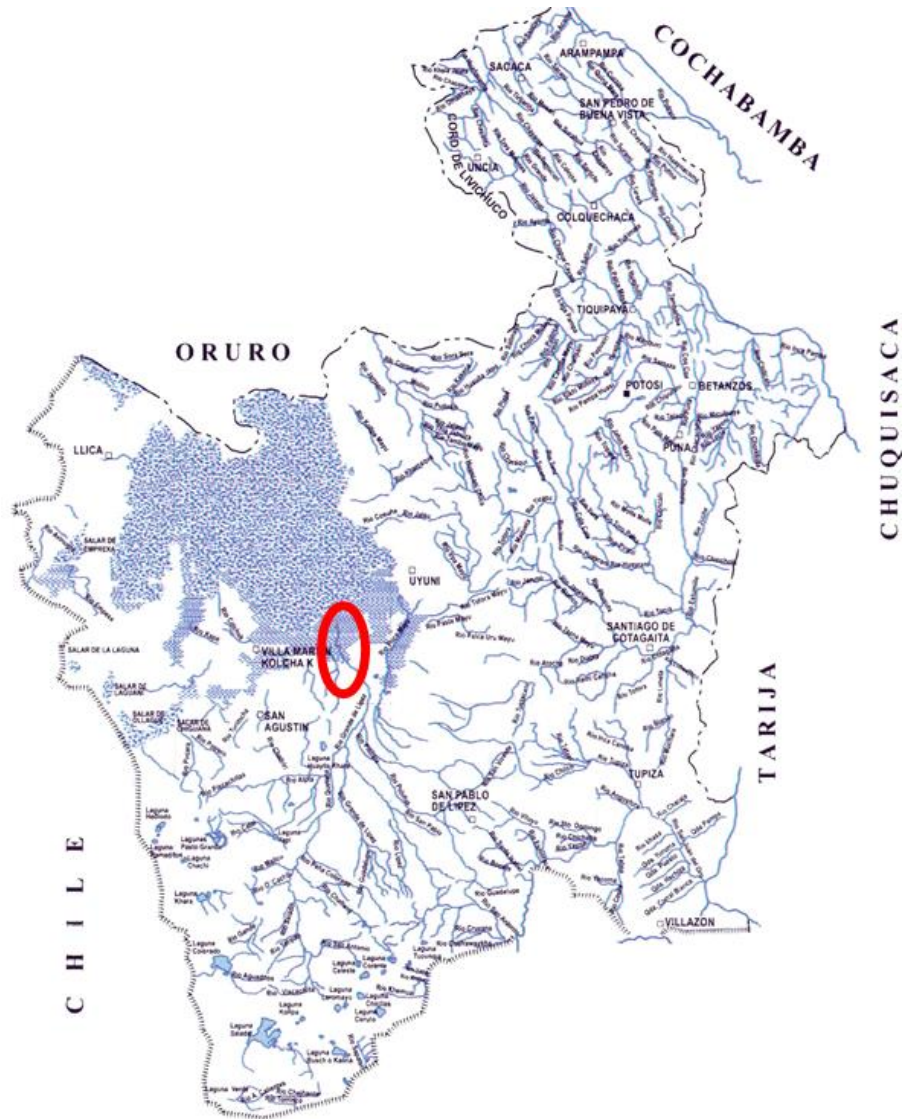


Figure 5.1. Hydrological map Southwest region of Potosí (Source: EDUCA[<http://www.educa.com.bo>])

Borateras (deposits of ulexite/borax) are also abundant in this area. In addition to the Uyuni salt flat, there are two other nearby salt flats (Kapina and Pastos Grandes) from which ulexite is extracted for transformation into borax. As mentioned in the

⁸⁶ Although the salt flat is normally dry, seasonally flooding changes the volume of outflow water; also the evaporation rate (1300-1700 mm/yr.) greatly exceeds precipitation (100-200 mm/yr.) and salt crust and brines are formed throughout the year (Aguilar-Fernandez, 2009).

introductory chapter of the thesis, there are different ways of extracting lithium, with the evaporation of brine being the most cost-efficient method to date. In the Bolivian case, the richest deposit is the area near Rio Grande River, which is rich in lithium but with a high concentration of Magnesium too (18 g Mg per 1 g lithium) (Olivera 2014). This aspect is relevant for two reasons: the separation of magnesium increases the cost of production due to the expensive inputs required, and this physiochemical characteristic has implications in relation to the type of technology chosen in the State lithium project. Both aspects will be further explained below.

5.2.1 The Southwest region

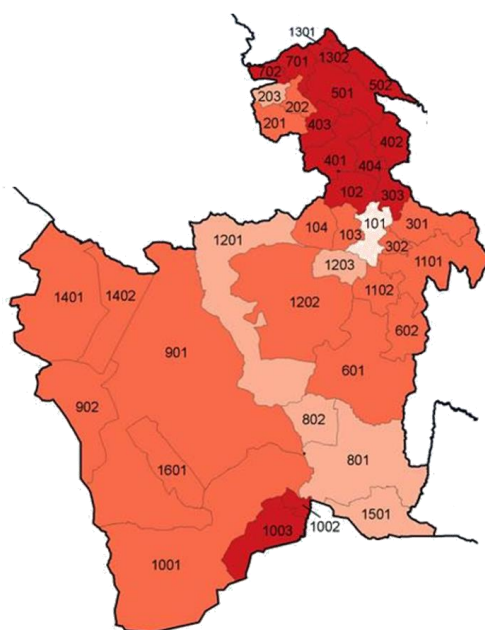
The Uyuni salt flat is located at the heart of the Southwest region of Potosí department. This region borders Argentina to the south and Chile to the west. It covers an area of 72,497 km², reaches an altitude of 3,900 meters above sea level and has a population of 78,609 inhabitants according to the 2012 Census, of which 20% live in urban areas. Population density is estimated at less than 1.3 inhabit/km², which is much lower than the rest of the department of Potosí and the national average (9.4 inhabitants/km²) (Aguilar-Fernandez, 2009; Pareja, 2010).

The salt flat is surrounded by the Municipality of Uyuni (Antonio Quijarro Province) to the east, Municipality of Colcha-K (Nor Lipez Province) to the south, Municipalities of Llica and Tahua (Daniel Campos Province) to the west, and to the north the Municipality of Salinas de Garcia Mendoza (Cabrera Province in the department of Oruro). These six municipalities (five in Potosí and one in Oruro) contain 329 indigenous communities of Quechua and Aymara ethnic origins (see Figure 5.2) (GNRE, 2012b; Poveda, 2014).



Figure 5.2. Southwest Region of Potosí (Source: <http://turismoculturalbolivia.blogspot.co.uk/>)

In terms of access to basic services, the Southwest is one of the poorest regions of Bolivia. According to the data of the 2012 Census, Uyuni is the location with the lowest level of poverty (50%) whereas Mojinete in Sud Lipez has the highest level of poverty (86%) according to the unsatisfied basic needs indicator (see Figure 5.3).



Province/ municipality	Population total	% of poor population
Nor Lipez		
Colcha K	10,961	57
San Pedro de Quemes	951	66
Antonio Quijarro		
Uyuni	28,348	50
Tomave	14,326	76
Porco	10,618	41
Daniel Campos		
Llica	3,904	66
Tahua	1,647	69
Enrique Baldivieso		
San Agustín	1,618	72
Sur Lipez		
San Pablo de Lipez	2,907	82
Mojinete	1,168	86
San Antonio de Esmoruco	2,161	82

Figure 5.3. Poverty Map according to Unsatisfied Basic Needs (Source: UDAPE-PNUD, Own based on CENSUS 2012)

During fieldwork visits to the municipalities, it was evident that the locations still have many limitations in terms of access to basic services including health services and quality education. However, when talking to residents, they highlighted that the towns had dramatically improved over the past few years. In Llica for example, water and electricity became available five years ago and telecommunications two years ago. In the case of Colcha-K access to services started earlier, and some residents argued that the mine of San Cristobal contributed to an improvement of some conditions. In the case of Rio Grande, the residents received some basic services in the past five years.

For centuries, the dispersed communities surrounding the Uyuni salt flat harvested salt and travelled to the valleys in Chuquisaca, Cochabamba and Tarija to exchange it for corn and other products (Lecoq, 1985, 2002). This past is long gone; although today some communities still extract salt, the economic dynamic and how people relate to this landscape has changed, diversified and been inserted into a market logic.

Livelihoods are now linked to agriculture – especially quinoa and llama raising – trade, mining and tourism, especially in Uyuni as described in chapter 3. The climatological conditions and environmental hazards, low wages and low productivity contribute to out-migration from the region. This migration could be permanent or seasonal to Chile, Argentina and urban centres in Bolivia (Pareja, 2010).

The following section examines the Fiscal Reserve as the core of social struggles in the region with a particular emphasis on the case of ulexite mining

5.3 The Uyuni Salt Flat: From an Empty Space to a Geostrategic Location

The Uyuni salt flat represents one of the most fascinating landscapes on earth. To some, it is a white plateau that seems to fuse with the sky; to others, it represents a vast richness of lithium that will, it is argued, transform the country into the ‘Latin-American Saudi Arabia’(Wright, 2010). To the local people in the surrounding communities, the salt flat is more than a landscape or resources, it is intrinsically linked to their history, livelihoods and cultural legacy.

The salt flat is a space that has dramatically changed over the past 40 years. In order to understand this transformation and its implications, this section explores four different periods (as defined by (Nacif (2012)) in which the Uyuni salt flat was

declared a Fiscal Reserve; in each period, different elements of discourse (Supreme decrees, scientific reports and qualitative information from the interviews) will be analysed. This revision of the Fiscal Reserve will illustrate the changing history in resource governance in neoliberal and post neoliberal governments and the different roles the State took in response to social protests and particular interests. The findings of this section will shed light on the different routes and political dynamics emerging in a process of commodification.

5.3.1 The discovery of the mineral richness in the brines (1973-1982)

Bolivia was the first country in South America to begin scientific research on and the measurement of evaporite resources in the salt flats. Between 1973 and 1974 an initial agreement was made between UMSA and ORSTOM to carry out geological studies of the salt flats. By 1976, an agreement with NASA for the Project ERTS (Earth Resources Technology Satellites) was signed in order to determine the potential resources in the salt flats; as a result, important concentrations of Lithium were identified⁸⁷. In 1981, the joint report of ORSTOM was published⁸⁸ and claimed that Bolivia had the biggest reserve of lithium (5.5 million tonnes) in addition to reserves of potassium and ulexite near the area of Rio Grande (Nacif, 2012).

The ORSTOM report is particularly relevant for three main reasons: i) it synthesised the scientific knowledge at the time in relation to the basins and the salt flats in the southwest region of Bolivia; ii) the estimations of this report were used as the scientific basis for the different initiatives to extract evaporite resources in the country and iii) based on the report and its methodology, there was a continuous systematic sampling of the brines (Davis et al., 1982) .

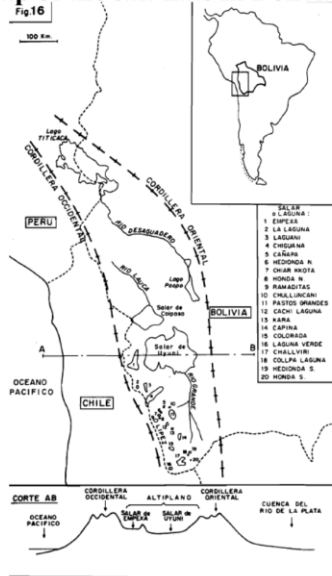
⁸⁷ Dr. Carl Brockmann, a Bolivian geologist is thought to be the discoverer of lithium in the salt flat of Uyuni in 1976. That year, he was the director of a research unit that was the Bolivian counterpart of the agreement with NASA for the program Earth Resources Technology Satellite (ERTS). The research focused on the identification of resources via satellites. In 1976, in partnership with another geologist (William Carter) from the Geologic Service of the United States, Dr. Brockman started making perforations in Colchani (in the east) and the Fish island (in west) of the Uyuni salt flat. In one of the perforation, methane gas emerged and it was signalled as an anomaly due to lithium presence. Samples were taken and sent to the United States, sometime later, it was officially confirmed the brines of the salt flat contained lithium (Avendaño, 2012).

⁸⁸The official title of the document is: Ballivian O., & Risacher, F (1981). *Los Salares del Altiplano Boliviano: métodos de estudio y estimación económica*. La Paz: UMSA-ORSTOM-CIRESU.

Considering its relevance, two key aspects to explore here are: the objectives of the study and how the salt flats were depicted. First, the narrative of the report has a strong emphasis on the scientific knowledge linked to the economic interests for extracting resources in the salt flats, in particular in the Uyuni salt flat. For instance, the main objective of the report was the “scientific study of the evaporite basins in prehistoric lakes and as a result of this knowledge, the practical application for the identification of reserves of elements (lithium, potassium, borax) to be economically exploited” (pp. 9). In the methodological chapter (pp. 65) the report defines two approaches to researching the salt flats (economic and scientific) but clearly states a subordination of scientific knowledge for the economic benefit. It states: “this is a study of the salt flats for economic purposes. The scientific research has other characteristics such as the emphasis not only on mineral salts but also on other sediments; however, the adequate knowledge of the salt flat and the geological, geochemical and hydrological mechanisms are *indispensable* for an optimal economic estimation”.

Second, the report depicts the Uyuni salt flat as an isolated and semi-empty location. It links harsh weather conditions (with temperatures of -35 degrees in winter) with a low population. It identifies Uyuni city as the only “important population” in the area and further categorises the rest of human settlements as “without any importance and only useful as temporary campsites” (pp. 19). The language used suggests two problematic elements: the importance of human settlements based on the number of inhabitants; and the total omission of indigenous communities as part of the landscape and other scales such as municipalities. In the report, with few exceptions, the Uyuni salt flat is generically located in the high plateau (*altiplano*) (pp. 20-21) and even the maps of the report (see Figure 5.4) omit any type of geo-political division, especially at provincial scale.

Map of the salt flats in Bolivia



Map of the wells – Uyuni salt flat

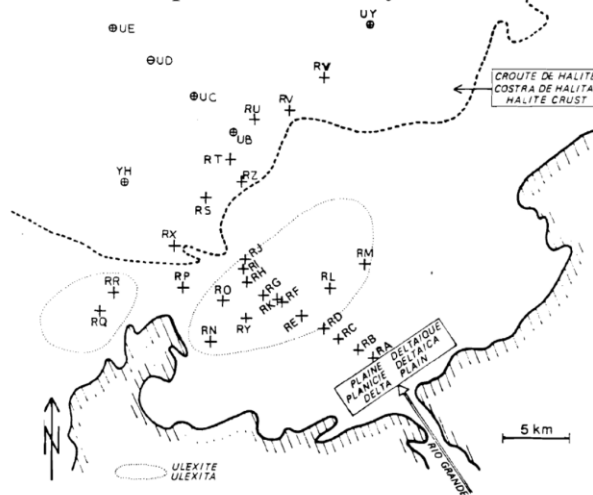


Fig 5 UBICACION DE LOS POZOS

Figure 5.4. Mapping of salt flats and reserves (Source: ORSTOM Report (1981) and ORSTOM Report (1989))

A first critical point to be raised here is the neutrality of scientific knowledge and the forms of representing a landscape. For instance, Brotton (2014, p. 5) rightly argues that maps tend to be seen as objective “graphic representations to facilitate the spatial understanding of things”. However, far from being neutral, maps offer a spatial understanding of a place based on particular ideas and beliefs that inform them and define forms of abstracting a place for certain interests. “Maps are a creative interpretation of the space they claim to represent” (Brotton, 2014, p. 14), far from being an accurate picture, maps also represent political choices about what aspects to include or exclude from them. In a similar vein, Fotiadis (2009) further argues that maps create and maintain particular discourses about the world and they have material impacts for those inhabitants in a particular geographical delimitation.

The omission of indigenous communities in the report might be linked to the historical context of the 1970s, where an indigenous identity and recognition of indigenous communities were absent from any formal and legal consideration, especially from the State. In relation to the omission of provincial and municipal scales, the report reflects a scientific narrative that disconnects the object of study (Uyuni salt flat) from the socio-political context within which it is located and in a way, it consolidated the idea of the salt flat as something belonging to the State and not to the surrounding communities.

In the case of the ORSTOM report, the maps that emerged from this study were essential for the abstraction of this landscape for extractive purposes and consolidated the location of the current pilot plant in Llipi Loma and the space where massive evaporation pools are being built in the salt flat.

Based on the scientific knowledge, this report already differentiates the small salt flats of the region⁸⁹ as “insignificant” compared to the Uyuni salt flat which will “allow true hopes for the implementation of a grand chemical industry to be built up” (pp. 222). This technical consideration not only classifies the brines into ‘significant’ and ‘insignificant’, but also defines the governance logic for the evaporite resources in the region. In particular, the Report states that the elements found in the small salt flats have a “reduced potential of exploitation and could be run by the population near the basins or peasant cooperatives”. On the other hand, it states that the “extraordinary reserves of lithium, potassium and borax of the Uyuni salt flat can constitute the *only* development pole of the south Andean high plateau considering also the geographical position near the borders of Chile and Argentina”.

Although the report does not directly state the type of investment and actor that could carry out the extraction of lithium and other elements, the idea and wording of “development pole” clearly states the need for significant investment with links to external markets. Moreover, the emphasis on “the only development pole” reflects a logic that prioritises mineral extraction over any other economic activity in the region.

Two important aspects emerge from the previous discourse extracts of the ORSTOM report: first, the brines are conceived as separate from a landscape that includes the human and natural environments. It purposely omits links between local people and

⁸⁹ The country has an area of 17,000 Km² of salt flats, of which the Salar of Uyuni is the biggest (10,582 Km²). The ORSTOM Report divides the 17 salt flats of the country according to their economic interest. Specifically: lithium (Uyuni and Coipasa); potassium (Uyuni and Coipasa); borax (Río Grande, Challviri, Capina, Pastos Grandes, Laguani); sodium carbonate (Collpa Laguna, Hedionda Sur, Cachi Laguna, Khara Laguna, Honda Sur); sodium sulphates (Caflapa, Salar de la Laguna, Laguna Colorada, Hedionda Norte, Chulluncani). This listing is organised by mineral rather than place, suggesting the priority given to them.

the landscape and it further reduces this landscape to possible deposits of minerals. Second, the logic behind the wording and the approach of the report strongly sustain a mining expansive vision without any type of environmental considerations.

Most importantly, based on the 1981 ORSTOM report, the Uyuni salt flat was first identified with a vast richness of 5 million tonnes of lithium. In a second ORSTOM report (1989)⁹⁰, the reserves estimates nearly doubled to 9 million tonnes of lithium. To date, this last estimation is the official one, although in 2010, the GNRE reported new brine perforations of 220 meters and new estimates of reserves up to 100 million tonnes of lithium (Montenegro & Montenegro, 2014). These quantitative estimates are relevant because, based on them, expectations of future profit were formed and different action took place.

In discursive terms, the ORSTOM report (1989, pp 61) stated: “the Uyuni salt flat has enormous reserves, almost *inexhaustible* in terms of lithium, potassium, magnesium and borax. It is the largest world reserve...The highest level of concentration is in the south of the salt flat near Rio Grande river mouth. This rich vein of mineral is non-renewable, once exhausted, new locations with lower levels of concentrations will be needed to keep on extracting”.

From this quotation of the report, two ideas stand out: i) the scientific narrative positioned the landscape as the largest reserve worldwide with massive prospects of lithium to be extracted (*almost inexhaustible*); and ii) this is a type of expansive mining that in time will require expanding to new spaces within this landscape. This last aspect is purposely omitted in the official narrative of the government that claims lithium is environmentally friendly.

In the same year (1974) as the first research agreement was signed, the Uyuni salt flat and the provinces of Nor and Sud Lipez were declared as a Fiscal Reserve for the first

⁹⁰ The official name is Risacher, F. (1989). *ORSTOM en BOLIVIE: Estudio Economico del Salar de Uyuni*. La Paz: UMSA-ORSTOM – CIRESU.

time (Supreme Decree 11614)⁹¹. This first delimitation answered to the need of determining if valuable resources were found in the salt flat and nearby areas. In concrete terms, the decree states that prospecting, and the evaluation and research of mining are priority objectives of the ‘nationalist government’. In particular, the aim of the decree was to delimitate the Nor and Sud Lipez provinces as a Fiscal Reserve due to economic interests (mineral resources) but without yet emphasizing evaporite resources (see Figure 5.5). This first Fiscal Reserve sought to position COMIBOL as the main actor since all areas to be prospected were to be the property of the State (through COMIBOL) for extraction and benefit (Art. 3).

The decree defines two important aspects: the State has the responsibility of quantifying mineral resources and COMIBOL has the rights of extraction and revenue. The Fiscal Reserve opens a territory up for the exploration of minerals and, according to the wording of the law, it is ‘indispensable to delimitate’ the provinces in the southwest of Potosí which were considered to be of particular interest.

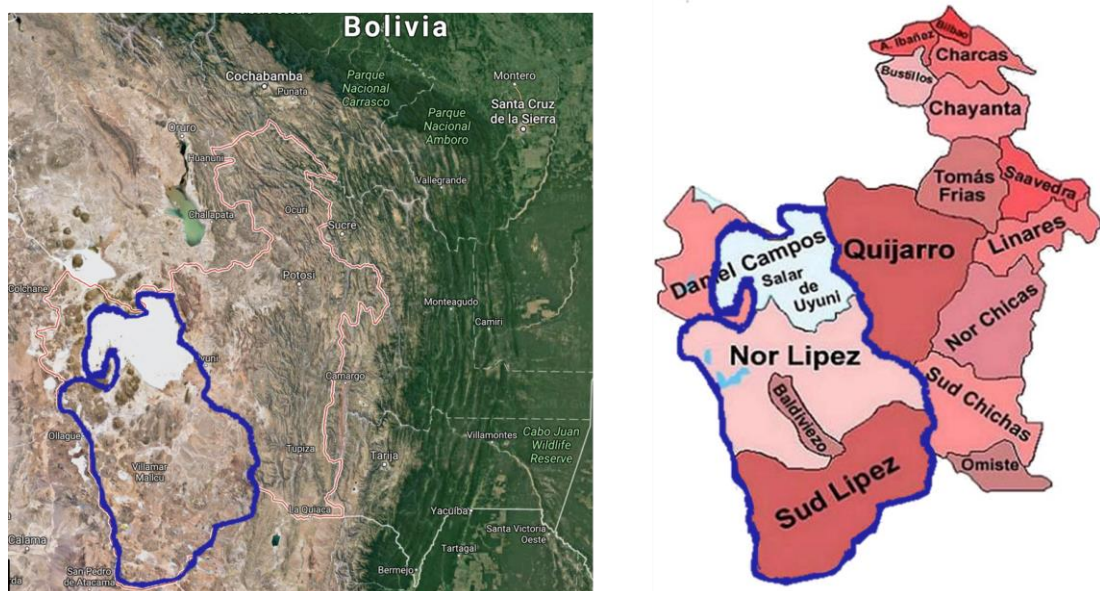


Figure 5.5. First Fiscal Reserve Delimitation (Source: Own)

⁹¹ The decree declares as Fiscal Reserves the provinces of Nor and Sud Lipez in the department of Potosí, the Serranía of Mosenes in the department of Cochabamba and the North of the department of La Paz. These areas were part of a project named “Prospección Minera en la Cordillera” financed by the UNDP, COMIBOL and the Bolivian Geological Service.

An important first finding is that both documents (ORSTOM report and the supreme decree) represent the first step towards a commodification of the Uyuni salt flat for three main reasons: i) the prospects of unknown reserves of minerals was the main motivation for a formal delimitation and enclosure of a massive territory that included the Uyuni salt flat. ii) The scientific research in the salt flats was motivated and backed by economic interests to find new reserves of minerals to be exploited by the State and COMIBOL and iii) the quantifications of lithium and the depiction of this landscape (in discursive and geo-spatial terms) as an isolated and semi-empty location legitimised its commodification and mining expansion.

Furthermore, behind this initial phase of scientific research and quantification of resources, there was an abstraction of this landscape to be commodified. Prudham (2009, pp. 129-130) suggests that forms of representation are “social relations of abstraction” so discrete things can be appropriated and exchanged; in particular, the scientific representation and statistical picturing of nature plays a fundamental role in making nature and territory “legible and governable”. In a similar vein, Smith (2008) links the scientific narrative and methods of quantification as the mechanisms through which nature is abstracted from the social context and re-made with an exchange value to be commodified and inserted into capitalist expansion. Castree (2003), on the other hand, positions abstraction not as a single-moment, but as part of inter-related phases operating in commodification as previously discussed in Chapter 2.

The particular case of the Uyuni salt flat, illustrate that the abstraction of nature is a process sustained by three elements: a scientific narrative that prioritises economic interests, a disconnection from a local social context and a symbolic remaking that transforms nature. In concrete terms, this landscape was conceived not as an ecosystem but as a mineral reservoir, the prospects of a vast richness were behind the scientific exploration of the landscape and it legitimised its enclosure as a Fiscal Reserve for mining expansion.

These elements point to a much-debated question about the so called ‘technocratic knowledge about nature’ and its role in shaping society-nature relations through State policies. As Castree (2001b) argues, neutral scientific knowledge about nature is not possible since what is considered as truth varies depending on the perspective of analysis, on who is making the claims and whose interests it represents. From a post-

structuralist perspective, all claims about nature are discursively mediated and represent tools that certain groups use to “create their own truths” and exercise power (Castree, 2001: p.12).

In this vein, Ludden (1993, p. 259), debates orientalism and the portrayal of rural India during colonial rule. In his critique, the so called “authoritative facts” are not a neutral, but on the contrary, the expertise behind them, the kind of data generated and the logic for the integration of the information answer to particular interests and regimes of power. Mitchell (2002), on the other hand, draws the attention to the production of maps as symbolise of colonialism and a characterisation of the power of the modern state. Nonetheless, he argues, through the collection, classification, organization and representation of maps, resources and people under a technocratic knowledge, the political power acquires new forms: as knowledge instrumental to capitalist rationale and as command of the space for regimes of property.

In the case of the salt flat, as discussed in the following sections, discourses matter not only for the symbolic element they attach to nature, but also because they co-create decision making processes with material impacts in the way nature is transformed and resources are made and governed.

5.3.2 Conflicts of interests, the Fiscal Reserve and LITHCO contracts (1983—1993)

During this second period, a new delimitation of a Fiscal Reserve was carried out (DS 21260). Accordingly, the Uyuni salt flat was declared a Fiscal Reserve with an extension of 2,326,000 hectares (Poveda, 2014), it was renamed as the “*Gran Salar de Uyuni*” and contrary to the previous (and colossal) Fiscal Reserve, the limits of the space were carefully detailed in 13 points of latitude and longitude (see Figure 5.6).

This new spatial configuration gave the State a more precise framework to define a strategy to extract lithium. Contrary to the first Fiscal Reserve and according to the implementation of neoliberalism in the country, the role of COMIBOL was basically vanquished and a new institutional structure thought to facilitate private investment was set in place. In this way, in 1985, CIRESU (*Complejo Industrial de los Recursos Evaporíticos del SALAR de UYUNI* – Industrial Complex of Evaporite Resources of

the Uyuni salt flat⁹²) was created as a public company in charge of facilitating the tender for bids and contracts for exploration, extraction and commercialisation of the resources in the Uyuni salt flat (Nacif 2012, Olivera 2014).

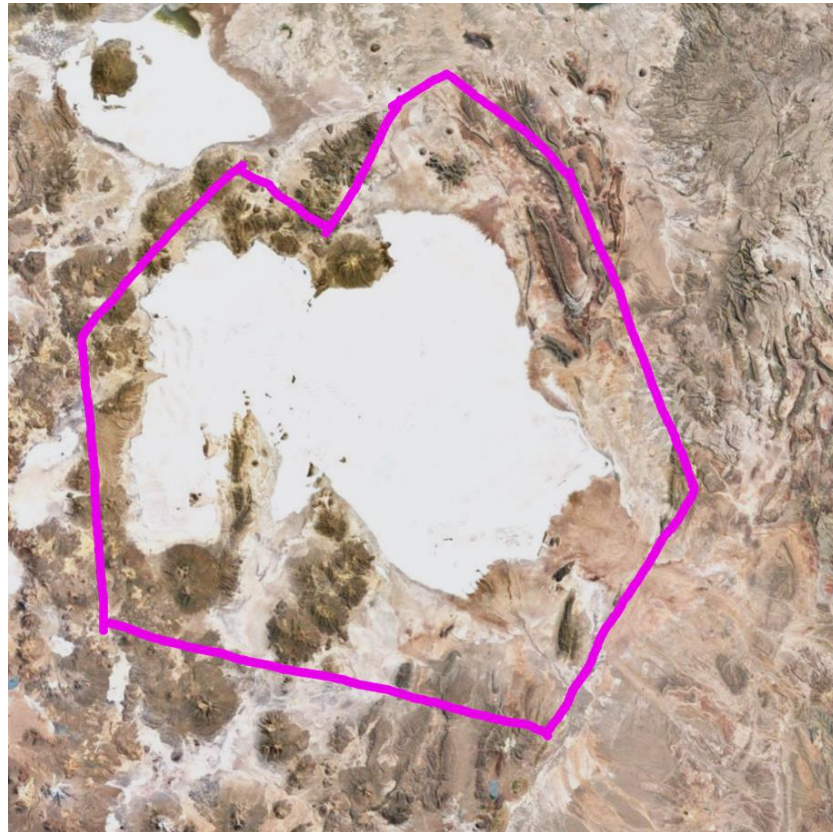


Figure 5.6. Second Fiscal Reserve Delimitation (Source: Own based on Espinoza (2010))

The original idea behind the new Fiscal Reserve and the creation of CIRESU was to develop a Bolivian strategy of lithium extraction. Yet, in practice this did not materialise and in spite of the normative model in place for tendering processes through CIRESU, in 1988, the Lithium Corporation of America (LITHCO) (the world's largest company of lithium at the time based in the U.S) received a direct invitation from the government to extract resources in the salt flat (Nacif, 2012; Pozzo, 2010). This event was the beginning of a series of social conflicts in relation to the resources in the salt flat and the subsequent delimitations of the Fiscal Reserve.

In 1990, the first draft contract with LITHCO was signed. The contract established an investment of USD 40 million with full rights of exploration and exploitation in the

⁹² Law No.719

Uyuni salt flat for 40 years, including the direct export of brine concentrates with an estimated production of 2,128,000 tonnes of lithium carbonate (Espinoza, 2010). The participation of the State was established through two mechanisms: a tax of 35% on net profits, a basic tax of 2.5% on net sales, a royalty of 2% based on gross income and an additional royalty of 5% applicable from 11 years onwards until reaching 25% on operational profits (Espinoza, 2010; Olivera, 2014; Orellana, 1995).

Different civil society organisations such as the *Comité Cívico de Potosí* (Civic Committee Potosí - COMCIPO), *Central Obrera Departamental* (Departmental Workers Confederation - COD) and *Universidad Autónoma Tomás Frías* (Autonomous Public University Tomas Frias - UATF) started a series of protests against the signing of the contract for three main reasons: i) it was considered a bad deal for the State; ii) there was a lack of an international bids; and iii) there were accusations of corruption due to the direct invitation to a transnational company.

In the face of increasing social protests, the President at the time (Jaime Paz Zamora) withdrew the contract and opened an international bid based on the proposals of CIRESU, UATF and UMSA among other institutions. Three transnationals made proposals: FMC Corporation (LITHCO), SOQUIMICH (Chile) y COPLA Ltda. (Bolivia), however the winner was again LITHCO (Nacif, 2012). In 1992, the new joint venture contract was signed. The main difference with the former contract was that State participation was slightly better, but under a more complex structure of taxes and royalty. In particular, a tax of 30% on net profits, a complementary tax of 3% on net sales, and a tax of 10% on dividend and commissions paid outside Bolivia (Espinoza, 2010).

A few days after the official signing, the Parliament decided to modify the contract and to increase the tax structure from 10 to 13%. LITHCO immediately reacted against this and argued that the signed contract guaranteed no tax modifications. After a year of negotiations between the government and the transnational, LITHCO withdrew from the contract and moved to Argentina (*Salt flat of Hombre Muerto*)(Orellana, 1995).

The LITHCO conflict highlights two important issues: i) a lack of a unified opposition and internal grievances between the city of Potosí and the rural areas; and ii) the complex narratives and interests behind the opposition to LITHCO. These two

elements illustrate that in a commodification process, material and political gains are in a constant interplay that shapes the narratives that sustain or resist commodification and capitalist expansion.

First, the opposition block was not homogenous, in particular between Potosí city and the Southwest region. Authors like (Nacif (2012)) and (Olivera (2014)) argue this social mobilisation was divided between the city of Potosí and its different civil society organisations (in particular COMCIPO) and the representatives in the Southwest region. During fieldwork, important regional grievances were identified between Potosí city and the municipalities of the Southwest region. For instance, some interviewees recall the events of the LITHCO protest as “not an opposition *per se* to extract lithium, but the desire to get better contracts for Potosí as department” (Academic, Universidad Autónoma Tomas Frias, Potosí city) or the “desire to have a voice in the negotiation of the contract since the Government was doing a direct negotiation ignoring us as a Department” (Official, Departmental Government of Potosí, Potosí city). In the different municipalities of the region, some interviewees argued that the different organisations of the city have their own agendas, which in most cases, tend to differ from the needs of the rural areas. The comments below illustrate this point:

[...] FRUTCAS and CONCIPO opposed the LITHCO contract but their interests were different: FRUTCAS and other organisations sought regional interests and Potosí city sought and always seeks to capture and centralise more resources at the expense of the municipalities of the region (FRUTCAS representative, Uyuni city).

[...] The opposition at that time was because Potosí was not participating in the contract. The central government was doing everything. Now the MAS government has support and mobilises people in the rural areas, they (*masistas*⁹³) manage FRUTCAS and people accepted the lithium project without questioning anything. We as the departmental government had no

⁹³ ‘Masistas’ refers to people affiliated to the Government political party (Movimiento al Socialismo – MAS).

participation at all (group interview, officials Planning Unit Departmental government of Potosí, Potosí city).

Second, behind the LITHCO conflict there are multiple narratives that are much more complex than the simple opposition to transnationals as this conflict is sometimes portrayed (Pozzo, 2010; Ströbele-Gregor, 2012; Wright, 2010). For instance, Orellana (1995, p. 9) analysed the contracts and identified the different arguments used against the LITHCO contract during the protests, including: i) unfavourable conditions for the State compared to the contract Chile signed for the salt flat of Atacama; ii) no benefits for the department of Potosí ; and iii) the looting of a strategic resource in spite of the “negotiating power of Bolivia as the owner of the largest world reserve”.

During my fieldwork, some of these opposing arguments mentioned by Orellana (1995) emerged when asking about this particular event. However, I additionally identified three key themes: i) the symbolic meaning LITHCO had as a neoliberal transnational implementing a privatizing resource governance in the salt flat; ii) a nationalistic sentiment linked to the extractive history of the country; and iii) local interests that felt threatened in the face of a resource governance strongly influenced by a big transnational corporation.

In relation to the symbolic meaning of LITHCO, most people argued that LITHCO represented the privileges and corrupt mechanisms that transnationals have had with the governments in place throughout Bolivian history and in particular during the neoliberal era. Moreover, the contract was perceived as illegitimate and adapted to benefit transnationals. Most importantly, many people felt the contract for 40 years was a *de facto* permanent concession in the salt flat, excluding most people from the benefits of extraction. As the following quotes illustrate:

[...] LITHCO came to buy the salt flat and we opposed it as the civic committee of Daniel Campos. It is because of this opposition we still have the Fiscal Reserve in the Salt flat (Representative civic committee Daniel Campos, Llica).

[...] the mentality in the neoliberal era was based on privatisation and industrial development done by private actors. In 1992, it was an aggressive contract; LITHCO would have had preferential treatment in the salt flat, it was almost a permanent concession, like selling the salt flat to a foreigner in exchange for

nothing [...] The opposition emerged because there were no job prospects; lithium was going to be exported as a raw material, with no added value here. Since it was private [LITHCO], it was taking the lithium out, the benefits out of the country and the industrialisation of batteries was going to be done in a foreign country (Group interview, Municipal Council members, Colcha-K).

[...] Before the transnationals wanted to take over and seize all our resources. They do not only belong to Rio Grande, but to all Bolivians. Different leaders during those years started the fight to stop the work of these transnationals. We opposed LITHCO as a foreign company and we had a neoliberal government that allowed the looting of our resources (Community Council man, Rio Grande).

Another important aspect that emerged in the informants' narratives was the link between nationalism, the historic memory of Potosí and the looting of resources as a trigger of the opposition to LITHCO. Different informants highlighted the idea that if a resource is exploited by the State, it will generate benefits for the country. Some informants expressed these views in the following way:

[...] The idea that foreigners looted the richness, like the Cerro Rico of Potosí without leaving any benefits for the Bolivians is recorded on people's minds. So, when LITHCO came in the 90s, we opposed it (FRUTCAS representative, Uyuni city).

[...] The region always said that it should be done by the State. Why do we always have to give resources to the transnationals? They take out the richness like in the Cerro Rico, no economic benefit for the region where the resources are extracted. No neoliberal government wanted to hear us. The salt flat is full of richness, even gold; it will give us jobs for a long time. FRUTCAS put forward this idea to the government. Evo did listen to the message and said it was possible to do this (representative of Bartolina Sisa, Uyuni city).

[...] If it is national it can benefit the country, if it is exploited by a foreign company, the wealth will be always taken out of the country, the Bolivians will always end up with empty hands (FRUTCAS representative, Uyuni city).

A third and most important theme that has been less explored as part of this conflict is ulexite extraction and its relation to the opposition to LITHCO and to private companies in the region in general. Olivera (2014) states that the community of Rio Grande actively opposed LITHCO in 1990. However, the reasons were not focused on lithium extraction or State participation in the contract *per se* but the rights to access ulexite deposits within the salt flat. As mentioned in section 5.1.4, mining has important links to the regional economic dynamic, with ulexite being the most important mining activity for the communities in the surrounding areas of the salt flat, but especially in Rio Grande.

When the LITHCO conflict emerged, most people in Rio Grande were already extracting ulexite in a rudimentary and manual way. As expected, the contract did not consider either other mining actors or the impacts on local livelihoods. When it was announced that the transnational corporation would get exclusive rights of access and management, local people organised themselves to defend their own rights of access to the salt flat.

As a result, and after the resignation of the LITHCO's first contract, the people of Rio Grande formally created SOCOMIRG in 1991 as a community mining company, legally obtained leasing rights from CIRESU and consolidated their ulexite extraction rights in the region.

During fieldwork, a variety of informants from Rio Grande corroborated this aspect of the conflict and further confirmed that ulexite was the first resource to be extracted in the salt flat in most cases by *de facto* rights of access outside the control of the State. As one interviewee stated:

[...] The ulexite was extracted first here, there was almost no control; from there lithium emerged in people's curiosity (Member Departmental Assembly of Potosí, Potosí city).

[...] At that time, we were demanding areas to extract ulexite. But then we had the news that the government was going to give the salt flat to LITHCO, we were after ulexite, lithium was not our thing, we did not understand what it was. [...] There was a rumour that all the salt flat was going to be conceded to LITHCO and we would end up with nothing, so we started the protest. The

main motivation for us was ulexite. We thought we would have nothing to survive (Community Council man, Rio Grande).

This part of the analysis is particularly relevant to understanding the different mechanisms through which the commodification process took place in the salt flat and how behind the anti-corporation sentiment, there were particular interests to block the entrance of a private company in the region. In the next section, 5.3.3, the conflicts around ulexite will be further developed and analysed.

In relation to the different narratives, Orellana (1995) argues that many of the arguments against the LITHCO contract could have been easily dismissed with an appropriate communication strategy and leadership from the government in order to explain the technical elements of the negotiations and avoid the misunderstandings that eventually contributed to the failure of this initiative⁹⁴. This case is an excellent example of the confrontational nature of the relations between natural resources, the State and society in the Bolivian context. Crabtree and Crabtree-Condor (2012) for example, link the troublesome Bolivian history to the inability of the State to generate spaces of dialogue and impose acceptable settlements in resource conflicts, whereas Kohl and Farthing (2006) point to the loss of the government's legitimacy to maintain the neoliberal hegemony as a relevant angle in resource conflicts in the country. Based on my fieldwork findings, the previous points of analysis may be relevant, but a closer examination of local interests and the political positioning of actors is important in order to understand the complexity of the case.

The different narratives in relation to this conflict show two important aspects: first and foremost, there was a resistance to the forms of property and access to resources

⁹⁴ For example, the argument that LITHCO was going to extract raw materials was not accurate, since according to the contract, the company was going to build an industrial plant with a capacity of 7000 tonnes of lithium carbonate. In a similar way, the contract stipulated that the company had the duty to hire Bolivian technicians in a proportion of up to 85% of the total staff. This included a process of training from the initial phase. Another argument was that the company would take too many benefits, yet according to the contract, the investment profitability was 20% (a similar percentage that the company had in countries like the US, Japan or the UK) and the State had a 56% stake in the project. The argued monopoly that LITHCO would have had in reality was a conceded area within the Salar for 17 years. After this time, the State would have had the right to lease concessions to other companies. Last, all the patents of technology and research to be developed would have been a joint property of the Bolivian State and the Company (Orellana, 1995).

in the salt flat linked to neoliberalism. This resistance is articulated under different arguments: neoliberalism was perceived as a framework that has failed to benefit most people; but in particular, Potosí residents as the poorest in Bolivia. Also, there was a lack of trust from local people towards the government to negotiate a profitable contract for the country and the private mining sector to propel development based on mineral extraction for the local people. In addition, behind the narrative of resistance to the transnational corporation, there were the particular interests of the local communities towards accessing the resources of the salt flat. The LITHCO conflict forced those community members already extracting ulexite to organise and formalise their rights of access in the salt flat.

Second, the evocation of Cerro Rico and the looting of mineral resources is part of a painful historic memory of the country. In this regard, Molina (2009, p. 47) examined the different narratives around natural resources over time in Bolivian society. A common and important perspective is the idea that resources (in particular mineral resources) are a “non-renewable treasure” that will be exhausted and thus needs to be protected. Accordingly, this particular narrative is the basis for nationalism as an ideology and places the State in a certain historical context within which it has adapted to regulate the access to, and control of resources according to changing political interests and resulting social struggles. In a slightly different vein, Mares (2010) argues that resource nationalism is a form of political economy with two core ideas: resources are a national patrimony; and consequently, should benefit the nation rather than private interests. However, resource nationalism in a volatile and dependent resource-based economy, like Bolivia, is constantly shaping forms of governance based on coalitions, conflicts and negotiations among a variety of actors with the State. In this sense, Kohl and Farthing (2012) draw attention to the Bolivian ‘resource nationalist imaginary’ that fuels social protests and at the same time limits government policy options; and Revette (2016) links resource nationalism to more than the structural ownership of resources, in the sense of a stance against foreign control.

These aspects of the analysis focus on nationalism as intrinsically linked to the history of extraction in the country, although I agree with these perspectives, the social struggles for mineral resources in Bolivia should also consider how perceptions about the past, present and future are not static, and how these shape the narratives of ownership of resources and forms of access. In this sense, Bebbington (2011) states

that it is not only perceptions that matter, but also the power behind them. Such power has two sides: a material base in relation to how extraction proceeds; and a discursive and collective action base that will shape forms of resistance to or facilitation of extractive activity. In this particular case, underneath nationalist sentiments in the salt flat, there seems to be local interests to maintain informal forms of access within a framework of State ownership for two reasons: a perception that private forms of access do not benefit the region and the majority of the population, and the opportunities that locals find amid weak State control to access and extract resources in the southwest region.

The section that follows summarises the different events that followed the third delimitation of a Fiscal Reserve in the salt flat and the different struggles that emerged as a result, with a particular emphasis on ulexite.

5.3.3 Expansion of the mining frontier in the Southwest region of Potosí (1993-2006)

In 1998, the Fiscal Reserve of the salt flat was modified for a third time (Law 1854)⁹⁵. In this case, its original area was drastically reduced to the ‘salt crust perimeter’ (see Figure 5.7). This reduction further consolidated the privatizing logic in mining that characterised the neoliberal model under mining law 1777 and it opened and incentivised the expansion of private concessions in the Uyuni salt flat.

⁹⁵ Also known as Ley Valda.

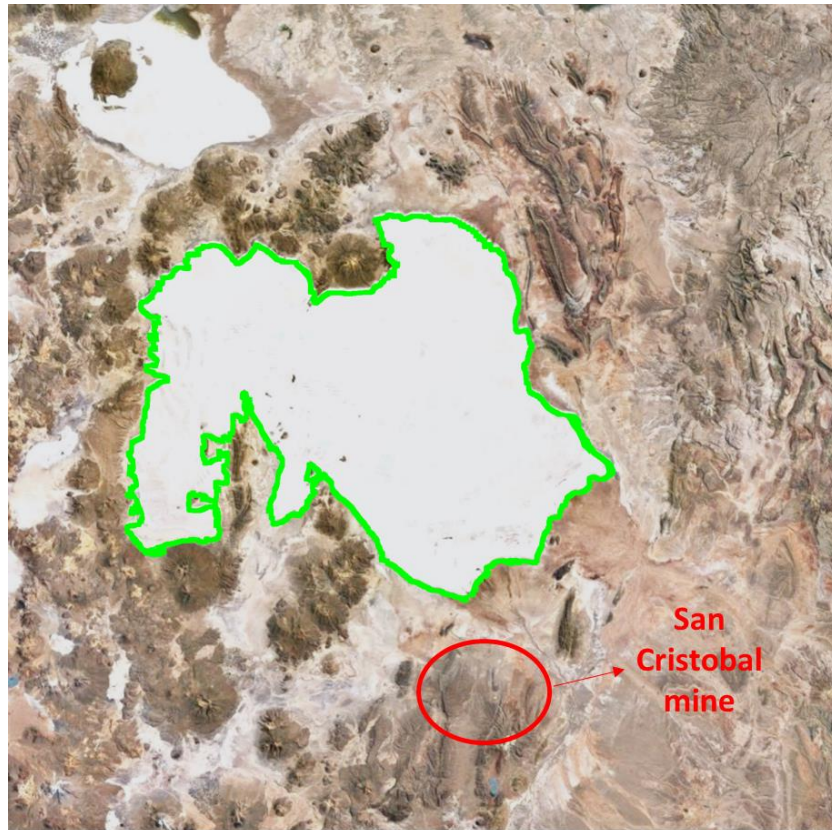


Figure 5.7. Third Fiscal Reserve delimitation (Source: Own based on Espinoza (2010))

In concrete terms, the implications of this reduction were twofold: first, different rich deposits of ulexite were free to be conceded to private actors, and second, the reduction of the Fiscal Reserve allowed the biggest deposit of silver, zinc and lead of the country (San Cristobal mine— see Figure 5.7 **Error! Reference source not found.**) to be given as a concession to Apex Silver Mines Limited (ASML) and Sumitono Corp. In a further attempt, the Decree 26574 redefined the salt crust to be open to concessions based on the maps of SERGEOMIN (National Service of Geology and Mining) and SETMIN (National Service of Geology and Mining), allowing the company Non-Metallic Minerals SA (majority owned and established by Quiborax S.A) many concessions in the salt flat and juxtaposing these areas with already established local mining operations (Nacif, 2012).

The company was a subsidiary of the Chilean company Quiborax and started extracting ulexite in 1997. This generated conflicts with the communal company SOCOMIRG in Rio Grande since the transnational corporation acquired the concession rights excluding the community workers from the areas of extraction. A common perception identified during fieldwork in Rio Grande was that those years were difficult for the community because, on the one hand, the concession to Non-

Metallic Minerals SA was considered a “*corrupt and political favouritism process*”; therefore, illegitimate. On the other hand, the concession was considered a setback in the battle won against LITHCO before and the leasing rights SOCOMIRG previously acquired were not recognised. The comments below illustrate:

[...] There were supreme decrees that considered the salt flat as a Fiscal Reserve. It was difficult to get concessions inside the Uyuni salt flat. But within the spheres of power it was a different story. Mr. Moscoso was advisor of mining during the MNR government⁹⁶, he got favours. [...] Before all the salt crust and the border around the Salt flat was considered Fiscal Reserve. In those borders, ulexite is located and we used to work there, paying a fee (*canon of arrendamiento*) to CIRESU. After there was a nasty political manoeuvre that reduced the size of the Fiscal Reserve, so the border previously defined was not a Fiscal Reserve anymore. It was a decree and from there, Moscoso got the concessions on behalf the Chilean company. This was in 1996-1997.

[...] When only the salt crust was considered a Fiscal Reserve, the rest of the areas were free to be leased. So, one day Moscoso came and said that we were not allowed to work and extract in our areas. He already had a link with a Chilean transnational. [...] It was a hard, we lost our jobs, our areas of work. In this situation, some weak people decided to work for the Non-Metallic company as drivers and supported the Chilean company. We were confronted, it was a hard time for the community (Member SOCOMIRG, Rio Grande).

Olivera (2014) corroborates two important effects as a result of this private concession: first, half of the workers of SOCOMIRG moved to Non-Metallic Minerals and started working as independent /self-employed workers. The other half remained as part of SOCOMIRG, but were unable to access working areas in the salt flat. Second, within the community there was a sharp division between those in favour of the transnational

⁹⁶ Movimiento Nacionalista Revolucionario (Revolutionary Nationalist Movement -MNR) was a very powerful political party. It led the Agrarian Revolution and nationalisation of the mines in 1952 and ironically in 1985, it led the implementation of neoliberalism in the country.

company and those in favour of fighting for the return of the extraction rights to the community and the former delimitation of the Fiscal Reserve.

In 2003, following the conflictive national events of the Gas War⁹⁷ and the resignation of Sánchez de Lozada as President, a new wave of social protests emerged in the Southwest region of Potosí. The discourse for collective mobilisation focused on opposition to two elements: the reduction and redefinition of the Fiscal Reserve and the increase of private concessions in the salt flat.

SOCOMIRG with the support of CONCIPO started a new wave of mobilisations and eventually accomplished the objective of reconstituting the former Fiscal Reserve area. In this sense, Law 2654 reconstituted most of the original area of the salt flat (San Cristobal mine was not included) as defined in 1986, and in practice, recovered different areas under private concessions (see Figure 5.8**Error! Reference source not found.**). Eventually, in 2004, the Supreme Decree 27589 reversed 11 concessions given to Non Metallic Minerals S.A. (Nacif, 2012).

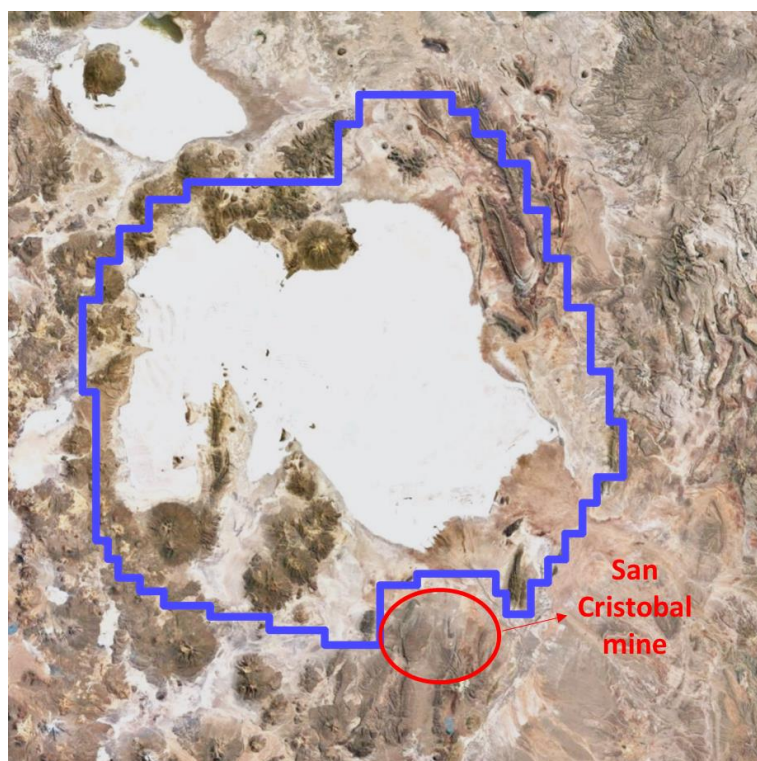


Figure 5.8. Fourth Fiscal Reserve delimitation (Source: Own based on Espinoza (2010))

⁹⁷ For more details, refer back to Chapter 1 (footnote 8, pp 12)

In the community of Rio Grande and after seven years of conflicts, the expulsion of the transnational company created new grievances and the remaining workers of the transnational company funded ‘*Cooperativa Estrella del Sur*’, and eventually CIRESU, gave leasing rights to both SOCOMIRG and the Cooperative for extracting ulexite. In a renewed chapter of this conflict, in September 2015, after a decade of legal dispute, the Bolivian State lost the international arbitration in the Quiborax case⁹⁸. An ICSID tribunal ordered the State to pay USD 50 million to the Chilean mining company. In response, the State appealed to the court and the process could take years to be resolved (Jones, 2015; Página-Siete, 2015).

As discussed above, two aspects are worth highlighting from the LITHCO and ulexite social conflicts: first, behind the ideological opposition to neoliberalism and private forms of property, there is a complex history linked to local extraction practices. Second, people’s collective mobilisation and political strategies in the southwest region are intrinsically motivated to negotiate their own interests in relation to access to and control of evaporite resources. In this regard, Olivera (2014) links this troublesome resource governance with the historical background of the Southwest region of Potosí, characterised as it is by an historical absence of the State and weak control of mining activities, and, as a cause and result of this, different formal and informal agreements that affect mineral governance in the region.

⁹⁸ In 2003, Law No. 2564 was promulgated, abrogating the Law 1854 (Ley Valda) for mining concessions in the salt flat of Uyuni. This law also authorized the government to audit the concessions granted while Ley Valda was in force, and to annul the mining rights of concessionaires that were liable to sanctions, reverting the concessions and resources to the state.

Based on tax and customs irregularities found in the audits, in 2004, Bolivia revoked all of Non-Metallic Minerals (NMM) mining concessions by Decree 27589 (Revocation Decree). One month after the Revocation Decree, Quiborax and NMM requested consultations under the Bolivia–Chile BIT, and ultimately filed arbitration on October 2005; proceedings commenced in December 2007. Among other claims, they argued that the Revocation Decree directly expropriated NMM’s investment (the concessions) and indirectly expropriated Quiborax’s investment (its shares in NMM), and that the expropriation was unlawful. They asked for compensation of US\$146,848,827, plus compound interest, and US\$4 million for moral damages.

After years of legal arguments, on September, 2015, a tribunal at the International Centre for Settlement of Investment Disputes (ICSID) ordered Bolivia to pay approximately US\$50 million in compensation for the expropriation of the mining investment (Dietrich, 2016).

These accounts of resource governance and the grievances that emerge around them are pertinent. However, this interpretation overlooks how and why the Fiscal Reserve delimitation has been an articulating element for the social struggles and the forms of access to and control of the evaporite resources. In this respect, the fieldwork revealed three key findings: first, for the communities extracting ulexite in the Southwest region, the defence of the Fiscal Reserve was also a defence of their negotiating spaces with the State. It was also suggested that a negotiation with a private transnational company is more complicated and the results less foreseeable than negotiating their rights with the State. As one informant stated:

[...] The Chilean company of Moscoso (Quiborax) was an example of how the concessions of the Salt flat were given, how different government authorities were instrumental to private interests. We fought back and with President Mesa, the concession was reverted and now there is a trial against the Bolivian State. [...] In reality, the *borateras* (ulexite deposits) had no control until 2004. Everybody stole the mineral until that year. As a community, we only paid the fee (*canon de arrendamiento*). The Chilean company took tonnes of mineral for free. There was no norm at that time. We made norms in 2003-2004, I worked on those when I was deputy. In non-metallic mining the regulation is still weak, a process of learning [...] When SOCOMIRG lost its areas to the Chilean company, I did not want to talk or negotiate with the Chilean company, I demanded to negotiate with the government, I wanted the government to solve this problem (former Deputy of Potosí and member of SOCOMIRG, Rio Grande).

Second, the Fiscal Reserve is important for the local communities because no private concessions can be given but the local communities can demand leasing rights of extraction. In a way, the rules of access in a Fiscal Reserve seem to provide some order to those extracting ulexite and most importantly, it is a way to secure their working areas and their *de facto* rights in many cases. The comment below illustrates this.

[...] I am not sure if the Fiscal Reserve is better for us, but without it, the salt flat was being fragmented, divided into lots to private parties. These concessions were given according to political favours, ex-ministers that appeared as owners of the Salt flat. [...] So the reserve eliminated this risk in a

way and the communities were able to lease an area to work (Member SOCOMIRG, Rio Grande).

Last but not least, the materiality and forms of extraction of evaporite resources (in particular, ulexite) are deeply linked to territorial forms of access; therefore, the Fiscal Reserve is seen as the only way to prevent the conflicts among the different provinces that claim their ownership over the Uyuni salt flat. As one interviewee puts it:

[...] The Fiscal Reserve of the Salt flat belongs to all Bolivians (and the State) and to none of the provinces of the southwest region, that is the only way to prevent fights among the people, but also the Fiscal Reserve has negative aspects (President Cooperative Estrella del Sur, Rio Grande).

This particular perspective will be further developed in Chapter 6 in relation to the delimitation of territory in the southwest region of Potosí.

All in all, this case illustrates that geo-spatial delimitations are inherently political and that the contestation of these spaces has material and discursive elements that frame the struggles to define forms of access to and control of resources in resource governance. In the case of Rio Grande, the Fiscal Reserve was a central element in their strategy of struggle and negotiation with the State in order to reconstitute their leasing rights in the salt flat.

Having explored the past social conflicts in relation to the Fiscal Reserve, the following section will discuss the implications of the Uyuni salt flat as a Fiscal Reserve in the contemporary period.

5.3.4 The Fiscal Reserve and State capitalist expansion (2006-2014)

Once again, during this period of time, the salt flat as a Fiscal Reserve has been central in defining resource governance of evaporite resources, in particular lithium. The changes to the New Constitution and the implementation of a new mining law, further defines the roles and responsibilities of the central government in relation to this enclosed area. When the Constitution was approved in 2009, the evaporite resources and the brines were declared as ‘strategic resources’ (Art. 369: II) and subsequently, the new mining law 535 further applied the Fiscal Reserve delimitation,

not only to the Uyuni salt flat; but also, to all the salt flats and salt lakes of the territory⁹⁹.

In terms of the governance of evaporite resources, the Fiscal Reserve has three important aspects to consider: first, the label ‘strategic resource’ implies that only the State (at the central level) can extract and commercialise resources labelled as such. In the new mining law 535 (Art. 26: I, II, IV) potassium and lithium in particular, are declared as strategic minerals. In this sense, lithium emerges as the most valuable resource directly linked to the Fiscal Reserve in the salt flat.

A recurrent theme in my interviews was the importance of developing an industry based on lithium, considering it would become a strategic resource for the country and at world level. Yet a number of interviewees suggested the State-centred forms of access to and control of this resource raised high expectations, that so far had not been accomplished, and also, these expectations would raise important grievances at the departmental, municipal and national scales. As one interviewee put it:

[...] The label ‘strategic resource’ is tricky and the MAS government was able to fool people here in Potosí. When the State project of lithium started, there was a nice discourse about generating jobs for the *Potosínos*¹⁰⁰, the leaders were naïve. People were convinced because it was a state-owned project. But in reality, any resources labelled as strategic are managed at the national level and the central government has all the competences to define everything. It is harmful for us as a Department [...] Maybe it was preferable to give it to LITHCO, if they would have operated here, an income for the Department would have entered. Now since it is a State initiative, nothing will be left here. (Member CONCIPO, Potosí city).

Second, in terms of access, the Fiscal Reserve encloses an area as an exclusive form of property rights for the State and state-owned companies. In this sense, COMIBOL

⁹⁹ Including: Uyuni, Coipasa, Chiguana, Empexa, Challviri, Pastos Grandes, Laguni, Capina, Laguna, Cañapa, Kachi, Colorada, Collpa, Lurique, Loromayu, Coruto, Busch o Kalina, Mama Khumu, Castor, Coranto, Celeste, Hedionda, Kara, Chulluncani, Hedionda Sud, Salares en Saucarí, Sajama y Sajama Sabaya (Mining Law 535).

¹⁰⁰ Demyonym for people born in the department of Potosí.

is the solely responsible actor for prospecting, exploring, exploiting, industrializing and commercializing evaporite resources (lithium and potassium in particular) through a subsidiary State company in charge of implementing mining activities (*Gerencia Nacional de Recursos Evaporíticos*- GNRE). It is only in the industrialisation phase of evaporite resources that private companies (national or foreign) can have joint venture contracts with COMIBOL keeping a majority participation of the State (Art. 73: IV). However, and in an analogous manner as described in Chapter 4, the Fiscal Reserve of the Uyuni salt flat does not apply to former concessions still operating in the salt flat. This implies that COMIBOL cannot access or modify 28 private and cooperative concessions in the salt flat, representing 91,624 hectares within the Fiscal Reserve (out of a total area of 1,344,000 hectares) (Poveda, 2014).



Figure 5.9. Military control post in the Llipi pilot plant (Source: Own)

The following quotes illustrate two interesting aspects of the Fiscal Reserve as a form of access. On the one hand, the Fiscal Reserve is a form of State monopoly that seeks to define and control rights of access to the evaporite resources. Yet, this governance framework alone is not enough to establish a different regime of access since the former rights of concessions still prevail in the salt flat. Furthermore, the case shows that although the State is central in defining the governance framework that shapes commodification and enclosure processes, the interaction with other mining actors sets a scenario in which *de jure* (legal) and *de facto* rights of access are in permanent

struggle and negotiation. As discussed in Chapter 4, there is an ongoing process of revision and reversal of concessions, yet this process is slow and prone to sectarian interests, in particular those of the cooperative sector. On the other hand, the State-private partnership that will prevail in all the new mining rights within the salt flat creates uncertainty and is not seen as the best option for mining operators, in particular considering the differential treatment that the cooperative sector has under the Morales government, as seen in the following interview extracts:

[...] The Fiscal Reserve seeks to guarantee the State monopoly over the exploitation of the brines. There is not a clear delimitation of ownership in the salt flat so the brine is open to different interpretations and conflicts, so the Fiscal Reserve seeks to delimit the rights. (Member of COMIBOL, La Paz)

[...] Concessions are still here in the salt flat, although now there are no concessionaires, there are leaseholders. Only in 2014, the process to revise and to reverse the concessions started. Accordingly, the government evaluates the economic and social function of the former concessions, in other words the concession is being exploited and employment for the location is generated [...] Since evaporite -especially lithium and potassium- are labelled as strategic resources; COMIBOL won't be able to give rights to private mining companies. We are a communal company and before we used to sign lease contracts with CIRESU to extract ulexite. Now with the Fiscal Reserve we need to deal with COMIBOL and we must sign new joint venture contracts with 55% for the State and 45% for the company. This is bad, very damaging for us as a community company. We don't know how this joint venture will be done and the cooperatives have special privileges over the rest of the mining operators (Member SOCOMIRG, Rio Grande).

Third, a Fiscal Reserve has implications in terms of decision making. The State not only has the ability to enclose an area; but also, it centralises all decision making in the national/central government, eliminating any possibility of departmental and municipal governments managing resources within their jurisdiction. In the particular case of the salt flat, the Fiscal Reserve further eliminates the right to direct royalties to the municipalities. According to Law 339 (Art. 7), the Uyuni salt flat, due to its special characteristics, is declared an 'independent area' and does not belong to any

municipality. Although the municipalities of Uyuni, Llica-Tahua and Colcha-K have boundaries with the salt flat, none of them has jurisdiction over this area.

As a result of this delimitation, the 15% royalty rate defined by law to be transferred to the municipality where mining activities are produced will go directly to the Departmental Government of Potosí (Ministry resolution 039/2016). This aspect not only perpetuates the grievances between the departmental government and the municipalities in relation to income distribution and uneven development between urban and rural areas, but also is a potential source of conflict when lithium revenues materialise.

During fieldwork, two important themes were identified in relation to the Fiscal Reserve and the conflicts at departmental and municipal scales. First, the government's divisive strategy of negotiation and consultation with the communities of the southwest that excluded the Departmental Government of Potosí (and representatives of Potosí city). As a result of this strategy, some interviewees felt that the rules in place in relation to the Fiscal Reserve, the lithium project and the distribution of revenues was backed up by political and sectarian interests that harmed the interests of the Department as a whole. Second, the majority of informants agreed that lithium is to be the next source of social conflicts if the project is successful. The comment below illustrates this:

[...] The politics of lithium omitted the departmental government, this exclusion is premeditated, it responds to politics. It is part of a strategy to appropriate the lithium. The airport in Uyuni was a gift so people in the municipalities do not bother about lithium. In the municipalities, the government negotiated more. The negotiators are the social organisations and the local communities, they are easily manipulated by the MAS government. As departmental government, we cannot do anything with lithium; we can only participate through royalty, we are not even able to participate in meetings, there should be a coordinated planning with the departmental government [...] In people's minds, "the lithium is grandma's last jewel" (*la última joya de la abuela*) if we don't get benefits now, we won't get anything. When there will be royalties, there will be struggles. People will react; people know we did not participate in this initiative. The society will politically react. The distribution

of wealth is the central topic here; society perceives that the department does not get what it deserves. We should get something else beyond royalties. (Group interview, Planning secretary unit of the Departmental Government of Potosí, Potosí city).

To summarise, the different elements discussed in section 5.3 illustrate the delimitation of a Fiscal Reserve has a strong symbolic meaning of sovereignty over resources that are considered as strategic, and it is a fundamental mechanism through which commodification and enclosure take place in different and non-linear forms. Most importantly, in a commodification process, the State has a dual essence: it is as an arena of confrontation and negotiation of resource governance, and also, it is the sovereign authority that reorders and controls the space.

The history of the Uyuni salt flat and the different spatial delimitations of the Fiscal Reserve over time exemplify a changing history in terms of its resource governance in neoliberal and post neoliberal times and the different social dynamics that emerged. In all cases, the State played a key role in different forms: i) as the entity in charge of consolidating and legitimating scientific knowledge for mining expansion; ii) as an instrumental and mediating actor between private and local mining interests and iii) in contemporary times, the central government (and COMIBOL) compete as an economic and political actor in this landscape.

In the remaining section of this chapter, the state-owned project of lithium will be analysed in order to illustrate why this project represents the culmination of the commodification in the Uyuni salt flat and most importantly, how commodification is a process that deeply reconfigures a landscape and social relations.

5.4 The Making of a Resource: Bolivian Lithium

Two years after Evo Morales and the MAS government took office in 2006, the debate about lithium had gained media momentum outside and inside the country. For many experts, lithium was to become the next ‘big resource’ in the face of an oil crisis and concerns about climate change. Bolivia was portrayed as the future ‘Saudi Arabia of lithium’ and the government of Morales was courted by different countries and transnational companies seeking to consolidate a partnership (Romero, 2009; Wright, 2010; Yarow, 2009). Inside the country, the population had big expectations

about the new government and perceived that lithium could be an opportunity ‘to do things differently’. The government’s discourse quickly emphasised lithium as ‘critical to growth, development and sovereignty’ for the country (Revette, 2016). These media and discursive elements contributed to making lithium a strategic resource and in people’s imaginary the next big resource of the country and the jewel of the salt flat.

The industrialisation of lithium was incorporated as a State policy under the control of COMIBOL and GNRE. The grassroots organisation FRUTCAS¹⁰¹ was central in the idea of the extraction and industrialisation of lithium in the salt flat. Although different transnational corporations and countries manifested their interests in a joint venture with the State, in the end FRUTCAS and the government decided to develop the project without foreign partners¹⁰² in the first two phases (Nacif, 2012).

In 2008, the “Plan for industrialisation for evaporite resources in the Uyuni salt flat” was officially launched with two main objectives: to obtain lithium carbonate (Li_2CO_3) to be used in the production of lithium cathodes for batteries, and to produce and commercialise potassium chloride (KCl) also found in the brines and used as a fertilizer. The project is divided into three phases for the exploitation, industrialisation, and commercialisation of evaporite resources and together they represent the most ambitious State mining investment in Bolivian history with an estimated public investment of USD one billion (GNRE, 2013; Montenegro & Montenegro, 2014; Olivera, 2014).

i) Phase 1 - Pilot plant (2012-2015)

The main objectives of this phase were to develop a 100% Bolivian technology to extract and refine lithium and potassium chloride and to start a semi-industrial trial production. The pilot plant of lithium is located in Llipi Loma next to the base camp (see Figure 5.10 **Error! Reference source not found.**), it has laboratories and a small-

¹⁰¹ Regional Federation of peasant workers of the south plateau

¹⁰² Among the interest partners were Mitsubishi y Sumitomo (concessionaire of Mina San Cristóbal), Bolloré (France), Kores (South Korea), Brazil and Iran (Nacif, 2012)

scale plant. The semi-industrial scale plant of potassium chloride is located at the salt flat where the evaporation pools are also located nearby in an area of 30 hectares.

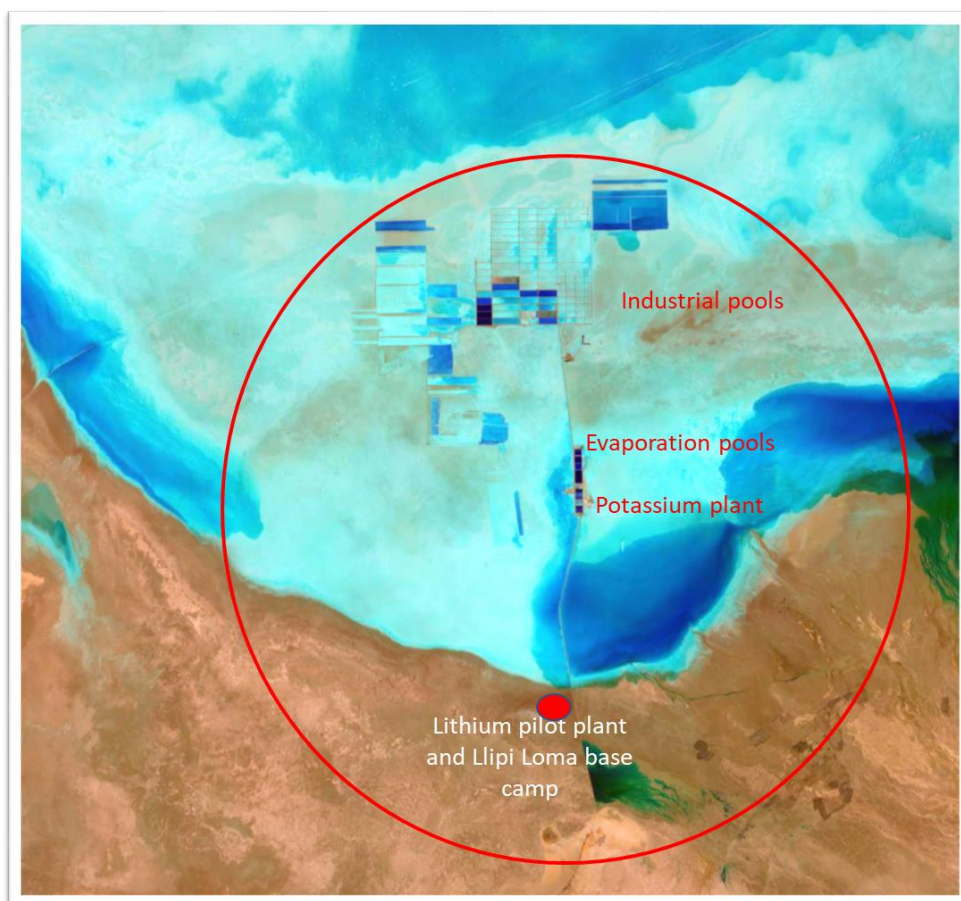


Figure 5.10. Location of pilot plant and evaporation pools (Source: Own based on United States Geological Survey)

The projected production for the potassium chloride plant was 12,000 tonnes/year. However, far from reaching its total capacity, by 2015, the plant reached a level of production of 1,500 tonnes/year, and has sold around 1,000 tonnes of potassium chloride to the internal market (GNRE, 2013, 2015; Poveda, 2014)

The lithium carbonate plant has a production capacity of 480 tonnes/year. Since 2014, an estimated 18 tonnes of lithium carbonate (99,5% of purity) were produced (GNRE, 2014; Olivera, 2014). In 2016, GNRE made the first sale of 24 tonnes of lithium carbonate to the Chinese company Jiangyin Zhuohohng International Trade Co. Ltd with a total value of USD 201,000 (Mamani, 2016).

In parallel to the first phase, in 2012, a purchase turnkey contract was signed for a battery assembly pilot plant and the transfer of technology with the Chinese company

LinYi Drake Ltd. located in La Palca, near Potosí city. The public investment for this pilot plant was USD 3 million (GNRE, 2014). The plant has a production capacity of 1,000 batteries for mobile telephones and laptop computers and 40 batteries for electric bicycles/cars (Olivera, 2014). In 2015, the pilot plant produced prototypes of assembled batteries and the GNRE made an agreement with the French company Green Tech to install a pilot plant of cathodic materials (GNRE, 2015).

ii) Phase 2 – Industrial Scale (2016 - 2018)

In this phase, the State investment was estimated at USD 700 million. The industrial plant of lithium carbonate is projected to be ready in 2018 with a capacity of 3,000 tonnes/month (36,000 tonnes/year). This phase requires the expansion and construction of around 100 industrial pools in an area of 2,630 hectares in the salt flat (GNRE, 2014; Montenegro & Montenegro, 2014).

In August 2015, GNRE signed an agreement with the German company K-UTEC for the project design of an industrial plant of lithium and to date (May 2017), GNRE is evaluating proposals of 25 international companies to build the industrial plant of lithium (El Diario, 2017). That same year (2015), the government signed the final contract for the construction, assembly and launch of the industrial plant of potassium located in the south east of the salt flat with the Chinese company CAMC¹⁰³. The State investment for this plant is USD 178 million and has an expected level of production of 350,000 tonnes/year (GNRE, 2015; La-Razón, 2015a).

iii) Phase 3 – Lithium battery production (projected from 2018 onwards)

The final phase seeks to undertake the industrialisation and production of cathode materials, electrolytes and lithium batteries. This is the only phase open to foreign partners under the modality of shared risk contracts.

¹⁰³ In 2016, the CAMC was involved in a massive scandal of corruption and traffic of influences by an ex-lover of President Evo Morales (Gabriela Zapata). The contract for the potassium industrial plant was questioned because it was done via direct contracting (*contratación directa*) omitting processes of tendering and transparency. Also, this scandal, revealed this company had already problems and irregularities in the past yet still was selected to do important works of public investment. Eventually, in May 2016, a report of the Special Commission of the Plurinational Assembly dismissed any irregularity with the CAMC contracts, including the case of the Potassium plant. To date, judicial investigations against Zapata are still taking place (Guarachi, 2016; Página-Siete, 2016a).

According to GNRE, in this phase a Research and Development Centre will be created and there are different proposals under consideration with Venezuela, The Netherlands, Finland, Austria and France (GNRE, 2014).

This section not only gives the background and progress of the lithium state-owned project, but most importantly, illustrates that the commodification of the salt flat has been consolidated by two elements: i) an ambitious project of State capitalist expansion and the spatial re-ordering and transformation of this landscape.

In relation to the State-driven capitalist expansion, the State has already invested a massive amount of financial public resources and the project – which by now should be called industry – is well underway despite the technological limitations, delays and reduced levels of production. These levels of investment and attempts to develop technology are without precedent in the country and seek to consolidate state capitalism and Bolivia as a world player in the lithium race.

In relation to the spatial reordering, as argued elsewhere in this chapter, the State is essential in defining space boundaries within which mining activities and the governance framework will operate. In this particular case, the State has not only consolidated a spatial re-ordering of the salt flat as a Fiscal Reserve; but has also established itself as the mining actor in charge of radically transforming this landscape, as the satellite image (5.11) shows, through the extraction of evaporite resources from the brines.

In the next sub-section, the different social actors linked to this project will be analysed in order to understand the changes in social relations emerging as a result of lithium mining.

5.4.1 Map of Actors

It has been suggested that, for many people, lithium as a State controlled initiative is perceived as legitimate, welcomed as a change, and in a way there is an absence of opposition (Revette, 2016). However, my research identified different

degrees of support depending on the societal actor¹⁰⁴ and locations, as well as different expectations, narratives and political positioning.

In this sense, Olivera (2014) classifies three different blocks and organisations related to the lithium project, providing an interesting map of actors: Nor-Lipez and Daniel Campos provinces and Potosí city.

5.4.1.1 *Nor Lipez*

First, the Nor Lipez block has the strongest support for the state-owned lithium project. FRUTCAS is the most important and visible organisation in this block and the municipal councils of Colcha-K and Uyuni are linked to FRUTCAS and allied with the MAS political party. My impression gained from fieldwork was that this block not only articulated the actions that preceded the lithium project, but also had the most active role in terms of political participation.

FRUTCAS was founded at the beginning of the 1980s and represents the peasants of the five provinces of the southwest region (Nor Lipez, Sud Lipez, Quijarro, Daniel Campos, Valdiviezo). The organisation claims to be the founder of the MAS-IPSP political party and has strong and open ties with the government and the MAS political party. This link not only supported the lithium project in the region; but also, is part of the clientelism the government has with grassroots organisations (Albro, 2007; Schilling-Vacaflor, 2011).

In this case, FRUTCAS legitimised the lithium project in the region and actively participated in the so called ‘socialisation phase’ of the lithium project in the surrounding communities. However, in 2012 the articulation of the GNRE and FRUTCAS broke down when different conflicts emerged with the workers of the Llipi pilot plant and FRUTCAS started questioning and threatening the Manager of GNRE. The controversy seemed to have emerged when FRUTCAS raised questions in relation to the administrative management and public acquisition of the project. Although the manager at the time was changed, Evo Morales publicly discredited FRUTCAS and

¹⁰⁴ Societal actors understood as individuals or collectives (e.g. political parties, trades unions, social movements, civic committees, etc) who exercise agency and mutually constitute with the State (Badie et al., 2011)

by the time the fieldwork took place, the relation of the organisation with the lithium project was quite distant and slowly being rebuilt.

FRUTCAS is a key actor in the process of commodification of the salt flat because, on the one hand, it articulated the collective opposition to transnationals operating in the area in the past as analysed in the previous sections of this chapter. On the other hand, the conception and implementation of the lithium project was directly attributed to them; moreover, this organisation legitimised the public consultations and informative processes with the communities in the initial phase of the project.

Interestingly enough, in Daniel Campos province, most informants expressed resentment for being excluded from these processes. In other locations, many people argued that the information was minimal or nonexistent in relation to the lithium project or the environmental impacts and only representatives of FRUTCAS knew ‘the truth’. A recurrent theme in the interviews was to question the legitimacy of FRUTCAS to both represent the interests of the peasants communities, considering their political ties to the government party, and to be the intermediary in the lithium project. The following extracts of interviews summarise this:

[...] lithium was a project proposed by FRUTCAS. Everything had to be mediated through FRUTCAS at the beginning, they were in charge of hiring people and there were corruption scandals. In 2012, Evo destroyed FRUTCAS publicly, he said it was unbelievable that the social organisations were obstructing the technical team of the project, the new Manager (Echazú) broke down the relations with FRUTCAS. (Representative of GNRE, Uyuni)

[...] Nowadays, FRUTCAS is totally diminished, there are certain leaders there, but no change of people. When FRUTCAS put forward the lithium project, it was thought of as a development pole in this region but later it became a political prize. For instance, if you wanted to work for the GRNE, you needed the political backing of FRUTCAS, and that is not correct in my view. These backings were arbitrary, totally political. The idea was to generate jobs for all the people in the region, unfortunately not many people have the technical level to work there [...] In 2012, Evo came to the pilot plant in Llipi and publicly scolded FRUTCAS: your obligation is not to distribute jobs here, he said to them. They had taken this to an extreme, they managed it as

something that was theirs, totally political, their role of controlling this project was dropped and people were disappointed. After we started fighting among the provinces, we are very divided because of the lithium (Member SOCOMIRG, Rio Grande).

5.4.1.2 *Daniel Campos*

The second block is Daniel Campos province, led by the municipal council of Llica, the municipal council of Tahua, the Civic Committee of Daniel Campos province and the indigenous authority Marka Llica. Olivera (2014) affirms that this block has no influence in the politics of lithium. Although I partially agree with this statement, it is important to consider the future scenarios of conflict that might emerge from this block in particular.

During fieldwork, three main themes emerged from the interviews: (i) the lack of consultation in this province as a potential trigger for conflict, (ii) regional grievances about the pilot and industrial plant located in Palca (near Potosí city), including the unfulfilled expectation of knowledge and technical development that seems to be an important demand for many of the interviewees in this province, and (iii) the territorial grievances between provinces that had been exacerbated by the lithium project. For example:

[...] Evo Morales said the lithium won't be raw material; it will be processed in Llipi with Bolivian technicians. In the region there is awareness about this; we wanted to develop skills for the people here in Llica; however, we don't know what is happening, the GNRE didn't come here, we don't know what lithium is, no one has seen it...is it a white powder? (Mallku Mayor, Indigenous authorities, Llica)

[...] What worries me is that according to the New Political Constitution, there should have been a consultation and no one came here to Daniel Campos, the other provinces like Colcha-K or Quijarro don't have the salt flat, yet they are already benefiting from the lithium. The government didn't consult us about anything [...] The GNRE promised to have a cooperation plan, to prepare people from Llica to go and work in the plant. We need electro-chemistry as a career so people here can prepare, we have the rural school for teachers here,

people are more educated than in the other provinces (Former President of the Civic Committee of Daniel Campos, Llica).

[...] I don't know much in relation to the lithium project. There were no institutions or academics that came here to explain what lithium is. But the Salt flat is located in Daniel Campos province, it is wrongly called "*Salar de Uyuni*" when we call it "*Salar de Tunupa*". If you look at the map, 100% is located in this province. We know it is a Fiscal Reserve but we have the legitimate right over the salt flat and to benefit from lithium, so far, only Colcha-K is benefiting (Local government representative Llica, Llica).

The last quote expresses the unresolved tensions between Daniel Campos and Nor Lipez provinces over the limits and jurisdiction of the salt flat. During fieldwork, a very interesting narrative of ownership, identity and history emerged among different informants, which will be further explored in Chapter 6 in relation to territory and territoriality as forms of environmental governance.

5.4.1.3 Potosí city

Last but not least, the third block identified by Olivera (2014) is the urban block in Potosí city. The main actors involved are: CONCIPO, the public *Universidad Autónoma Tomás Frías* (UATF - Potosí) and the Departmental Government of Potosí. In this block, the narratives and strategies are focused on the technological development of lithium mining and the gains of future royalties and industrial infrastructure derived from the lithium project.

For instance, in parallel to the first phase of the lithium project, The UATF and the Technical University of Freiburg (Germany) carried out a research project on evaporation cones as an alternative technology in the salt flat. Eventually these two approaches (the evaporation pools of the GNRE technical team and this technique) were seen as opposing, and the technology of pool evaporation was chosen for the lithium project. The following statement illustrates this:

[...] The project is political, Evo did not want to involve professionals and the university. The university did not participate in the Inter-institutional lithium committee, all the institutions and people that were part of the first lithium research in the eighties were excluded from this State project. The university

by its own initiative independently made an agreement with Freiberg University. We researched ways to extract lithium with the cone technology, this was done in 2010 but in 2012-13 the initiative was blocked [...] lithium is politically managed; the technical criteria are not that important. There are fights between the State and the University of Potosí so the State decided to ignore us and went ahead with the Llipi plant. (Senior academic, Universidad Autónoma Tomas Frías (UATF), Potosí city).

In relation to CONCIPO, the organisation seems to have an integrating and mobilizing power with people in the city when it claims to vindicate departmental interests in the context of the power of the central government (*centralismo*)¹⁰⁵(Olivera, 2014). For instance, in 2010, the Bolivian Evaporite Resource company (EBRE) was created with the mandate to manage and develop an industry of lithium and potassium extraction. Eventually, CONCIPO and UATF initiated a series of protests about the location of the newly created company, since the administrative office was to be located in La Paz and not in Potosí as the organisation demanded. After days of political pressure, the EBRE was terminated and COMIBOL created the GNRE as its subsidiary with the central office located in La Paz (Nacif 2012).

The Departmental Government of Potosí has an ambiguous position in relation to the lithium project. As analysed in section 5.2.4, a recurrent theme is its lack of remit in mining governance and its exclusion from planning the lithium project.

The three blocks described here illustrate different degrees of support of the state-owned lithium project as well as different expectations that might create or exacerbate grievances in relation to lithium governance. In this regard, Olivera (2014, pp. 49-50) considers a key element to understand lithium governance in Bolivia is to acknowledge that State-society relations are articulated within a jumbled society (*“sociedad abigarrada”*) in which different structures of authority, worldviews and forms of self-governance are in constant struggle with the State and societal actors acquire more or

¹⁰⁵ Since 2010, CONCIPO has been in permanent conflict with the central government in relation to different demands including an international airport for Potosí, the building of a cement factory and the resolution to the border conflict with the department of Oruro. During the fieldwork in July 2015, CONCIPO and its constituencies started a new wave of mobilisation and roadblocks in the streets of La Paz for around a month with little effect.

less power depending on contextual factors. Although I agree with his analysis, I would further add relate two elements in defining resource governance: first, societal actors acquire more bargaining power depending on their legitimacy to represent grassroots and to be recognised as a valid representative of the State. The case of FRUTCAS illustrates legitimacy might be contextual and dependent on political and material gains to representatives and also to the government who might legitimise or delegitimise social organisations depending in its own interests. Second, the political positioning of societal actors is heavily influenced by the ability to access spaces of negotiation with the government. The access to these spaces is heavily influenced by the mobilizing capacity of grassroots organisations for protest strategies and pressure mechanisms. This feature is part of what (Lazar, 2006) calls “the Bolivian pattern of political behaviour: protest-negotiation-agreements-government renegeing and protest again”. However, an interesting feature emerging in the case of lithium mining is the unique ability of Morales’ government to instrumentally use rural grassroots organisations to discursively validate this mining industry and to discredit and to disarticulate demands, even when it comes from an important organisation such as FRUTCAS, breaking in this way this political pattern.

5.4.1.4 NGOs

In addition to the three blocks of actors already mentioned, I would add a further block formed by NGOs and experts who have questioned various aspects of the lithium project; in particular, the environmental impacts and the criteria for selecting a specific type of technology¹⁰⁶.

Of particular interest is a publication from *Centro de Estudios para el Desarrollo Laboral y Agrario* [CEDLA] in 2014¹⁰⁷ that created an important debate in relation to the technology chosen for the lithium project and its environmental impacts. As

¹⁰⁶ Olivera (2014) identifies in particular two: environmental (LIDEMA) and social research NGOs (CEDLA). CEDLA is a public policy oriented research centre in La Paz that had raised different issues in relation to the sustainability of the lithium project from different perspectives including: the business perspective, the forms of social participation of the project and the environmental impacts in the Salar.

¹⁰⁷ The title of the publication is: *Un presente sin futuro: El proyecto de industrialización del litio en Bolivia* by Calla, R., Montenegro, J. C., Montenegro, Y., & Poveda, P. (2014).

mentioned at the beginning of this chapter, the brine of the Uyuni salt flat has three times the concentration of magnesium in relation to lithium (18 g Mg per 1 g lithium) compared to the brine of the salt flat of Atacama in Chile (6.4 Mg per /1 g lithium). This particular physical characteristic increases the cost of production in the Uyuni salt flat and requires a particular technological process to obtain lithium (Montenegro & Montenegro, 2014).

GNRE state that it had made significant progress in developing a Bolivian technology to obtain lithium carbonate and that the research team has explored two methods: the technological line of the chlorides, and the technological line of the sulphur (GNRE, 2015).

The technological line of the chlorides currently used in the evaporation pools to separate the magnesium is analysed in relation to the environmental impacts it will produce. Accordingly, adding lime to a brine with magnesium chloride produces residues of magnesium hydroxide and calcium chloride that would modify the alkalinity of the soil in the region and would negatively affect the livelihoods of the surrounding communities and biodiversity (Calla, 2014).

It was estimated that in the industrial phase of the project, 4,000 tonnes/per day of these residuals would be generated and this would be one of the most significant environmental problems of the lithium project. The alternative technology is a sulphur precipitation process that would greatly reduce the quantity of lime required and would produce potassium chloride as a by-product. However, this potential technological option is still in the process of being researched (Montenegro & Montenegro, 2014).

The controversy emerged when the report openly questioned the lack of planning in relation to the potential environmental impacts of the project. GNRE's response to the CEDLA report was particularly focused on delegitimizing any debate. For instance, in a public statement (October 2014) the manager, Alberto Echazú, asserted that the report "misinforms the people, distorts the reality and lies about the process of lithium and potassium extraction in an attempt to discredit the government and its policies of industrialisation of natural resources". He further claims that the report seeks to "influence public opinion to hand over the lithium project to transnationals". In this official line of discourse, there is strong emphasis on metaphors such as "false accusations by national traitors" as an identity that is separate from "the people and

the revolutionary process that are stronger than the internal and external enemies”. This public statement affirms that the current process of production is already using the sulphur technology (Echazu, 2014). Interestingly, this last statement contradicts the results presented by one of the researchers who is also part of GNRE (Montenegro) (for more detail refer to Montenegro and Montenegro, 2014), and also contradicts the statement I collected from the technical personnel at the Llipi pilot plant during fieldwork that the chloride method was being used but will gradually be replaced in the industrial phase.

This particular issue highlights how the physical features of the salt flat can influence technological decisions and the environmental consequences these decisions will have for both the landscape and the people interacting within it. Far from being a mere technicality, the technology selected will generate considerable chemical residues that will affect the landscape. The lack of debate and serious solutions for the by-products of evaporite mining reflect a political positioning consistent with the history of the country, which has always prioritised mining expansion over any other consideration. The following statement illustrates this:

[...] There is nothing we can do; the Uyuni salt flat has good lithium but also a high concentration of other elements. If we want to extract it, the technology has to include quicklime (*cal*) - it is the best option. Bolivia has natural gas and lime which guarantee the resources for lithium extraction. If the residuals are filtered they could be used in road construction but that is secondary [...] The communities don't understand the environmental issues and I disagree with the critics of the CEDLA report about the negative environmental impacts of lithium extraction. It is a big mining project and this is unavoidable. It is time to accept this fact [...] Lithium is non-renewable; it would take many years for the rivers to renew the components. The lithium project is extensive, in order to extract more, we should build more pools in the landscape and pump deeper in the brine (former member of the Scientific Committee of lithium, La Paz).

According to the information provided by GNRE for this research, the required environmental licence was given in 2013 for the pilot and industrial plants of potassium only. As part of the requirements, a public consultation was held in the municipality of Colcha-K. In the minutes of the consultation, one of the main concerns

focused on the chemicals to be used in the processes of extraction; GNRE assured that the quantities to be used would be minimal and no pollution would be produced. The same document clarifies that the lithium carbonate project will require a different environmental study to be subject to public consultation but without a specific deadline (GNRE, 2012a).

As a former official of GNRE explains (personal communication, La Paz), the environmental considerations were not variables that were open to discussion when choosing the technology for the project, and no formal evaluation was done prior to building the pilot plants. In his words: *“[...] since this was a strategic resource, a previous formal environmental evaluation wasn’t done. We needed to advance, take decisions very fast, show to Evo and the government there was progress since the expectations of lithium were immediate”*.

Beyond the controversy generated by this particular event, there are two aspects of particular relevance: first, the technology issue is about more than just the technical aspects of how to extract a resource; the technology also reflects power relations and how in the case of lithium as the successful example of state capitalism, the State and institutions monopolise research, knowledge and facts about lithium that serve to exclude and delegitimise certain actors and opposing views.

Second, the way in which communities perceive and understand environmental issues in relation to evaporite mining also reflects the general complexity of public consultation to validate environmental permits for mining operations. As one indigenous leader in Llica put it: *“[...] it is just documents with X number of signatures to legitimise an extractive activity. The communities have no technical capacity to approve a project, everything ends up in negotiation with the community leaders in exchange for small favours”*.

In sum, the state-owned lithium project represents the culmination of a process of commodification because: i) it re-ordered space and transformed the landscape due to mining activities; ii) it has deeply altered social relations at local and departmental levels; furthermore, around the lithium project there are different societal actors that influence what forms of commodification take place; iii) the transformation of this landscape due to evaporite mining and the state-owned project will have important environmental implications not taken into account at the moment.

Together these elements illustrate that commodification is a process evolving through different phases that could happen sequentially or simultaneously. Castree (2008b) identifies three in particular: abstraction (the classification and quantification of certain characteristics), privatisation (the assignation of legal and exclusive rights to a named individual, group or institution) and individualisation (the representational and physical act of separating a specific thing or entity from its supporting context). In this case, the abstraction of the salt flat started with the scientific research in order to quantify volumes and levels of lithium 40 years ago. Subsequently this landscape was designated as a Fiscal Reserve giving to the State exclusive rights of access to evaporite resources, and more recently the extraction of lithium from the brines culminates this process separating this resource from the landscape and consolidating a State capitalist expansion.

5.5 Conclusion

This chapter set out to explore the physical and social dynamics emerging as a result of the commodification and enclosure of nature. The history of the Uyuni salt flat over the past 40 years shows a complex process of transformation and social relations emerging as a result. In this regard, the chapter discussed two particular aspects: the material implications of a Fiscal Reserve in terms of the rights of access to and control of resources by the State in the salt flat, and the discursive elements behind the transformation of this landscape.

The preceding analysis has identified three main issues in relation to the commodification of the Uyuni salt flat. First, the commodification of this landscape started with its delimitation and enclosure as a Fiscal Reserve, which was reinforced by a strong narrative of scientific research for economic development and expansion of the mining industry.

The different delimitations of the Fiscal Reserve in the salt flat show that a process of commodification is not exclusively linked to private sector and profit driven logic. On the contrary, this case shows how State capitalist forms also entail processes of commodification either by state-owned companies or via alliances between State and private sector actors, as Prudham (2009) also points out.

The case presented here has also shown that there is not a unique type of commodification. On the contrary, the characteristics of this process might vary depending on the context and the materiality of the nature being commodified. In the Bolivian case, the multiple delimitations of the Fiscal Reserve have responded to different interests in both neoliberal and post-neoliberal periods but always under a logic of capitalist expansion.

Second, the socio-environmental changes and conflicts analysed in this chapter show the Uyuni salt flat is not a fixed and unproblematic landscape; on the contrary, the different livelihoods (but mining in particular) and societal actors interacting in it, have materially, discursively and symbolically turned this landscape into a hybrid landscape in constant political struggle.

At the core of the different social struggles analysed, the Fiscal Reserve represents an articulating element for the nationalist discourse and social mobilisation. Behind the different narratives presented here, a complex set of social relations emerge around two main aspects: rights of access to and control of evaporite resources like ulexite, and territorial grievances fuelled by the expectations of lithium mining. This second aspect and the cultural impacts of commodification will be further explored in the next chapter.

Third, the state-owned lithium project represents the culmination of this commodification process because it has re-ordered the space and has dramatically transformed the landscape due to mining expansion. In this transformation, social dynamics and power struggles around societal groups emerge with different degrees of support of the project.

In terms of my theoretical argument, the analytical framework of commodification has allowed me to explore two main aspects: i) the assumptions behind the transformation of nature and the production of (scientific) knowledge to back up this process; and ii) the role of the State in reordering spaces and defining resource governance.

The knowledge of nature and arguably neutrality in scientific methods have been controversial because both are instrumental to particular interests. Castree and Braun (2001, pp. 11-12) argue that knowledge (in plural) of nature expresses social power relations and has material effects as “people believe and act according to them”. Thus,

from a critical perspective, the claims about nature should be understood as social products, emerging in a particular context and serving specific interests. From a structuralist perspective, knowledge and the representation of nature serve powerful class interests and forms of domination such as colonialism. From a post-structural perspective, the “discourse of nature” creates truths that serve to empower particular actors and their interests. From a Foucauldian perspective, the creation of truths serve to normalise and internalise certain things and through this normalisation exercise power (Foucault, 2012).

A first issue to be raised here is that in commodification as a process, the abstraction and valuation phases as described by Castree (2003) are inherently linked to a scientific narrative about nature and about resources that have the potential *to become* commodities. The knowledge is then exploited and legitimised for capitalist expansion interests. In what Mitchell (2002:43) calls “techno-politics”, the technical knowledge emerges from an entangled process of human and nonhuman components, so intentionally and not the “realm of ideas and intentions come first to control and organize the nonhuman”. In this sense, the so-called ‘neutral expertise’ in engineering or natural sciences have no autonomy in relation to the political purposes they serve and the projects they seek to legitimate. Therefore, knowledge production is strongly linked to capitalist power structures; furthermore, Watts and Peet (2004) argue that ‘environmental knowledge’ not only serves particular interests but is also unevenly distributed among social actors. This ‘unevenness’ gives material and discursive instruments to powerful actors to selectively inform and/or exclude certain actors from any debate.

In this regard, the case of the salt flat illustrates that in a commodification process, how a location is abstracted and how its biophysical characteristics are valued, will be strongly linked to a scientific discourse that is purposely fitted to make claims about nature and about its economic value. In the case of the Uyuni salt flat, the scientific narrative depicted this landscape (in discursive and geo-spatial terms) as an isolated and semi-empty location prone to be seized by mining capitalism.

Through this chapter, the collection of maps illustrates the centrality of spatial delimitation in defining resource governance and how it served State interests in neoliberal and post neoliberal times. In this sense, the Fiscal Reserve represents both

a framework of access rights and also, a political outcome of power struggles among mining actors and the State to define space.

Also, the case illustrates that in state capitalism, the monopoly of knowledge and scientific truths shape forms of extraction and are political mechanisms to undermine less powerful societal actors and competing narratives that interrogate the forms and the impacts of mining expansion.

A second element explored in this chapter is the role of the State in socio-environmental changes and conflicts. (Bebbington & Bury, 2013a) consider the State as central in the politics of mineral extraction because the State in most cases is the legitimate owner of subsoil resources and thus is key in any negotiation about the forms of access to and control of resources and territories. Although I partially agree with this perspective, in my analysis, the State is not a static homogenous entity and neither is the notion of ownership of extractive resources. The State is essential for the spatial reordering that comes with enclosure and the property rights that frame resource governance, but far from being a hierarchical power, the State defines and is defined by the interaction of different political forces.

So far in the thesis the State has been presented as a social relation in which power struggles define societal arrangements and the role and identity of the State itself. The findings in the chapter further expand this relational notion and locate it at the core of a continuous process of the neoliberalisation of nature.

In my argument, the commodification of the salt flat is neither a static nor linear process. The different delimitations of the Fiscal Reserve illustrate a changing history of resource governance in neoliberal and post-neoliberal times and a history in which the State has played different roles: as instrumental to private mining; as mediator of local conflicts during the neoliberal time; and as economic actor and the driving force behind state capitalism in post-neoliberalism.

Central to these distinct roles of the State is neoliberalisation as a continuous and adaptable process in which nature is seized, enclosed and re-made for the perpetuation of the expansion of capitalism (either private or State). In this sense, there is not a single role but different degrees in which the State exercises different roles as facilitator, regulator or actor in capitalism and these degrees are the outcome of power

struggles amongst societal actors, in particular the coalition of MAS party and the instrumental use of grassroots organizations to push forward certain extractive projects and to legitimize them on the ground.

Having discussed the social dynamics emerging in the commodification of the salt flat, in the next and final chapter, I will move on to discuss the symbolic changes emerging in the surrounding communities of the Uyuni salt flat and will explore the territorial claims as a result of commodification and lithium mining. The findings will illustrate how materiality, symbolic meanings and notions of space, interplay with resource governance.

Chapter 6 COMMODIFICATION AND TERRITORIALITY: THE GREAT LAND OF LIPEZ AND THE UYUNI SALT FLAT

6.1 Introduction

‘Magical’ and ‘unique’ were two common words used by local people to describe the southwest region of Potosí, also known as the “*Gran tierra de los Lipez*” (Great land of Lipez). Behind these words, the inhabitants of this region show a deep sense of identity in relation to the Uyuni salt flat as a wonder of the world and the largest reserve of lithium, and to the territory and its long and complex history.

Considered an autonomous territory during colonial times, the territory of Lipez was incorporated as a province in Republican times and later still was fragmented into four different provinces. Since 2010, three of these provinces (Nor Lipez, Enrique Baldiviezo and Sud Lipez) were recognised by the State with the titling of *Tierra Comunitaria de Origen* (Native Community Land – TCO) representing the largest TCO in the country. Through each of these changes, the Uyuni salt flat has been central in terms of symbolic meanings and territorial claims for the people in the southwest region.

In the previous chapter, I discussed how the landscape of the salt flat has been transformed through a process of commodification that reshaped three interlinked areas: first, boundaries, in terms of access to and control of the resources in its brines; second, social relations, as a consequence of shifting boundaries of access to resources, there has been a reordering of social relations at the local level. Third, the perceptions and the way communities relate to this landscape.

The aim of this chapter is to further explore the cultural changes emerging in a commodification process. The chapter will explore two elements: the way communities perceive and relate to the landscape and the territorial reconfigurations emerging as a result. Through an analysis of the interviews, life stories and the titling

process of the Macro TCO of Lipez, I seek to show how the materiality of the salt flat has influenced socio-spatial relations and how these relate to notions of territoriality over time. The evidence of the chapter will shed light on commodification as a dialectical process in which landscape influences people and people influence the landscape.

As previously discussed in the conceptual framework in Chapter 2, the notion of space is dynamic and constituted by social relations and political struggles. In this relational conception, territory is a crucial element and has a dual essence: it is the concrete delimitation of space and the biophysical elements of nature that characterise it; and it is the social space within which particular worldviews (in the forms of cultures) concretise relationships between people and land and how these are transformed into arrangements of extraction, transformation and the remaking of nature. In this perspective, Delaney (2005) argues that within a territory there are multiple meanings attached to it and these meanings define territoriality as a social relation through which power operates and is contested. In a similar vein, Badie et al. (2011, p. 2859), define territoriality as the “strategic use of territory” for organizing and exercising power and legitimacy through enforcing control mechanisms (territorial markers, surveillance) and different discursive means such as the sense of place (boundaries evoking meanings).

In my conceptual approach, territory and territoriality are explored through the materiality of the salt flat (understood as the biophysical characteristics of the landscape), how local people relate to it and how a change in meaning about this landscape has shaped power struggles for space and the governance of resources.

While the theoretical argument of this chapter is informed by a post-structuralist approach, my particular concern is to expand and transcend a static notion of territory and focus rather on the ways symbolic meanings, materiality of nature and territoriality are intertwined in a commodification process. As the case of the ‘Great land of Lipez’ exemplifies, the understanding of territory is not static, pre-existing economic relations, as well as the social dynamics that emerged as a cause and result of the commodification of the salt flat, has shaped a particular territorial project in the form of the Macro TCO of Lipez.

In this chapter I present three interrelated arguments: first, as a result of the commodification process and expansion of mineral extraction, the value and symbolic meanings of the salt flat have changed in the surrounding communities and have inserted this landscape into a narrative of territorial contestation. This process is not only external and solely concerned with economic aspects, but also is coproduced by social and biophysical elements that position the Uyuni salt flat with a peculiar materiality shaping social dynamics in the region.

Second, mineral resources and the prospect of lithium revenues have already reconfigured the territorial configuration in the southwest region. The different names of the salt flat (*Salar de Uyuni*, *Salar de Tunupa* and *Salar del Gran Lipez*) reflect how each province claims ownership to sustain land demands and territoriality in relation to revenues, lithium revenues in particular. As Richardson and Weszkalnys (2014, p. 9) rightly argue: “natural resources are not only socially produced but also produce novel social configurations”. Most importantly, in the face of the prospective incomes linked to extractive activities, shared interests and grievances are related to ethnic identities and senses of belonging to the land or to particular groups.

Third, territoriality is dynamic, constantly shaped and reshaped through the interaction of economic, social and cultural factors. In the post-neoliberal era, the salt flat and its resources are intrinsically linked to a vision of territory that challenges the notion of a State-centred governance of mineral resources. Gustafson and Fabricant (2011) elaborate on the idea that geopolitics of space across multiple scales and the struggles over jurisdiction, resource control and sovereignty are dynamic. If, in the neoliberal era, territorial order was conceived to facilitate market-oriented interventions, in a resource extractive State-led developmental model like post-neoliberalism in this case, territorial claims done by communities emerge as a field of struggle with the State.

During fieldwork, the notions of territory and territoriality were revealed as key elements of local peoples’ understanding and the interconnections with the salt flat and evaporite resources. During the time spent in the communities, I identified a connection between these communities and their land beyond the common notion of economic value to their livelihoods. To many people, territory is a space of resistance to external actors, but also a mechanism of adaptation to socio-economic changes. It provides a sense of belonging and identity as much as it is being about ownership and

governance of resources. As one interviewee stated: *[...] territory is where we were born. It is our richness; it is being in tranquillity. We have quinoa, livestock (llama, alpaca) and the Salar¹⁰⁸ now. It is not only where we harvest, it is all the space*” (Council member Municipality of Llica, Llica). Behind this statement are three important elements that I will develop through this chapter: the symbolic, functional and political elements that shape the notions of space and governance of resources.

The chapter is structured in the following way: first, I explore the changes and symbolic meanings of the salt flat with a particular emphasis on i) landscape and traditional livelihoods, and ii) ulexite mining. The different elements analysed illustrate how local communities have adapted and related to this landscape over time and how the materiality of the salt flat plays a key role in shaping social relations. In section 6.2, I present the historical context of territorial struggles in the country and its relevance for understanding the process of the Native Community Land – TCO of Nor Lipez. The next section examines the different territorial configurations of the Great Land of Lipez and the political motivations for the titling of the TCO. The findings illustrate the strategic use of territorial claims for defining the governance of mineral resources. The following section discusses the centrality of the Uyuni salt flat in the different territorial contestations of the southwest region. I do so by analysing the narrative behind the three names of the Uyuni salt flat, and showing how they reflect a particular understanding of territoriality, in particular in relation to lithium revenues. The concluding section summarises the main findings in relation to symbolic meanings, materiality and territory.

6.2 The Symbolic Meanings of the Uyuni Salt Flat

According to local mythology, Tunupa was a beautiful woman with many suitors. One day she fell in love and had a child. Tunupa’s husband was constantly jealous of her and one day, after a fight, he stole her child. As a punishment, the Gods covered the fertile agricultural lands with a desert of salt, which was formed with

¹⁰⁸ The term ‘Salar’ refers to the salt flat.

Tunupa's tears and breast milk and transformed her into the Tunupa volcano (Ali, 2013; Hollender & Shultz, 2010; Zedeño, 2016).

The parallelism of nature with a feminine deity in this legend is relevant for an exploration of the intrinsic notion of the domination of nature. Smith (2008, p. 26) draws attention to the similar metaphors used in capitalism to treat nature as external and women as objects prone to being dominated and also romanticised. In his words: "both are objects of domination and penetration as well as idolatry and worship. The language is exact. Women are put on pedestals but only once their social domination is secure; precisely as with nature, romanticising is a form of control". In a similar logic as stated by Smith, the myth of Tunupa reflects two key aspects: a female subject representing the landscape (thus prone to being conquered); and the way people used to perceive the Uyuni salt flat in the past: as a punishment from the Gods for Tupuna's suffering, replacing the fertile lands with a white (worthless) desert.

Here, there is an intrinsic link between cultural meaning and the materiality of a landscape. Although culture is probably the most criticised and questionable concept within anthropology (see for e.g. (Clifford & Marcus, 1986; Da Cunha, 2009; Geertz, 1973; Kroeber & Kluckhohn, 1952; Marcus & Fischer, 1999; Miller, 2005) and contemporary social sciences in general (see for e.g. (Alvarez et al., 1998; Badie et al., 2011; Brightman, 1995; Dirks et al., 1994; Escobar, 2005); it is a domain in itself within which practices, norms, values, discourses and material representations express meanings of social life over time (Badie et al., 2011) . Far from being a homogenous and neat concept, culture should be explored in terms of its multiple dimensions; for instance, in terms of unequal relations, social status and multiple narratives (Dirks et al., 1994) . In this vein, Wolf (1986) argues that cultures are relational, layered and rooted within complex systems and institutions of economics, politics and ideology.

In my analysis, the way that local communities relate to things (including the landscape, like in the case of the Uyuni salt flat) is a dynamic and complex process within which symbolic meaning can transmute and become interdependent from a commodification process. In the case of the salt flat, the commodification process came hand in hand with the enclosure of space (Fiscal Reserve) and the reification of the Uyuni salt flat as a strategic resource. As a result, the surrounding communities have adapted, imposing new meanings to the peculiar materiality of this landscape and

articulating political strategies to claim territorial rights that seek to consolidate particular forms of governance in the Uyuni salt flat.

During fieldwork, two key questions focused on how the salt flat has changed over time and how local communities relate to the landscape. These questions opened a deep exploration on a personal level and revealed three symbolic meanings that have evolved over time: the salt flat as an obstacle and useless for agriculture that later became a tourist attraction; and the salt flat as the world deposit of evaporite resources.

The next sub-sections will present each of these meanings and their relevance for my analysis of materiality.

6.2.1 Isolation, migration and livelihoods

As a visitor to the Uyuni salt flat, the most immediate feeling is the remoteness that the salt flat provokes. During my time in the surrounding communities of the salt flat, but especially in Llica where I spent most time, many people shared with me their stories about the isolation and remoteness of this landscape. First and foremost, the majority of people talked about the rainy season, the lack of transportation and the coping strategies they have developed over generations. For example:

[...] When I was a kid, the Salar used to be detrimental to us in rainy season. The cars were not able to pass, it used to take up to four days to cross the Salar and reach Uyuni, sometimes people died there. It (the Salar) was not considered a resource but now it is the most precious resource of humanity. These resources are not exploited yet (Teacher and member of the civic committee, Llica)

[...] The Salar was almost inexistent when I was a kid. There was no economic relation with agriculture or cattle. There was only one truck per week to connect Llica with Uyuni city. The people used to move and to travel to Chile. In fact, in Pica (on the Chilean side) around 70% of people are originally from Llica, they have land there now. People used to go there to buy basic things, to trade. We used to go in llamas there. Even today, the youth here know more about Chile than about Bolivia. Most people have family on the other side. As a boundary town, the people have a different perspective. In Chile there is

internet, more technology, people are more modern and the people of Llica absorb that (Member of the Quinoa Association, Llica).

[...] The Salar was an obstacle years ago, no one knew about lithium. Before the rainy season, people had to cross it and go to Uyuni to buy things in advance because later it was impossible to cross the Salar, Chile was closer to us. But the Salar has changed over time, now it is drier than before, it is losing its whiteness [...] Once professionals came to explain the Salar was important. An astronaut came because he saw it from space and then the tourism started. It became famous (Member civic committee Daniel Campos province, Llica).

The issue of environmental change in the salt flat was raised by many informants from different locations who stated that unpredictable weather, less rain and the loss of whiteness are all elements that have changed the landscape over time. In fact, these perceptions are confirmed by research conducted by the Laboratory of Atmospheric Physics (*Laboratorio de Física de la Atmosfera - LFA*) from the public university *Universidad Mayor de San Andres* (UMSA) that stated that between 2005 and 2010, the albedo¹⁰⁹ (the ratio of the intensity of light reflected from an object) used to measure the whiteness of the salt flat reduced from 69% in 2005 to 43% in 2010. The darkness in the salt is produced when there is less rain or the rainy period is concentrated over less time affecting the density of the dust that, instead of going down, remains on the surface (La-Razón, 2010).

The above quotes demonstrate three main findings: first, the salt flat used to be detrimental for communities, particularly in the rainy season. In this sense, the geographical location and physical characteristics of the salt flat determined a pattern of migration in the community of Llica that is still evident today. Second, one of the informants describes the “non-existence” of the landscape since it did not have an economic link with people’s livelihoods. Third, the salt flat was seen as an obstacle

¹⁰⁹ Albedo is the ratio of the reflected solar radiation to the incoming solar radiation. Earth’s albedo has been determined mainly by satellite observations but also by measuring the lunar earth shine (Armon & Hänninen, 2015). The Uyuni salt flat has been used for the calibration of satellites considering it has large stable surfaces that are amenable to detailed surveying and has an albedo similar to that of ice sheets (Fricker et al., 2005).

both for its location and for its lack of transport. Tourism and lithium gave the Uyuni salt flat an important use and a new value for the local people.

A second recurrent theme among interviewees was the perception of the salt flat as ‘worthless’ in relation to the traditional economic activities of the region: quinoa and cattle. A variety of perspectives were expressed as the following extracts illustrate:

[...] The Salar wasn’t richness; the richness for us was in the land for quinoa. It is now that people started looking at the Salar when we knew about the minerals it has underneath. Before it used to be seen as just salt (Member civic committee Daniel Campos, Llica).

[...] Before... the Salar was a situation. A richness that was sleeping there. We did not know what it had. We used to extract salt for cattle. In Sud Lipez province they used to trade the salt in the valleys long ago. We thought it was going to be like that always, then people that know chemistry said there was gold and then lithium [...] Around the Salar we are focused on quinoa. People like to be in peace, they are naive, they don’t understand what lithium is about. (Representative of FRUTCAS, Uyuni city).

What stands out in these iterations are two elements: first, the commodification process of the Uyuni salt flat is relatively recent and it was mostly triggered by evaporite resources but especially by lithium. Second, one of the informants expressed that the salt flat as ‘a situation’, as a still point until evaporite resources were discovered by outsiders and even now, there is little relation with the traditional agricultural activities and the local dynamic.

In relation to this last point, some participants expressed the belief that outsiders have placed a monetary value on the landscape with tourism and the scientific narrative about evaporite resources played a key role in this commodification process.

[...] Before the Salar was only salt. We did not even consume the salt from there; it was brought from somewhere else. People did not think much about the Salar; it was just another place of the landscape here. It used to be an obstacle in the rainy season. [...] It became famous for the lithium and also because it is a nice landscape for tourists. But for us it was not extraordinary,

we've seen it always. But now I realise it is extraordinary, we feel proud to be born here. (Group interview, Members of the Municipal Council Llica, Llica).

[...] Before we did not know about the Salar. For us it was salt. The tourism made it famous, the people that came. We didn't have a clue about the minerals the Salar has. No one talked about it. It was mostly ignored [...] The gringos¹¹⁰ liked the landscape, it is totally white. The first hotel of salt appeared in Colchani in the nineties (Council man Colchani, Uyuni city).

[...] The Salar was of interest to foreigners, it was a State secret (*secreto de Estado*). They knew about the potential it had, but didn't say anything to us. It became famous because outsiders came, stayed here and did not leave. (Member Municipal Council Colcha-k, Colcha-K)

The former responses may suggest that the process of the commodification of the Uyuni salt flat was an external and imposed process through which the economic and symbolic value of this landscape changed over time.

Having discussed the livelihood links and perceptions of the salt flat over time, the next sub-section will further expand the importance of evaporite resources in the local political space.

6.2.2 The Uyuni salt flat: the world deposit of evaporite resources

As discussed in Chapter 5, evaporite resources – ulexite and lithium – are central to understanding the social and political dynamics emerging in the Uyuni salt flat and the southwest region. In all cases, interviewees identified the discovery and extraction of evaporite resources, in particular ulexite, as the most important change for local communities. The relevance of ulexite is twofold: ulexite was the first resource to be inserted into a local mining dynamic of evaporite mining and it was the catalyst of a common perception about the Uyuni salt flat as the richest and largest deposit of lithium. The comments below illustrate:

¹¹⁰ Gringo is a popular term to identify white/foreign people in the country.

[...] When I was a kid, I didn't even know the Salar. My parents were too poor, even going to Uyuni was impossible. I knew there was salt there. The change in the Salar started when people did research and discovered minerals, especially lithium and from there started the desire to exploit the Salar (Rural School teacher, Colcha-K)

[...] We used to think the Salar it was an unproductive plateau. Before we used to think about cattle and agriculture. In 1988 people started extracting ulexite. My dad worked on that. The ulexite was extracted by the English many years before us, no one controlled anything here at those times. So we knew about the resource, but we didn't know what type of mineral it was. The correct name is ulexite. Not Borax, it contains boron but in its natural state is ulexite (Member SOCOMIRG, Rio Grande).

[...] It became famous; people opened the eyes because of the borax/ulexite in the 90s. In Rio Grande they started extracting and then people discovered more minerals there. The ulexite is extracted on the surface surrounding the Salar. (Local resident Colcha-K).

The narrative in relation to the discovery of evaporite resources is consistent with the idea that ulexite was a key factor in the commodification process, the moment local communities organised and started extracting it.

The expression of 'opening the eyes' used by one of the informants exemplifies that for local people, the discovery of mineral resources made them aware of the economic potential of the brines and the role they could play in this. For the first time, the Uyuni salt flat stopped being a desert of salt to become a coveted resource, a treasure to be protected from foreigners.

Most importantly, ulexite was a resource that created a political platform for rights of access to and control of resources in the Uyuni salt flat. The below extract from a life story exemplifies an interesting political trajectory that started with a local mining dynamic and later was expanded into the broader political agenda of the salt flat as a Fiscal Reserve and the State initiative of lithium extraction and industrialisation.

Teodoro was a key informant during my research, he was a representative of FRUTCAS and a National Deputy from 2006-2009. I met him on several occasions in

Uyuni city, Rio Grande and La Paz. His life story is particularly revealing in terms of understanding the socio-political elements surrounding the history of the Uyuni salt flat and evaporite resources. These are his words as I noted them down in our last encounter:

[...] I was in a terrible situation, I was born in San Cristobal town and started school when I was 7 years old. My mom used to work the land and my dad was a copper miner and I used to enter into the mine since I was little. I had six brothers. When I was 11, my mom got sick and died. I only went to school for three years.

I started working in a mine near Uyuni city, it was a private company of tin extraction. I was still a kid and eventually felt apart from my family. I went to do the military service in Uyuni and then moved to Santa Cruz to work on the sugar and cotton harvest. This was in the eighties. Then I moved to Argentina from 1981 to 1991, I worked in different things including construction, my bosses appreciated me, I used to help with administrative tasks.

I came back when I heard ulexite was being extracted in Rio Grande in 1991. I sold everything I had, came back to the town and helped to organise SOCOMIRG.

When I was young, nothing was known about the Salar until 1993. For us, for our parents it was a history: there was the exchange of salt in the valleys for other products but it never represented a livelihood alternative. So much has changed since then.

The Salar is a tourist attraction, it has history and above all, it has mineral resources but also there are internal struggles for its ownership among the provinces of the southwest. Each location has a different name for it and the territorial projects such as the Macro TCO or the township (*mancomunidad*) are in permanent dispute.

I am shy but hardworking, by 1993 I had different positions as representative of the community. Thanks to this, I went to all the locations of the southwest region by bike.

In 2004, I came to La Paz and I was part of the hunger strike and road blockade to recover the Fiscal Reserve of the Salar and recover our concessions for ulexite extraction that were given to Quiborax.

After the success of our demand, the people here suggested I run for Departmental Deputy. I did not want to accept this, I said I was no professional, I only went three years to primary school but people insisted so I accepted.

It was the first time, someone from Rio Grande won the deputy nomination, always people from Potosí city were elected. This is how I reached the Parliament in 2006 with the first government of Evo.

I did not know where to begin when I started working in the Parliament, but I felt I was a legitimate representative of this region, for the first time ever. And I knew this place, I knew the reality and what we needed. So, I started working on different demands such as electricity, communications, basic things we did not have. I hired professionals to help me. I've learned from them and they learned from me.

It was in this context that the lithium project was proposed, FRUTCAS and us in the Parliament worked hard so Evo and the government listened to us.

The relation between FRUTCAS and GNRE was not easy, FRUTCAS wanted to control administrative issues such as the salaries, acquisition of materials and this was not well received by the administration in La Paz. But FRUTCAS was fundamental to get the funding of this project, we pressured the Central Bank to sign the credit agreement with COMIBOL and finance the industrial phase.

In my four years in the Parliament I accomplished different things for this region, especially roads and access to basic services. This region has changed a lot in recent years.

Since 2009, I've kept on working on ulexite. We want to industrialise this resource. We sell it to Brazil but Rio Grande does not have industrial capacity, for example enough electricity or gas for a processing plant. [...]

This life story echoes the journey of someone who faced harsh circumstances and the disadvantages of being born into a poor family in a remote town of the southwest region of Potosí. From his life story emerges an understanding of traditional mining as the most important livelihood strategy and of the different coping strategies people adopted when the mining economy collapsed in the eighties. Teodoro's life also enables us to comprehend the symbolic meaning of the Uyuni salt flat over time. In his words, the Uyuni salt flat was a "*history, not a livelihood option (forma de sustento)... nothing was known about the salt flat until 1993*". Precisely the year that the first concession to the transnational LITHCO was awarded, as shown in Chapter 5, and the year that the Uyuni salt flat was transformed from a desert of salt to a resource worth fighting for. In his understanding, the Uyuni salt flat has changed to become many things: a tourist attraction, a history that for many people is an identity; but most importantly, the rich deposit of evaporite resources that has contributed to changing the local dynamic and has also exacerbated internal territorial struggles. In the story of Teodoro's life, the economic and political links of evaporite mining can be seen: ulexite was the first resource to be extracted in the region and was quickly articulated into a political platform for reclaiming mining concessions, but above all, the ownership of the salt flat and the proclamation of lithium as the most important and most ambitious State-owned project.

From his narrative, the Uyuni salt flat seems to be an omnipresent entity that started playing a key role in people's lives when evaporite resources started being extracted. This highlights two elements: before the discovery of evaporite resources, the salt flat shaped migration patterns for the distant communities and did not have an intrinsic value for them. When the extraction of ulexite began, the salt flat not only became important but acquired a dual role: it shaped forms of social organisation in relation to this resource and it also began to be modified by the communities involved in this type of mining.

Beyond the case of the Uyuni salt flat itself, the findings of the previous sub-sections have important implications for developing an argument about materiality of nature in socio-environmental changes. Materiality seeks to reconcile the different ways in which material things (objects and commodities) play important roles in the shaping of social relations. From this perspective, nature in its different materialities has

certain agency in mutually constituting socio-environmental relations and changes (Bakker & Bridge, 2006).

As discussed in Chapter 2, the exploration of materiality exemplifies how the salt flat of Uyuni became a hybrid landscape. In other words, a landscape co-produced through and by biophysical characteristics and social relations.

Taking a broad perspective, nature is able to not only influence and constrain human actions but also to shape human intentions. In this sense, Nash, L. (2005, p. 69) states that different human actions do not “emerge in a vacuum”. The routes and deliberate human actions shaping socio-environmental changes cannot and should not be separated from the environments in which physical characteristics of nature develop and are changeable.

The notion of materiality in nature contributes to my argument in three key ways: i) what we know about nature is not complete. Physical properties and generative capacities of nature (including landscapes and resources) might not only be changeable over time; but also, their relevance can be context dependent; ii) different natural events can evolve in unexpected ways reflecting a partial control of humans in relation to nature; in some cases, nature might resist processes of capitalist expansion. In this regard, the unpredictability of nature is not simply “capriciousness” but an important factor in the dynamics of human-nature relationships; and iii) the biophysical characteristics and capacities (the materiality of resources) are not singular but diverse and plural (Bakker & Bridge, 2006) .

In relation to the physical properties of nature as changeable over time, the case of the Uyuni salt flat demonstrates two key elements: its physical characteristics are not static (e.g. its whiteness); and the hydrological cycle which previously was seen as an obstacle by the communities in Llica and shaped human migration patterns. Nowadays, this hydrological cycle has acquired a particular relevance and value for the tourist industry that promotes the Uyuni salt flat in dry and rainy season.

The social/economic/political relevance of a resource is highly contextual and closely linked to a scientific narrative that validates a particular aspect of nature’s materiality. In the case of the Uyuni salt flat, a common view among the interviewees was that the salt flat was “discovered” by outsiders, *“by the people who knew chemistry”*. This

perspective reflects a specific ontology about this landscape: nature as external, whose potential is realised through science. In this sense, Bakker and Bridge (2006, p. 9) illustrate the example of mining exploration, as an activity backed up by a scientific narrative that “creatively produces” a target resource for capitalist expansion.

Turning now to the empirical evidence of the Uyuni salt flat, evaporite resources shows three key elements: first, there is not a unified materiality in the salt flat. Both ulexite and lithium exist and are extracted from this landscape yet, the social relations emerging as a result are different. As previously argued in Chapter 5, in the case of ulexite, mining has local relevance, its extraction can be cooperatively organised; whereas lithium is a State monopoly with little room for local interactions.

Second, with ulexite, the historical absence of the State has contributed to a peculiar form of resource governance that prioritises local arrangements with the less possible involvement from the State. By contrast, with lithium (considering its form of extraction and the strong nationalist narrative that sustains state-managed governance) the different communities of the Uyuni salt flat seek to capture future revenues from its extraction rather than being involved in the extractive activity itself.

Third, in the interplay of society/nature production, symbolic meanings and cultural associations are essential in the reification of a thing to become a commodity. In the case of the Uyuni salt flat, the shift in the symbolic meanings attached to the landscape in the surrounding communities suggest that the commodification of a landscape and the discovery/making of evaporite resources is not isolated from past and present territorial configurations. Furthermore, the way local communities perceive and relate to this landscape is intrinsically linked to notions of territoriality as a way of securing access rights and claiming sovereignty.

In this sense, the different materialities of the salt flat are a novel angle for analysis and for understanding the drivers of socio-environmental change and conflict in this region. Most importantly, the changes in symbolic meanings are linked to a territorial complexity that will be explored in the next sections in three ways: i) the normative framework for indigenous territorial claims, ii) the history of the Lipez territory and the drivers for the titling of the TCO of Nor Lipez; and iii) the strategic use of territory for defining the governance of lithium and revenue distribution.

6.3 Territory and Territoriality: Background

Territory and territoriality have always been central to Bolivian politics. Sixty-three years after the first Agrarian Reform took place in the country, there are still unresolved tensions in relation to the ownership of land and territoriality (Kay & Urioste, 2007). *Tierra y territorio* (land and territory) are recurrent and evolving social demands for the indigenous movements and over time different reforms and public policies have been set in place. In Bolivia over the past few decades, the peasants' movements have evolved, from an initial social claim of '*tierra para el que trabaja*' (land for those who work it), to an agenda, discourse and action focused on the notion of territory as not only land, but also, as political rights, multiculturalism and recognition of indigenous identities (Hirt & Lerch, 2014; Vacaflores Rivero, 2009).

In 1996, a second phase in the agrarian reform was inaugurated. The land law (INRA - *Instituto Nacional de Reforma Agraria* or National Institute of Agrarian Reform) was put into effect in order to clarify and regularise land rights (also known as *saneamiento* or land titling process). For technical and legal reasons, the titling process sought to correct the former distortions of the previous agrarian reform and to continue redistributing land to those groups (peasant and indigenous) who do not possess any or have an insufficient amount of land (INRA, 2008; Kay & Urioste, 2007).

Under this law, the new category of Community Lands of Origin (TCO) was created in order to consolidate ownership rights in favour of indigenous groups and organisations. This category of property is inalienable, indivisible, non-mortgageable and exempt from taxes (Hirt & Lerch, 2014; INRA, 2008). The indigenous groups in the lowlands¹¹¹ were particularly keen to delimitate their territory and obtain titling, considering they were the losers of the previous agrarian reform. With regards to the indigenous groups of the highlands, the TCO was not particularly relevant during the first years, but this tendency reverted in 2005, and by 2010 the TCO in the highlands

¹¹¹ Bolivia is divided into four main ecological areas: highland or Andean region (altiplano), valleys (valles), chaco and plains or lowlands (llanos). The highland accounts for 28% of total land area, the valleys 13% and the plains and chaco 59%; the highest percentage of poverty is concentrated in the highlands and especially in the rural area (Kay & Urioste, 2007).

acquired prominence. Behind the territorial claims, the reconstitution of ayllus¹¹² emerged as the platform for land rights as well as a form of organisation (Hirt & Lerch, 2014; Kay & Urioste, 2007).

According to the available data, at national scale by 2010 a total of 190 titling processes had been concluded, representing 20.7 million hectares titled as TCO¹¹³ (19% of the national territory to be considered for the titling process). In terms of ecological areas, the valleys have the highest concentration of TCOs (101), followed by the lowlands (38), the highlands (34) and Chaco (17). What is relevant in relation to the TCO titling process is that the TCOs of Nor Lipez (1.99 million hectares) and Sur Lipez (1.55 million hectares) are the two largest indigenous territories in the country (see Figure 6.1) (Fundacion-Tierra, 2010).

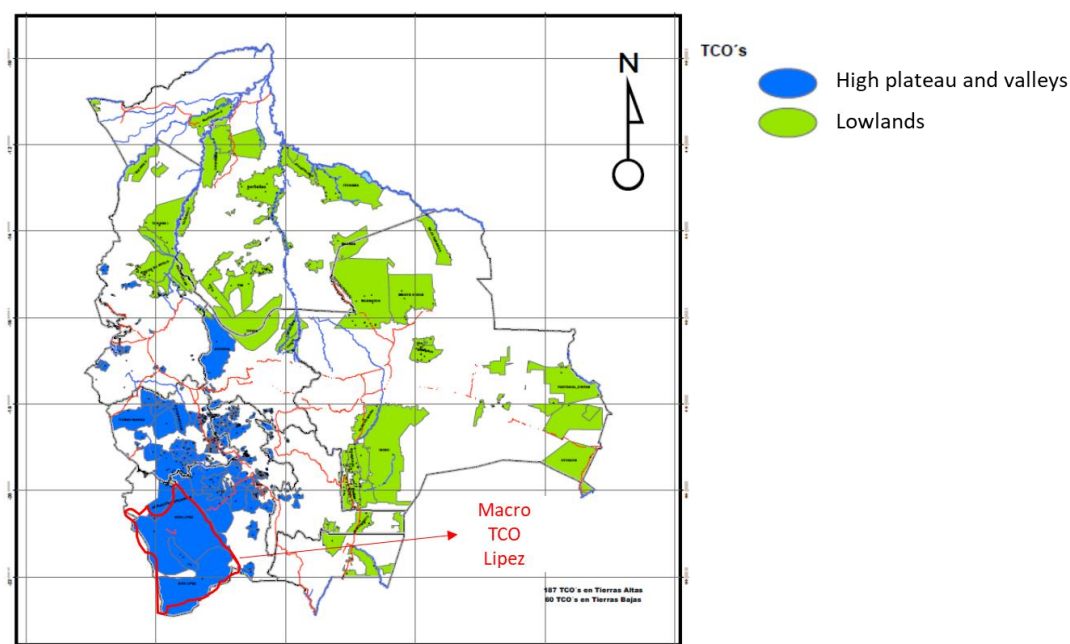


Figure 6.1. Titled and Claimed indigenous territories (TCO) in Bolivia (Source: Viceministerio de Tierras (2014))

Another important milestone in the history of territorial configurations is the approval of the New Political Constitution (NPC) in 2009. First, the NPC in symbolic and normative terms recognises the self-determination of indigenous people in their

¹¹² The Ayllu was the most important territorial form of social organisation for communities in the highlands and valleys.

¹¹³ The titling process was renamed as TIOC - *Territorios Indígena Originario Campesinos* (Native Indigenous Peasant Territories) since 2010.

territories, including the right to autonomy and self-governance, their culture, the recognition of their institutions and consolidation of territories (Crabtree, 2013). In Article 30: I–III of the NPC, the State acknowledges the right to consultation in indigenous territories as well as the resource management of renewable resources within their territories (Sanchez-Lopez, 2015). Second, the NPC redesigned the territorial organisation and institutions of the State into: a central government, nine departments, 122 sub-departmental provinces and 327 municipalities both in urban and rural areas and 11 indigenous autonomies (Tockman, 2016).

In 2010, the Law of Autonomies was approved, defining the functions of the new four autonomic levels of the State (departmental, municipal, regional and native-indigenous). The autonomy has three dimensions: i) political (direct and democratic election of authorities); ii) administrative (competences for organizing, managing, setting of regulations and norms in public institutions in the different territorial scales) and iii) economic (responsibilities of defining budgets, collecting and creating taxes, managing royalties and sources income)¹¹⁴. Yet in practice, the autonomy has proven difficult to implement, complex in its coordination at different levels and has generated a general disappointment with the administrative barriers (Crabtree, 2013). Moreover, the framework established by the NPC does not contribute to resolving longstanding or new conflicts of land ownership (Hirt & Lerch, 2014).

This background shows the relevance of territory throughout the history of the country. The complex framework that nowadays defines scales and competences, positions the territory and territoriality as the catalyst of a much deeper question in relation to the ontology of nature-human relations, power and resource control struggles with the State and local dynamics. Most importantly, within the TCO's titling process previously mentioned, the case of the TCO of Lipez emerges as the largest recognised indigenous territory and in the section that follows, this case will be discussed in order to illustrate the complexity of territorial configurations and intra-societal conflicts.

¹¹⁴ Competences defined in the New Political Constitution (Art. 272) and Law of Autonomies and Decentralisation Andres Ibanez (Art.64-100 and Art. 101-119)

6.4 The Great Land of Lipez: History

The Great Land of Lipez is an extensive territory including the Uyuni salt flat and the current provinces of Nor and Sud Lipez, Daniel Campos, Enrique Baldiviezo and sections of Antonio Quijarro and Nor Chichas (see Figure 6.2). During the colonial era, this territory had a unique and relevant precedent: in 1571, the communities at the time bought their territory from the Spanish Crown.



Figure 6.2. The Great land of Lipez (Source: Wikipedia)

As legend has it, that eight bushels (*fanegas*) of gold and silver were brought to Alto Peru (nowadays Lima, Peru) by the inhabitants of the Land of Lipez. According to historical records, an ownership title (*Título de revisita*) was given to the *cacique*¹¹⁵ Pedro Lopa by the Viceroy (*Virrey*) Francisco Toledo and then ratified in 1646 by the Spanish Crown. This title gave absolute rights over this territory to the indigenous communities of Lipez (Ali, 2013; Gysler, 2011; MMGTL, 2012; Quisbert, 2001).

In 1825 with the formation of the Bolivian Republic, the Great Land of Lipez was renamed as province Lipez and later in 1885, the territory was divided into two provinces (Nor and Sud Lipez) with three cantons (San Cristobal, San Pablo and

¹¹⁵ Cacique was the indigenous authority recognized by the colonial system.

Llica). In 1949, the territory was once again divided and the province Daniel Campos was created locating Llica as the capital of the province (Ali, 2013). During the Agrarian Reform years in the fifties, the borders of the provinces remained intact and no division or redistribution of land was done; probably due to the remoteness of the southwest region (Gysler, 2011). During the implementation of the Law of Popular Participation¹¹⁶ in 1994, the three provinces were converted into eight municipalities.

Up to 2000, this geopolitical division remained more or less unchallenged. However, as a result of the decentralisation process and the active involvement of communities in the local management (*gestión local*) of the municipalities, the idea of the territory as an economic, social and political space became dominant.

In 2003, there was a rebirth of an ‘identity of the Lipez territory’ that pushed forward the agenda of the “*Mancomunidad de municipios Gran Tierra de los Lipez*” (Commonwealth or township of municipalities of the Grand land of Lipez)¹¹⁷ logistically and financially supported by International Cooperation agencies. Based on ethnic and cultural recognition, the *Mancomunidad* sought two main objectives: i) to develop a common territorial unit for strategic economic planning and management of the four main activities in the region: quinoa, llama and vicuna cattle, tourism and mining and ii) to promote the regional autonomy of the Lipez (MMGTL, 2012).

In spite of the economic emphasis of this territorial configuration, the reconstitution of the “Great land of Lipez” excludes the province Antonio Quijarro and the municipality of Uyuni, even though Uyuni is the articulating point for services and the economy of the southwest, especially in relation to tourism around the salt flat. The

¹¹⁶ In parallel with the second phase of the agrarian reform, the Law of Popular Participation (LPP) of 1994 and the Law of Decentralisation of 1995 reconfigured the country’s administrative and geopolitical structure. Accordingly, the LPP decentralized planning, financial and bureaucratic competences to the municipal level, including an assignation of 20% of the National Budget to municipalities based on per capita distribution principles. As a result 250 municipalities were formed (Hirt & Lerch, 2014; Kohl & Farthing, 2006)

¹¹⁷ Formed by municipalities of Colcha K and San Pedro de Quemes in the Province Nor Lipez; municipalities of San Antonio de Esmoruco, San Pablo de Lipez y Mojinete in the Province Sur Lipez; municipality of San Agustín in Province Baldiviezo and municipalities of Llica y Tahua in the Province Daniel Campos.

main reason for this exclusion may be that Uyuni was “perceived as an urban space that is not part of the culture of the land of Lipez” (Uribe & Ranaboldo, 2011, p. 5).

By the time my fieldwork took place (2014-2015), the *Mancomunidad* was not totally consolidated, it was facing financial constraints and coordinating challenges among the different municipalities and social organisations. For instance, Gysler (2011) highlights the adverse positioning of the rural union organisations, arguing that the *Mancomunidad* had a business transnational vision, imposed by NGOs and that was illegitimate because the decisions were taken at municipal level without consulting the grassroots.

The *Mancomunidad* is relevant for my analysis for three reasons: first, in parallel to the creation of the *Mancomunidad*, the titling process of the Macro TCO of Lipez started, showing an emergence of indigenous identities and recovery of ancestral memories for different territorial projects within the same space. Second, the omission of the municipality of Uyuni is not a coincidence and reflects the local grievances and regionalism that had been exacerbated in relation to the ownership of the Uyuni salt flat. Third, behind the idea of a unified territory for economic planning, the *Mancomunidad* has a political agenda as a Regional Autonomy in the face of prospecting revenues derived from mining in the salt flat.

As one representative of the *Mancomunidad* expressed:

[...] Before we used to be ignored by everybody, especially by the departmental government. They didn't even know this region. The territory gave us visibility, we became visible. For us, the Salar has a productive meaning, we live from it, we have quinoa, llama, livestock, tourism. The Salar is an identity, it is part of our territory, it is the Salar of Lipez, it belongs to the *Mancomunidad* Uyuni has no Salar, it is wrong to call it Uyuni salt flat. There are serious territorial problems here but the 8 municipalities of the *Mancomunidad* should be the ones benefiting from lithium mining royalties. In the case of the mine San Cristobal this didn't happen. We have to share this richness (interview, Uyuni city).

Turning now to the Macro TCO of Lipez, the below section examines the titling process and perceptions in relation to this territorial configuration.

6.4.1 The Indigenous Macro Territory of Lipez

As discussed in the previous section, boundary reconfigurations and territorial projects in the southwest region of Potosí have a historical trajectory. However, the Macro TCO of Lipez represents a *sui generis* case for two main reasons: first, it demanded the communal indigenous titling of the most extensive territory ever done in the country and second, the social organisation behind the titling demand was not an indigenous organisation (as expected and defined by law) but a rural union organisation ‘*Central Única Provincial de Comunidades Originarias de Nor Lipez*’ (CUPTCNL) (Provincial Central of native communities of Nor Lipez), which is part of FRUTCAS.

These two elements are relevant to my analysis because they illustrate how this territorial claim has evolved into a broader agenda of resource governance at local levels; making the salt flat and its ownership a contentious issue within the provinces and with the central State.

The titling process of an indigenous territory is quite complex, expensive and time consuming. In general terms, the process is divided into two main phases: 1. *Saneamiento* (ownership verification) which is done on the ground and involves the property owner and neighbours and 2. *Titulación*, or Titling, is the processing of all the documentation needed to register and issue a property title. In the case of the TCO Nor Lipez, this process took more than 10 years and it had a series of problems within the 52 communities of the three provinces that opposed to the new limits¹¹⁸.

¹¹⁸ As described by Gysler (2011), the process started in February 1999 when INRA received the official documentation from the representatives of CUPTCNL. Later that year, INRA officially requested the *Estudio de Characterisation* (Characterisation Report) with ethnographic and historic information of the location and the socio-economic profile. In this document, several issues were raised including the legitimacy of CUPTCNL to be considered as an indigenous organisation with the right to demand indigenous territory and the legitimacy of the colonial ownership title (*título de revisita*) – as mentioned in the previous section of the chapter – as an argument for the historical reconstitution of the territory. However, and in spite of these critical points, the Report acknowledged the Lipez population as ‘*indigena originaria*’ (native indigenous) with the right to reconstitute its ancestral territory.

In 2001, INRA determined a titling area of 2,540,151 hectares and submitted to the departmental branch in Potosí the titling and conciliation procedures and the Territorial Space Use and Needs Reports (*Informe de Necesidades y Suo del Espacio Territorial* – INUET) required to consolidate the claimed

In 2010 the internal conflicts within the communities were solved through a quick negotiation *in situ* with FRUTCAS and the tilting was concluded (Calla, 2014). As a result of this process, the initial claimed titling area of 2,540,151 hectares was expanded to 3,814,445 hectares¹¹⁹ given to three different union-indigenous organisations: CUPCONL in Nor Lipez province, CUPCOEB in Enrique Baldivieso province and CIJA-JA-CA of the Sud Lipez province. Taken together they form the Macro TCO of Lipez in the southwest of Potosí ¹²⁰ (see Figure 6.3).

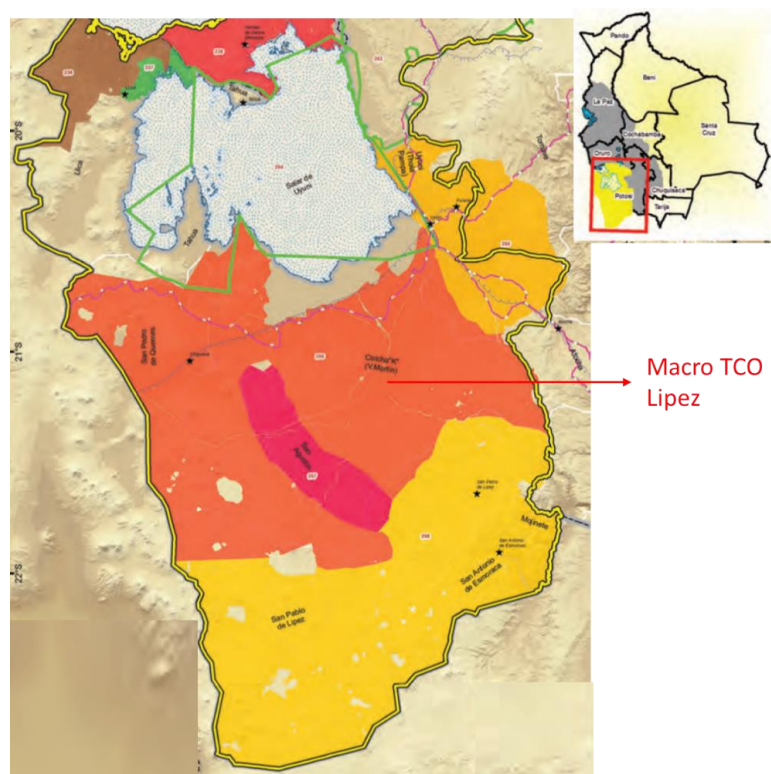


Figure 6.3. Macro TCO Lipez (Source: Calla et al., 2014)

indigenous territory. In 2002, during the expert examination period (*pericias de campo*) in different locations, local people in the communities started opposing the mapping and eventually, the whole process was stopped by the CUPCONL until the internal boundaries within the 52 communities were resolved. Although the CUPCONL arguably did a socialisation process of the TCO territorial project with the 52 communities before starting the INRA process, the conflicts that emerged later show a rather more complex scenario in relation to notions of land and territory in these communities.

¹¹⁹ Official total surface provided by the INRA to this research.

¹²⁰ Comunidades Originarias de Nor Lipez (CUPCONL)/ Central Única Provincial de Comunidades Originarias Enrique Baldivieso (CUPCOEB)/Comunidades Indígenas Jatun Ayllu, Juchuy Ayllu, Chawpi Ayllu (TCO-CIJA-JA-CA).

In a discussion on the subject, Calla (2014, p. 50) highlights two aspects: on the one hand, in this land titling framework there are conceptual and legal loopholes in relation to the definition of indigenous people and the grounds for territorial demands. On the other hand, this particular titling process has contributed to the invention of a unique type of “union-indigenous” organisation that now has the official ownership of a vast territory. In this sense, during fieldwork, many interviewees identified FRUTCAS¹²¹ as a key and also controversial organisation with an important regional positioning that reached its peak between 2008 and 2010 with two milestones: the active involvement in the state-owned lithium pilot project in Llipi; and the titling of the Macro TCO.

The relationship between these two is particularly relevant for my analysis. According to Calla (2014), the close links between COMIBOL, the MAS government and FRUTCAS allowed an unusually fast titling process, but one in which the Uyuni salt flat was excluded from the TCO. This element has two implications, the communities lost any right of ownership over the salt flat and its resources as TCO and COMIBOL-GNRE consolidated and legitimised the exclusive right of access to the Uyuni salt flat for the State (and the central government).

Far from solving the discontent in relation to the ownership of the Uyuni salt flat, in 2011 a new titling demand was put forward to the INRA to title the Uyuni salt flat as a TCO (called ‘*Territorio indígena originario campesino Aransaya Maransaya*’) with little prospect of advancing in the process considering the salt flat is a Fiscal Reserve (Calla, 2014). During my fieldwork, very few informants even knew about this new titling demand and I could not access any further information on this aspect.

¹²¹ In the southwest región: FRUTCAS (Federación Regional Única de Trabajadores Campesinos del Altiplano Sud) is formed by five Provincial units (Centrales Provinciales).

At departmental level, there are four regional organisations (Regional Norte Potosí, Regional Centro, Regional del Sud and FRUTCAS) and sixteen provincial units. All of them affiliated to the Federación Sindical Única de Trabajadores Campesinos de Potosí (FSUTC-P/Union Federation of rural workers of Potosí).

At national level the FSUTC-P is affiliated to the main peasant organisation CSUTCB (Confederación Sindical Única de Trabajadores Campesinos De Bolivia / Union Confederation of Rural workers of Bolivia).

A number of issues and contrasting views in relation to the links of the Central Provincial-FRUTCAS with the titling of the TCO were expressed. First, most people manifested annoyance with the Macro TCO since the traditional limits of the land (defined as *usos y costumbres*) were not respected, creating an increase of grievances among the families and the communities. In addition to this, the Central Provincial and FRUTCAS were perceived as non-legitimate organisations that now concentrate power to deal with and resolve land issues. The following comments illustrate:

[...] Unfortunately, they did a general titling. It is negative. Now quinoa is on rise, people want land to cultivate, they are fighting for centimetres. The TCO erased the traditional limits of *usos y costumbres*. The three small TCOs are fighting among themselves [...] Before, we knew where it was land for cultivation, livestock, etc., it was something that was defined since our grandparents, now it is different [...] The Central Provincial has the titling. The government gave the titling like that, they had political interests with the lithium project and in exchange, Evo gave them the ability to distribute the land, but there are personal interests, they are not impartial. (Local resident, Colcha-K)

[...] I did not like the TCO. This land of the Lipez should have been recognised with the old limits. Other provinces were created from this land of the Lipez (Sud Lipez, Daniel Campos, Enrique Baldiviezo, Nor Lipez) [...] We should be doing the agreements with San Cristobal mine or the lithium project. The said the TCO was important to sign these agreements. I think they lied to us. Now the owner is the Central Regional, we are not owners of the land or the Uyuni salt flat. (Local resident Colcha-K)

These issues highlight that as a result of the territorial project of the Macro TCO, there is an increase in social tensions within the communities that are part of the TCO. Hirt and Lerch (2014) highlight that intra-societal land conflicts emerge as a consequence of organisational and identity changes that modify governance frameworks. In this case, the titling of the TCO altered the traditional governance of land in this region and is strongly perceived as linked to political interests derived from the state-owned lithium project.

The titling of this TCO implies a broader political agenda. Considering a TCO titling process is expensive and time consuming, what kind of motivations emerged in local communities to seek this Macro territory? Gysler (2011) argues that this territorial demand was backed by three elements: first, a narrative that sustained and reclaimed the historical memory and social organisation of the Great Land of Lipez since pre-colonial times; second, a process of self-organisation in the communities when the quinoa economy started growing and became a commodity for export in the 1980s. In this regard, local people organised themselves into associations of producers at local and national levels¹²² and hand in hand with the quinoa boom there was a fear of a State public policy of human settlements in the area considering its low population density. In this sense, locals feared two aspects: that agricultural land would be redistributed to outsiders or *colonos* (colonizers) as had happened in the lowlands of the country and second, more people would come to the region considering its mineral resources and potential revenues.

Third, and related to the previous point, Gysler (2011) identifies the experience of San Cristobal open-pit mine as an important element behind the titling demand of the Macro TCO of Lipez. As described in Chapter 5, San Cristobal Mine is currently the most important mine operated by transnational corporations in the country. This mining project relocated an entire community and the negotiations started in 1998 between the community of San Cristobal and the mining company. The company compensated peasants for the expropriation of land and created the Fundación San Cristobal to promote productive diversification and to establish a mechanism of corporate social responsibility (CSR).

In this sense, Gysler (2011) highlights a relative importance a TCO would have made at the time in the negotiating process between the community and the transnational corporation. He points out that a TCO would have given a better positioning to locals to debate the environmental problems¹²³ that affect not only the community but the

¹²² Sociedad Provincial de Productores de Quinoa (SOPROQUI) and Asociación Nacional de Productores de Quinoa (ANAPQUI).

¹²³ According to the Territorial Space Use and Needs Report of Nor Lipez (Informe de Necesidades y Uso del Espacio Territorial – INUET, pp 41) the San Cristobal mining activities consume 50.000 litres of water per second from subterranean sources with a direct and irreversible impact on the region.

entire region (for more references in relation to the environmental conflicts with San Cristobal mine, refer to (Morán, 2010; Ribera, 2010a, 2010b)).

During my fieldwork, the previous experience with San Cristobal mining company was confirmed as a detonating factor for the titling process of the Macro TCO in order to achieve two main objectives: consultation processes within an indigenous territory; and negotiating power with mining transnational companies at regional level.

The following extract illustrates that this indigenous territory titling would give visibility to the communities in the face of an expansion of mining projects and in a more specific aspect, visibility to negotiate regional interests in relation to the state-owned lithium project. However, the interviewee also acknowledges the limitations this titling had in relation to the governance of mineral resources.

[...] We had the bad experience of San Cristobal, when the mining company came, the government reduced the Fiscal Reserve. At that time, we started the social protest and also the legal procedure to get the recognition of the Original Communal territorial land (TCO) of 3 provinces: Nor Lipez, Enrique Baldivieso and Sud Lipez. We did this in order to be the owners. The titling would allow us to be part of consultations; before, any mining company could come here but now, we had recovered our original territory [...] The idea behind the TCO is to be owners of the natural resources, but then we were told that we could only manage the surface resources, that underground resources belonged to the State and that included lithium [...] However, in a way, the lithium project did contribute to accelerate the titling procedure that was stagnant for years since it was FRUTCAS that pushed forward the idea of lithium as a 100% project of the government (Former Deputy Potosí and Representative FRUTCAS, Uyuni city).

From a different perspective, a former Minister of Mining¹²⁴ summarised the limits an indigenous territory has in relation to mineral resources:

¹²⁴ Interview done in La Paz.

[...] According to the new CPE (State Political Constitution), all in relation to natural resources: prospecting, extracting and industrializing are competences of the central government. The local governments or indigenous groups have no right; they cannot define the destiny of resources. The Central State controls, regulates and uses the extractive resources [...] The indigenous sectors wrongly think they are owners of natural resources, what they are entitled according to the Constitution and the Environmental law is the right to consultation, compensation for environmental damage, but that is all.

These two perspectives exemplify divergent understandings in relation to indigenous rights and resources. By the time fieldwork was carried out, I could perceive a common view among local people that the substantial size of this TCO and the lack of coordination and planning did not comply with the expectations people had. Behind any notion of territory, there are expectations of ownership and territoriality (understood as the power to decide frameworks of access); in this sense, how to govern a territory and how to manage extractive resources are not necessarily harmonious or easy elements to reconcile in reality.

The TCO motivations and process of titling seem to confirm that extractive projects are not solely an imposition of powerful interests, nor do they operate in a vacuum; on the contrary, the geographical boundaries within which they are located and the past experiences in relation to extractive projects are evolved into a certain vision of territory that is dynamic at the local level. Bebbington (2011) argues that territorial projects are always present and they can shape, resist or take advantage of an extractive industry according to particular interests. In this specific case, the previous experience of San Cristobal mine has been the basis for rethinking a territorial project, in particular considering the prospects of lithium mining; yet, the real power behind this titling is more symbolic than real.

In the next and final section, I will explore the symbolic meaning of the salt flat in the territorial grievances between Daniel Campos province and the titling demand of the Macro TCO. The section will illustrate how territorial configuration are evolved into struggles for resource governance.

6.5 Territoriality as Resource Governance: The Three Names of The Salt Flat

In addition to internal conflict within the communities of the province, Daniel Campos province actively opposed the titling of the TCO from the very beginning. The core of the problem was the ownership of the Uyuni salt flat and the superimposition of the TCO within its limits. According to the INRA technical report: 16% of the territory claimed overlapped with the Uyuni salt flat and 13% of the territory overlapped with mining concessions (Gysler, 2011).

The opposing argument of Daniel Campos province was that the Uyuni salt flat belonged to them as a province. This argument was based on the official cartography of the *Instituto Geográfico Militar*¹²⁵ (Geographic Military Institute) that originally located the Uyuni salt flat as part of the province. In addition, there was a very strong narrative about the creation of the province and the value of the salt flat at the time as territory; this point will be further explained below.

The province Nor Lipez on the other hand, presented a different map elaborated by the *Comisión de Ordenamiento Territorial* (Territorial Ordering Commission) that located the Uyuni salt flat as part of its province and the representatives of Nor Lipez dismiss the allegation of Daniel Campos province arguing the TCO was not a modification of the interprovincial limits but a different structure that can encompass other delimitations. Daniel Campos representatives, conversely, argued that a TCO including the salt flat would represent a loss of 50% of their territory as a province (Gysler, 2011).

This conflict was never totally resolved. Although the Macro TCO of Lipez did not incorporate the Uyuni salt flat as part of its delimitation, there is a permanent struggle between the two provinces.

This struggle is translated into the different names the Uyuni salt flat has (*Salar de Uyuni*, *Salar de Tunupa* and *Salar del Gran Lipez*) and the strong discourses people

¹²⁵According to the Supreme Decree No 2282 of December 1950, the Instituto Geográfico Militar y de Catastración Nacional is in charge of all the geographical delimitation and cartography in the territory.

have in relation to ownership of this landscape. During fieldwork, most informants from Daniel Campos province reclaimed the ownership of the salt flat based on an historical argument that when the province was created in 1949 and separated from Nor Lipez province, Nor Lipez did not want the salt flat, since it was useless for agriculture. In one interviewee's words: *"when we separated from Nor Lipez province, they said, keep that desert of salt, we don't care, let's define the limits of the land...and so we did it"* (Member Civic committee province Daniel Campos, Llica).

Behind the semantics and grievances about the 'official' name of this landscape, there are two key issues emerging from the interviews: first, the commodification of the Uyuni salt flat radically alters the symbolic meaning and value for local communities as this chapter has argued so far; yet, it is important to acknowledge that this process took place in an already conflictive location in relation to territorial limits. In this sense, the history of this location shows how the State at different points in time fragmented this territory and far from solving the intra-societal struggles for land and resources, the official cartography of the southwest region has exacerbated struggles. The following comment summarises this perspective:

[...] When Daniel Campos was created in the 40s, the Salar was a worthless territory, by then, the land for agriculture and cattle had a value for people and the Salar didn't have a value then. But 100% of the Salar is within the territory of Daniel Campos, this is by law and it is wrongly named as Uyuni salt flat [...] Tourism was something that later emerged. It is seen as a wonder of the world. With the advance of technology, they have been discovering deposits of valuable elements, lithium is one but there are more underneath the Salar. So the Salar is being promoted and became famous, even Chile is very much in love with the Salar. The Salar is more than salt; it has a different vision for the future so we will defend it as legitimately part of our territory (Indigenous authority council, Llica)

In this sense, a second relevant finding points to the direct impact of evaporite mining, but lithium in particular had in reviving notions of territorial ownership. The following statement reflects that behind the struggles of the names, there is a strategic goal of appropriation and governance in the face of great expectations:

[...] The Salar became famous some time ago, but the ones that benefit are in Uyuni city, this was done through marketing and also the people were not worried about this when the name became famous. But it is wrong to call it “Salar de Uyuni”, it is the “Salar de Tunupa” that belongs to the *Mancomunidad* of Llica-Tahua. The name matters now because the municipalities will get royalties. (Member quinoa association, Llica).

[...] People used to say that the Salar was not important, it was only salt. Now it has transformed, the lithium made it famous, it is a unique resource at world level and the Salar has most of the reserves. Now there are many minerals in the Salar and the government has set up a plant in the middle of the Salar. The name is an issue now, before the railway used to pass through Uyuni and then people knew the place as Salar de Uyuni, we did not care back then about the name. But now with the royalties of mining, the location of the resource is important. That is why we are defending the Salar but now everybody wants a piece of it. (Group interview Members of the Council town, Llica)

So far in this chapter, sections 6.4 and 6.5 have focused on the motivations and implications of the largest indigenous territory (TCO) in the country. This titling process has particular relevance because the ownership of the Uyuni salt flat has been at the core of struggles and the notion of territoriality is linked to a strategy to define resource governance in the southwest region.

The findings suggest that territory is a dynamic notion intertwined between meanings and power struggles. In this sense, Perreault (2011) highlights how spatial imaginaries are based on historical memory and contemporary political struggles. In the particular case of the Uyuni salt flat, the landscape itself became a territorialised project during its commodification. Far from being a solely economic process of mining expansion, this case exemplifies the social and cultural elements that are shaped and shape the transformation of a landscape into a coveted resource.

In a similar vein, Delaney (2005) expands the idea that within territory and territoriality the constellation of social relations of power become visible along with the material effects of these relations. Territoriality is directly linked to the interpretation of meanings and the social power emerging from them and, power and meaning connect to the discourse that sustains both. The case of the communities surrounding the Uyuni

salt flat exemplifies that territorial configurations and cultural meanings that can be strategically reinterpreted according to particular interests; for instance, the legend of the gold bushels to buy the territory or the historical remembrance of the salt flat as a gift given to province Daniel Campos, reflects the creation and reinterpretation of certain meanings in order to claim ownership over the Uyuni salt flat and the revenues from its resources.

6.6 Conclusion

This chapter has examined the changes in cultural terms as a result of the commodification and enclosure of the Uyuni salt flat. The chapter focused on two elements: the change in the perceptions of the surrounding communities in relation to this landscape; and the different territorial dynamics that have emerged over the past few decades.

The chapter presented three main findings: as a result of the commodification process, the value and symbolic meaning of the Uyuni salt flat has changed in the communities surrounding the salt flat. From perceptions of it as a worthless and isolated landscape to one of a vast richness of lithium, the way local people relate to the landscape is the result of the co-production of social relations in which the Uyuni salt flat and its materialities play a central role. In the chapter, the salt flat was explored in two forms: i) as a distant desert of salt strongly dependent on weather patterns and how these characteristics shaped a migration dynamic to Chile for the communities in Llica; and ii) as evaporite resources with different social dynamics around its extraction. Both, ulexite and lithium are found and extracted from this landscape yet, the social relations emerging as a result are different. For ulexite, the local dynamic of extraction determines a different governance framework from lithium, which employs highly technological forms of extraction that shape a nationalist discourse that sustains and legitimises a state-managed governance and raises great expectations of revenues from the communities.

Also, the case illustrates that the process of commodification took place in an already complex scenario of territorial contestation. Therefore, in the face of great expectations derived from mining revenues, the symbolic meaning of a landscape acquires great relevance; for instance, the salt flat and its three names: through the appropriation of a

name, the different provinces seek to secure the governance of lithium revenues and recreate themselves in what is perceived as the strategic resource of the future.

Lastly, territory and territoriality emerge as dynamic spaces of social and political configurations. The way southwest communities define a territorial project is closely linked to symbolic meanings of the landscape, its resources and the forms of resource governance that define rules of access and control with the State and within the provinces of the region.

In this sense, mining projects are not solely an imposition of powerful interests operating in a vacuum. On the contrary, the geographical boundaries within which they are located, and the past experiences in relation to extractive projects, are essential in shaping strategies, fuelling expectations and articulating a certain vision of territory.

For local actors that sought the titling of the Macro TCO of Lipez, the past experience with the mining concession of San Cristobal was the main motivation to secure a territorial project that would position the Lipez provinces as stakeholders to be included and consulted in mining projects. Yet, in reality, the TCO has no competence in anything related to San Cristobal mine. In the specific case of lithium mining, the State ownership as a Fiscal Reserve has eliminated any possibility of negotiation in the communities.

As I have shown, the final stages of the Macro TCO titling process coincided with the proposal of the lithium project. To authors like Calla (2014) this peculiar titling – in terms of the size of the territory and the union-type organisation that backed up the process – was a political exchange with the MAS government for the legitimisation of the state-owned project of lithium under the leadership of FRUTCAS. Whether or not the lithium project was negotiated in exchange for this titling is not the main point of debate, what is relevant here is that in tangible terms, this titling does not provide a real power of action for the communities. Contrary to other TCO cases where transnational companies negotiated with indigenous groups, such as in the region of El Chaco with natural gas extraction (see (Gustafson, 2009; Humphreys Bebbington, 2013; Perreault, 2006; Perreault & Valdivia, 2010), in the case of the southwest region of Potosí, the TCO titling gives no real power to local communities to exercise territorial control over mining projects. The state-owned lithium project has a different logic compared to transnational companies like the operators of San Cristobal Mine

that had established a close relationship with the neighbouring communities under the logic of favours and CSR. In the case of the GNRE, since it is a strategic and state-owned project, there is no obligation to the communities, and the patron/client relation previously established in the first years of the project is now seriously diminished as discussed in Chapter 5.

The theoretical implications of this chapter support the idea that the symbolic meanings of a commodity are not solely subjective ascriptions, but also reflect power issues and the conditions within which governance frameworks are defined; in other words, things remain devices for reproducing intra-societal relations (Fontana, 2014). In this sense, the commodification of a landscape like the Uyuni salt flat is a process embedded in a complex intersection of temporal, economic, cultural, and social factors, as the chapter has argued: resources are not, they become through socio-economic processes (Le Billon, 2001).

In the academic debate, a common perspective to examine the dynamics emerging in mining is the focus on local impacts and territorial changes (Arellano-Yanguas, 2011; Bebbington, Bury, et al., 2008; Ponce & McClintock, 2014). Bebbington (2011) in particular, explores the impacts of extractive activities on local territorial dynamics due to three interrelated processes: the direct influence extractive activities have on the local economy, the effects of CSR policies (especially those related to the private sector) in fostering local development, and the effects of tax and royalty payments on national and subnational scales. In this argument, territoriality is a twofold notion that influences the way extractive activities take place and at the same time is deeply transformed by these mechanisms. Nevertheless, this approach does not fully explain the drivers and consequences of socio-environmental changes due to symbolic meanings or the materiality of nature. Moreover, in this analysis there seems to be an implicit assumption of the territory as a container space where economic impacts of mining predominantly and overwhelmingly determine different social dynamics. In this sense, Jessop et al. (2008) critique the reductionism and contented perspective of territorialism which seeks to conglomerate all aspects of socio-spatial relations.

In my analysis, I seek to transcend this unidimensional approach to territory by exploring how the materialities (in plural) of a landscape are mutually constitutive in socio-spatial relations and struggles for resource governance.

In my argument, symbolic meanings, the materiality of nature and territoriality are intertwined in a commodification process. In this sense, nature and its biophysical materiality has a significant role to play and a degree of agency in shaping human/nature relations. The case of the Uyuni salt flat adds two significant elements to the academic debate: first, the relationship between the local communities and this landscape is not subjugated to a logic of subject-object; on the contrary, there is a dynamic co-production of social relations in which the Uyuni salt flat and its materiality play a central role and with different effects in terms of social relations. Second, the different meanings attached to this landscape came hand in hand with a notion of territoriality that sought to consolidate new forms of governance not only of resources but of a territorial project.

Both elements illustrate that a commodification process is not solely driven by economic forces for capitalist expansion operating in a container territory; on the contrary, the symbolic meanings and different materialities embedded in a landscape shape notions of territory and social relations that seek to define resource governance. In this sense, the history of the Uyuni salt flat (in terms of its boundaries, its resources and its social struggles) illustrates a hybrid landscape that has been co-produced in a commodification process, shaping local dynamics in the surrounding communities and shaped by capitalist mining expansion.

Chapter 7 CONCLUSION

7.1 Introduction

In this thesis, I have focused on the drivers and the consequences of commodification in the Uyuni salt flat in Bolivia over the past 40 years. My case study illustrates that commodification is an inherently political process in terms of territorial spaces, resource governance frameworks and the social struggles emerging as a result.

By providing a historical and critical account of the salt flat of Uyuni, I have analysed the complex intersection of social relations (in material, discursive and cultural terms) emerging and shaping resource governance frameworks in the mining of evaporite resources.

The empirical chapters of the research provided unique evidence and analysis in relation to the following research questions:

- i) What are the material implications of a Fiscal Reserve in terms of the rights to access and control resources by the State in the salt flat? (chapters 4 and 5)
- ii) What are the discursive elements behind the transformation of this landscape over the past 40 years? (chapters 5 and 6)
- iii) What changes are emerging in terms of the perceptions and symbolic value of the Uyuni salt flat for the local communities? (chapter 6)

In Chapter 4, I provided the mining context in the country and contrasted the differences and similarities in terms of property rights in mining governance in neoliberal and post-neoliberal times. By highlighting the different mechanisms operating in the definition of property rights in mining, I analysed the role of the State in determining resource governance and the different mechanisms through which the neoliberalisation of nature takes place.

Chapter 5, explored two aspects: i) the material implications of a Fiscal Reserve in terms of the rights of access to and control of resources in the salt flat by the State, and

ii) the discursive elements behind the transformation of this landscape. By analysing the spatial delimitations, the narratives that sustained each of the four different delimitations of the Uyuni salt flat and the social struggles that have emerged over time, the evidence shows that there is not a unique type of commodification: this process and the negotiations of resource governance are not exclusively linked to private sector and profit driven logic. On the contrary, this case shows how state capitalist forms also entail processes of commodification.

In Chapter 6, I focused on the changes in cultural terms as a result of the commodification and enclosure of the Uyuni salt flat. In particular, the change in perceptions in relation to this landscape for the surrounding communities and the different territorial dynamics that have emerged over the past few decades. By examining the different perceptions and life stories of local communities, the analysis sought to illustrate how the materialities (in plural) of a landscape are mutually constitutive in socio-spatial relations and how a certain vision of territory is closely linked to symbolic meanings of the landscape, its resources and the forms of resource governance that define rules of access and control with the State and within the provinces of this region.

In this part of the conclusion I return to my overarching research question:

“How do social relations, in terms of the material, discursive and cultural dynamics of evaporite mining, shape and are shaped by resource governance frameworks?”

The elements highlighted in each chapter show how the resource governance of evaporite resources is a dynamic and highly contested process in which a variety of societal actors (local communities, private mining actors and the State) are in a constant power struggle. The definition of ‘resource governance frameworks’ influences and is influenced by social relations. In this dual process, social relations are not exclusively determined by economic and labour relations as the traditional structuralist analysis argues, but are instead interlinked with the material, discursive and cultural dynamics emerging in nature-society relationships. In my argument, in the process of transforming and commodifying nature, the Uyuni salt flat is not a passive and empty space, on the contrary, this hybrid landscape has a role and a certain degree of agency to influence social relations. The different materialities (as salt, ulexite and lithium) that form part of this landscape are central to understanding the

different social relations that have emerged over time and how these shaped resource governance frameworks.

In my analysis, I sought to transcend the traditional focus on a specific mineral resource (lithium) to consider the landscape as a whole (the Uyuni salt flat) in order to illustrate three elements: first, in a commodification process, the abstraction, valuation and enclosure of a landscape is an intrinsically political process with resource governance at its core. Second, the property rights framework, the ensemble of formal and informal institutions, and the political arenas in which resource governance is negotiated with and through the State, reflect the changes in nature-society relations as commodification takes place with discursive elements that sustain and legitimize these changes. Thirdly, the case of the Uyuni salt flat demonstrates that nature is not only seized and transformed in capitalist expansion, but is co-produced by an intersection of symbolic meanings, and notions of space and territoriality.

In Section 7.2, I present the main findings of the thesis under three broad themes: i) the role of the State in defining resource governance in post-neoliberalism; ii) lithium and the capitalist state and iii) materiality, symbolic meanings and territoriality. Together they suggest that in capitalist mining expansion, the interplay of meanings, discourses and the role of local communities and other societal actors is dynamic and mutually constitutive of resource governance frameworks. In the next section, I discuss the theoretical contribution of the thesis, followed by a reflective analysis of the limitations of the research and further topics to be researched. In the final section I summarise the key findings of the thesis.

7.2 Empirical Findings

7.2.1 The role of the State in defining resource governance

The point of departure in the empirical chapters was the analysis of the mining laws in neoliberal and post-neoliberal times. Through an exploration of different types of property rights and the political struggles behind the lobbying of the mining law, the findings showed that in defining mineral governance, the formal and informal arrangements in place and how deliberations are undertaken are deeply influenced by powerful actors.

Furthermore, the different forms of property rights in mineral resources are not neutral and these rights are defined according to particular interests by and through the State. In this sense, the State was presented as a dynamic actor balancing powers and a relational arena through which societal actors negotiate their interests.

In the Bolivian case, although the State is central to defining the governance frameworks in mineral resources, its interaction with other mining actors (private, cooperative and COMIBOL) provides the setting in which *de jure* (legal and formal rights) and *de facto rights* (rights defined and enforced by the users of access) are in permanent struggle and reduce the capacity of the State and its apparatus to enforce a different type of resource governance. Moreover, the analysis of the mining laws showed the different mechanisms through which the neoliberalisation of nature is consolidated and expanded.

In my analysis, the Bolivian State was identified as an example of a corporatist State in the mining sector: on the one hand, the post-neoliberal model claims an economic development strongly rooted in state capitalism and state sovereignty, and on the other hand, private capitalism (especially mining cooperatives) not only co-exist with state capitalism but also benefit from it and have special privileges that are negotiated with and through the State.

The role of the State in neoliberal and post-neoliberal times illustrates a profound contradiction between how mineral resources are extracted and notions of a Plurinational state (based on principles of interculturality, decentralisation and autonomies as defined in the New Constitution). The central government not only monopolizes all the negotiating spaces and power struggles of societal actors in mining governance, but also reinforces the position of interest groups and co-opts weaker actors such as indigenous communities. If neoliberalism separates markets from social control as stated by MacEwan (2005); in post-neoliberalism, state regulation not only promotes private investment but further reduces environmental controls and co-opt grassroots forms of social control that in the past were contentious to neoliberalism as the analysis of the mining law and the case of lithium illustrated.

As I argue in this thesis, resource governance in mining not only consolidates private interests in a permanent process of the neoliberalisation of nature, but most

importantly, prioritizes extraction over any other livelihood and dispossesses indigenous communities in material and political terms.

In the next section, I focus on the different implications of the Fiscal Reserve in the salt flat.

7.2.2 The Making of a Resource: Lithium and the Capitalist State.

As I argue in this thesis, the commodification of the Uyuni salt flat has been consolidated by two elements: i) the spatial re-ordering and transformation of this landscape into a Fiscal Reserve; and ii) an ambitious mining project of state capitalist expansion.

The Fiscal Reserve is a particular type of spatial-political ordering in which the State exercises all the rights of ownership and management. The delimitation of a Fiscal Reserve is controversial by nature since it encloses space and differentiates access rights. In the case of the Uyuni salt flat, the four separate occasions this landscape was declared a Fiscal Reserve are the result of particular narratives that legitimized frameworks of access and power struggles at local levels, and influenced the conditions and outcomes of commodification in the salt flat.

An interesting finding emerging from the analysis is that the reordering of space in commodification is not exclusively linked to a private market-driven logic. On the contrary, this case shows how state capitalism also entails processes of commodification that are far from linear; space boundaries are reshaped and negotiated according to particular contexts and power struggles.

As mentioned in the previous section, the State, as the driver of socio-environmental change, has played an essential role in the history of the Fiscal Reserve in the Uyuni salt flat. Furthermore, the distinct roles it has had over time exemplifies a changing history in terms of the governance of evaporite resources in neoliberal and post-neoliberal times. In concrete terms, the analysis identified the three key roles of the State: i) as the entity in charge of consolidating and legitimating scientific knowledge for mining expansion; ii) as an instrumental and mediating actor between private and local mining interests; and iii) as a competitor – in contemporary times, the central government (and COMIBOL) compete as an economic and political actor in this landscape.

In my analysis, the state-owned project of lithium emerges as the culmination of a commodification process. Lithium is a resource that *became* a coveted commodity due to the intersection of economic, discursive and social factors. The expectations of revenue and the symbolism lithium mining has in Morales's government, has not only transformed the salt flat into a strategic space, but has also promoted the most ambitious and unprecedented contemporary project of state capitalism in the country.

In this sense, the State has not only consolidated a spatial re-ordering of the salt flat, but most importantly, it is the mining actor in charge of radically transforming this landscape with lithium extraction.

The findings discussed so far (sections 7.2.1 and 7.2.2) seek to address research questions 1 and 2 in relation to the material implications of the Fiscal Reserve and the discursive elements behind the transformation of the salt flat over the past 40 years.

In this regard, the Fiscal Reserve represents two key elements: i) a spatial delimitation shaped by the particular interests and power struggles of different societal actors in defining the governance of evaporite resources with and in opposition to the State; and ii) a discursive element that has been used for articulating and legitimizing particular interests.

Turning now to the last research question (What changes are emerging in terms of the perceptions and symbolic value of the Uyuni salt flat for the local communities?) the next section will present the findings related to materiality, symbolic meanings and territoriality.

7.2.3 Materiality, symbolic meanings and territoriality in the salt flat

In this thesis, the Uyuni salt flat is presented not as a fixed and unproblematic landscape prone to be seized by capitalist expansion; but as a landscape where different livelihoods (mining in particular) and societal actors interact; materially, discursively and symbolically, turning this site into a hybrid landscape in constant political struggle.

In my argument, as a result of the commodification process and expansion of mineral extraction, the value and symbolic meanings placed on the landscape by the surrounding communities of the salt flat have changed from being a 'worthless space' to the

‘world’s largest deposit of lithium’. Hand in hand with new meanings, the ownership of the salt flat became central to the territorial contestation of this region.

This process of symbolic change is not external and solely concerned with economic aspects; on the contrary, it is coproduced by the social and biophysical elements that position the Uyuni salt flat with a peculiar materiality shaping social dynamics in the region.

In this sense, the salt flat in its different materialities (as salt, ulexite and lithium) presents a novel angle of analysis to understand the drivers of socio-environmental change and conflict in this region.

Firstly, the Uyuni salt flat as a landscape of salt used to be unfavourable for the communities and without any value for traditional livelihoods (agriculture and livestock). Due to the geographical location and physical characteristics in the rainy season, the salt flat determined a pattern of migration to Chile in the community of Llica that is still maintained today. Later, with tourism, this landscape acquired an economic value; and nowadays, the salt flat is promoted in rainy and dry seasons as part of the touristic experiences on offer.

In addition, there is not a unified materiality in the salt flat. Both ulexite and lithium exist and are extracted from this landscape, yet the social relations emerging as a result are different. In the case of ulexite, mining has local relevance, its extraction can be cooperatively organized; whereas lithium is a State monopoly with little room for local interactions. With ulexite, the historical absence of the State has contributed to a peculiar form of resource governance that prioritizes local arrangements with the less possible involvement from the State. On the contrary, with lithium (considering its form of extraction and the strong nationalist narrative that sustains state-managed governance) the different communities of the Uyuni salt flat seek to capture future revenues from its extraction rather than being involved in the extractive activity itself.

Last, the Bolivian lithium has a different chemical composition than the Chilean lithium in terms of Magnesium/lithium concentration (18/1 versus 6.4/1 found in the Atacama Chilean desert). In Chapter 5, this aspect of materiality was explored in relation to how it can influence technological decisions, the sub-forms of materiality such as sediments emerging from the production process and the future impacts they

will have in environmental terms. Furthermore, this materiality makes lithium an “intricate commodity” that in the near future, when the industrial extraction phase begins, will affect the landscape and the surrounding communities in unpredictable ways.

Another significant finding focused on how the symbolic meaning of a landscape acquires great relevance in the face of the great expectations derived from mining revenues. In this regard, Chapter 6 presented the empirical evidence behind the Uyuni salt flat and its three names and the territorial project of the Macro TCO Nor Lipez. Both aspects highlight that notions of territory are changeable over time and closely linked to symbolic meanings of a landscape. If, in the past, the salt flat was perceived as worthless, nowadays, this landscape has become a strategic space in permanent struggle. Beyond lithium revenues, the case of the Uyuni salt flat shows that the landscape itself became a territorialized project during its commodification and the different provinces have incorporated a particular narrative of ownership of the salt flat as a strategy of territoriality.

Turning now to the theoretical debate, the next section will examine the theoretical contribution this thesis has made in relation to commodification and resource governance.

7.3 Theoretical debate

This thesis set at its core the ontological exploration of how and why nature is transformed and commodified. These questions, widely explored in political sciences, anthropology and human geography, aim to analyse the interlinkages between nature’s transformation in contemporary capitalist expansion.

The departing point of my conceptual framework was a structuralist analysis of commodification as the key process in transforming and producing nature, the resource governance in neoliberal and post-neoliberal frameworks and the instrumental role of the State. However, as discussed in Chapter 2, I acknowledge the different tensions and critiques emerging in this epistemology, such as: i) portraying commodification as a homogenous, linear process driven by private capitalist logic; ii) economic reductionism to explain nature-society relations and conflicts; iii) a fixed and immutable notion of both: the space within which commodification takes place and

the State as an instrumental unchangeable supra-entity and iv) an omission of the materiality of nature in influencing processes of commodification and resource governance.

My analysis of the Uyuni salt flat addressed these critiques through an exploration of commodification as an intrinsically political process in terms of defining territorial spaces, the governance frameworks and the social struggles that emerged as a result. In concrete terms, my case study advances the theory in the following ways: it presents commodification as a non-linear process and it connects the relational State theory with the political ecology exploration of neoliberal and post-neoliberal frameworks. Furthermore, the Uyuni salt flat case challenges the conventional theoretical approach to neoliberalisation which focus more on the effects of regulatory frameworks to access resources in commodification rather than the political processes shaping these frameworks. In this regard, neoliberalisation is articulated into my argument as a continuous process regardless of ideological positions (neoliberal and post-neoliberal) that situates the State itself as an environmental project through which societal actors negotiate resource governance.

Also, my case provides new elements to the debate of space in the political ecology tradition. In particular, the historical perspective of the Uyuni salt flat in terms of its geographical limits and the social struggles over time highlight production of space as a two-fold notion linked to spatial delimitations answering political interests in defining resource governance with and through the State; as well as a notion intertwined with local symbolic meanings that shape forms of territory and territoriality.

Furthermore, the case of the salt flat adds new elements into the material culture debate and by connecting materiality of resources with the notions of commodification and resource governance. The case of the salt flat illustrates that materiality of a landscape (in plural) is an important element to understand the socio-environmental changes and the variegated effects in terms of social relations

Last, my case contributes to the general debate of mineral extraction in Latin America in two ways: by providing a novel case study and a different type of extractive resource (evaporite resources) and by expanding the theoretical debate about the State in neoliberal and post-neoliberal frameworks. As illustrated in the analysis of the mining

frameworks and the State project of lithium mining, there are inherent tensions and contradictions in post-neoliberalism that perpetuate a constant process of neoliberalisation of nature.

7.3.1 Commodification

In the analysis of the commodification and production of nature, commodification is neither a linear nor a unidimensional process, it can have different inter-related phases in which nature is abstracted and enclosed and is mostly (but not exclusively) linked to private profit interest (Castree, 2003). Commodification is seen as a transgressive process in which commodities are things and also relations with material and discursive practices (Castree, 2001a). In these practices, property rights are central for both access to and control of resources and the political project they represent. Prudham (2015) argues that the nexus between property rights and commodification is essential to understanding the social relations and power structures operating in processes of socio-environmental change.

The case of the Uyuni salt flat expands this dynamic notion of commodification and resource governance by illustrating two aspects: i) that commodification under capitalism can have many forms; and ii) that commodification is not an imposed and hierarchical process, but is, rather, the outcome of political struggles and changes in symbolic meanings.

First, the Fiscal Reserve delimitation over time reflects the different routes commodification took beyond the solely private profit logic. Although the phases identified above by Castree (2003a) are illustrative of the multiple processes operating in commodification, they are neither sequential nor exclusive to private capitalism. The historical analysis of the Fiscal Reserve in Chapter 5, shows how the abstraction of the salt flat started with scientific research in order to quantify volumes and levels of lithium 40 years ago. Subsequently this landscape was enclosed as a Fiscal Reserve, reducing and later expanding the scope of action of the State in the mining of evaporite resources; and, more recently, the extraction of lithium from the brines culminated this process by consolidating a state project of capitalist expansion.

Second, commodification as a process is the outcome of political struggles and symbolic meanings that shape how people relate to a landscape. The case of the Uyuni

salt flat illustrates that it is not lithium *per se* that is the main commodity triggering change in social relations; but the whole landscape that has been abstracted and valued in different forms over time. The history of the Uyuni salt flat (in terms of its boundaries, its resources and its social struggles) depicts a hybrid landscape that has been co-produced in a commodification process, shaping local dynamics in the surrounding communities and shaped by capitalist mining expansion.

7.3.2 Resource governance

Closely related to commodification, resource governance is an essential element to define the systems of property rights, regulation and negotiation of societal actors in defining access to and control of resources. The analysis of resource governance has been strongly focused on neoliberalisation and its impacts (Heynen & Robbins, 2005; Himley, 2008, 2010). A common perspective in this analysis is the centrality of the State in defining frameworks of access and the different roles it has in the process of de-regulation and re-regulation. However, the analysis tends to portray the State as a reflection of capitalist economic structure and as an abstract instrumental entity to private interests.

In this sense, my analysis contributes three elements to the debate: i) it focuses on a relational approach to the State in defining resource governance; ii) it exemplifies the complexity and diversity of actors intervening in mineral governance; and iii) it adds a new angle of analysis through the materialities of the salt flat.

In line with previous research, my analysis agrees with the perspective of the State as essential to the continuous process of the neoliberalisation of nature; however, my findings highlight that the State not only has different roles in mediating nature-society relations but also, different degrees in exercising its role as facilitator, regulator or actor in capitalism. These degrees are context-dependant and are the outcome of the power struggles of societal actors in defining mineral governance.

The analyses of Chapters 4 and 5 illustrate the Bolivian State as a mutable actor and an arena of power struggles for societal actors. In line with a relational approach to the State and how hegemony has discursive and material effects in power relations, the findings show that the different roles and degrees of involvement of the State are context-dependent, discursively mediated by a powerful block of societal actors and

materialized through different formal and informal procedures and organisations through which the governance of evaporite resources is negotiated and contested with and through the State. The interplay of the discursive and the formal and informal mechanisms of negotiations with the State not only define mineral property rights of access but ultimately, have influenced the delimitation of the salt flat space in its commodification process.

In terms of the materiality of nature, as discussed in Chapter 2, there is a burgeoning academic debate about how the materiality of resources (including geographical location, availability, and physiochemical characteristics) can influence socio-economic relations and frameworks of resource governance (Bridge, 2004; Kaup, 2010; Le Billon, 2001). In a similar vein, other scholars have focused on the role that certain resources have in resisting or facilitating capitalist expansion in neoliberalisation (Budds, 2004; Swyngedouw, 1999). Also, the analysis has been expanded to materialities (in plural) and how each subform influences processes of accumulation and dispossession in capitalism (Perreault, 2013) and how resource governance is affected by the relationship between commodities' materiality and the forms of labour organisation in extracting them (Kaup, 2014).

Although some of these scholars provide a local perspective (see Kaup (2014); Perrault (2006, 2013)) the analysis tends to underexplore the social relations emerging at the local context in relation to multiple materialities and most of the analyses focus on traditional commodities such as oil and gas.

My research contributes to this debate in two ways: it provides a novel case study to explore the multiple materialities that can be identified in evaporite resources; and my analysis shows that materiality is neither uniform nor static, it can change and gives certain degree of agency to nature in shaping social relations.

In the analysis provided in Chapter 6, the different meanings attached to the salt flat are not uniform and reflect how this landscape has materialities that have been influenced by different social relations over time. These plural notions of materialities (or sub-forms of materiality) allow the exploration of socio-environmental change and how local actors relate to them.

Moreover, my original contribution to knowledge is a new conceptual framework to explore commodification and mining expansion through different forms of materiality. In this sense, my perspective on materiality allows an exploration of mineral resources from the social relations emerging from them and in conjunction with the landscape within which they are located. In the case of the salt flat, the different materialities identified (as salt, ulexite and lithium) illustrate the social relations emerging and being transformed in a commodification process and provide a new angle of analysis of lithium as an ‘intricate commodity’ due to the social and physical elements interacting in its extraction.

7.3.3 Latin America in the academic debate of Political ecology

Over the past decade, the academic debate within political ecology has renewed its interest in the extractive industries of Latin America. The region has seen a dramatic increase in investment and the expansion of extractive activities (Bebbington & Bury, 2013a), hand in hand with the emergence of left wing progressive governments.

The so called ‘neo-extractivism’ draws attention to the contradictions emerging from a resource-based development and the different political contexts that recognize indigenous rights and alternative development paradigms, as in the cases of Bolivia, Ecuador and Venezuela (Burchardt & Dietz, 2014; Gudynas, 2013; North & Grinspun, 2016).

Mining in particular, has been a prominent topic for the socio-environmental changes this extractive industry generates, and for the social struggles emerging from these changes (Bebbington, Bebbington, et al., 2008; Bebbington & Humphreys-Bebbington, 2011; Gordon & Webber, 2008; Orihuela & Thorp, 2012).

In this debate, Bolivia is an emblematic example in terms of social struggles and extractive resources (Farthing & Kohl, 2014; Kaup, 2014; Kohl & Farthing, 2006; Perreault, 2006), and the paradoxes of post-neoliberalism in the country (Grugel & Riggirozzi, 2012).

However, a less explored case in the academic domain is lithium mining in the country. Most of the research about the topic has focused on the viability of lithium as a state-owned project (Aguilar-Fernandez, 2009); the narratives of resource nationalism

behind it (Revette, 2016) and the internal and external challenges to resource governance (Olivera, 2014).

My thesis contributes in four important ways: firstly, it adds to the existent literature on neoliberalism and post-neoliberalism in Latin America new insights through the case of the Uyuni salt flat in relation to the variable roles of the State in de-regulating and re-regulating mineral resources and geographical spaces. If neoliberalism separates markets from social control as stated by MacEwan (2005), in post-neoliberalism, State regulation not only promotes private investment but further reduces environmental controls and co-opt grassroots forms of social control that in the past were contentious to neoliberalism as the case of the mining law illustrated in Chapter 4.

Moreover, post-neoliberalism far from a coherent eco-political model has important tensions and contradictions emerging in terms of: i) State-centred economic policies which situate the State as the central actor in extractive resources, yet with ambiguous roles and different degrees of power and involvement such as the case of mining. This role implies the centralization of all decision making in terms of resource governance, contradicting in this way the notions of decentralisation, autonomies and self-determination of other sub-national scales that are also essential in the conceptualization of post-neoliberalism and the Bolivian Constitution; ii) a nationalist rhetoric that reclaims resources for the benefit of people, however, the same old notion of nature as external and prone to be seized by capitalism remains and contradicts alternative notions of nature-society relations promoted by the indigenous groups (Sumak Qamaña). These contradictions not only operate in ideological terms, but contradict the same Constitution that recognizes this philosophy as the pillar for the State functioning (Art. 8:1); iii) a development pattern not only based on extractive industries, but further deepened in post-neoliberalism through mechanisms such as social assistance programmes instrumentally used to manipulate, legitimate and omit any dissentient or adverse environmental impacts at local levels. In this sense, the Gramscian perspective of a ‘passive revolution’ illustrates that post-neoliberalism is more a continuity of neoliberal features in relation to extractive resources with some changes promoted by the political context rather than a radical rejection of neoliberal orthodoxy. In this ambiguity of the model, there is a constant adaptation of strategies

by powerful societal groups to access and negotiate their interests with and through the State.

Most importantly, the lithium state-owned project not only represents the summit of the commodification of the salt flat, but also represents the new type of State in post-neoliberalism: the key actor in the market, the sole owner of the resources from extraction to industrialization phases, the regulator of socio-environmental impacts and the medium through which other societal actors will negotiate their capitalist interests.

Secondly, my thesis contributes to the general debate in political ecology by exploring how materiality, discourses and symbolic meanings shape and are shaped by defining resource governance frameworks for mineral resources. In particular, my research provides a less explored case study and an atypical type of resource (evaporite resources) to explore the dynamics in commodification and resource governance.

Also, it contributes to the specific body of literature about Bolivia and lithium by expanding the focus of analysis from the commodity itself (lithium) to the landscape (the salt flat). In this sense, and as argued elsewhere in this thesis, the Uyuni salt flat is portrayed not as a homogenous entity or a mere empty space within which vast reserves of evaporite resources are located, but this landscape is framed as a hybrid (part social and part natural) within which there are different materialities co-existing and co-creating social relations and forms of resource governance.

In addition, my thesis provides an historical perspective of the Fiscal Reserve, serving as a resource for exploring the spatial delimitation of this landscape as an outcome of political struggles and the expansion of evaporite mining over time. Most significantly, my research provides novel qualitative data about the symbolic changes emerging in the surrounding communities of the salt flat and how notions of territory and territorially emerge in response to these changes. Most of all, the findings and analysis I present in this thesis, provide a picture of the Uyuni salt flat and its communities *ex-ante* the industrialisation phase of lithium and potassium chloride, therefore, in the future, important elements may be contrasted.

Having discussed the theoretical contributions of this thesis, in the next section I discuss the limitations of the analysis and future research topics.

7.4 Limitations, recommendations and future research

In this research, I expanded the focus from a resource (lithium) to the landscape in which this resource is extracted and transformed. This emphasis allowed me to analyse the spatial delimitations and social struggles emerging over a period of 40 years and to explore lithium as the culminating point in the commodification of this landscape rather than as the main cause. However, this approach limited a deeper exploration of three key topics: tourism, water management, and the prospects of the Bolivian project in the international market.

Considering the complexity of this case, I had to narrow the analysis to evaporite mining and due to a limitation of time and resources, in the fieldwork I was unable to further explore water issues and the relevance of tourism in the commodification process of the salt flat.

Despite including both topics in the analysis, in my view each of them deserves a separate study. Water is an essential materiality in the brines, the extraction of lithium and potassium are water intensive and they are located in a region where water is scarce and this could be a potential source of conflict as identified by Prior et al. (2013). The amount of water required for the industrial phase of lithium extraction in the Uyuni salt flat is significant ($420,000 \text{ m}^3/\text{month}$)¹²⁶ yet, no research has been carried out to explore the effects on the surrounding communities and what actions are necessary to mitigate the ecological footprint lithium mining will have.

During the fieldwork, I perceived how sensitive the water topic was for mining actors in general, but in particular for those operating in the salt flat. In this regard, it is important that future research assesses the social relations and conflicts emerging from water use and access in the salt flat.

Another important avenue for future research, is the exploration of tourism. The topic deserves an historical investigation since it is a key element in both the local economic dynamic and the symbolic change of the Uyuni salt flat. Furthermore, during

¹²⁶ Estimation provided by personnel of the GNRE during the visit to the pilot plant in Llapi (November 2014). It includes the amount of water required for the production process and the base camp.

fieldwork, different perspectives showed internal grievances between the municipalities due to the distribution of benefits, touristic routes and the ecological impacts this activity has on the ecosystem.

Finally, although I discussed the international background of the market of lithium above, my methodology kept a strict focus on the local level. Accordingly, future research is needed to explore two key elements: the insertion mechanisms and effects of Chinese capital in this industry; and the future conditions of partnerships the Bolivian government will make in the battery production phase.

This research was motivated by a personal aspiration to contribute towards the advancement of knowledge and debate about the Uyuni salt flat and the impacts of mining activities on this unique ecosystem. The recommendations stemming from this thesis are two: firstly, this research shows the history of the southwest region, and that the way local actors structure their perceptions and narratives in relation to the salt flat, mining activities and the lithium project in particular, is highly relevant and can influence resource governance and the future success of the Bolivian industry of lithium. So far, the GNRE and the lithium project have mostly focused on technical elements; the community strategy of participation implemented by the GNRE shows important deficiencies as discussed in Chapter 5 and most importantly, there is not a transparent and open debate about the potential impact this industry will have at social and environmental levels. Therefore, a comprehensive approach is urgent in this case to address these issues.

Alongside this recommendation, it is also important to explore mechanisms of conflict prevention and management in relation to the distribution of future revenues of lithium. As explored in Chapter 5, the departmental and municipal scales seek an active involvement in the distribution and decision making of lithium. Without any doubt, if the state-owned project is successful, lithium will be the next trigger of internal conflict in the country.

7.5 Concluding remarks

Throughout this final chapter, the most prominent findings from the thesis have been highlighted and discussed. Collectively, the findings supported a new perspective in the understanding of social relations (in material, discursive and cultural terms)

emerging and shaping resource governance frameworks in the mining of evaporite resources.

The case of the Uyuni salt flat illustrates the political struggles emerging in the commodification and definition of resource governance frameworks between local communities, the State and mining actors. I have challenged two common notions of this landscape: either as pristine; or as the sole reservoir of the world's largest reserve of lithium. Both perspectives assume this landscape as external and an 'empty space' prone to be seized by the expansion of capitalism. Yet, as the history and perspectives of the local communities clearly illustrate, the Uyuni salt flat is a hybrid landscape constantly being transformed and co-produced by its biophysical features in intersection with symbolic meanings, notions of space and territoriality.

Annex 1 – Ownership of mineral resources

	Código Minería 1997 – Law 1777		New Mining law – Law 535	
	Ownership of mineral resources			
	Characteristics	Article	Characteristics	Article
Management	COMIBOL is in charge of the administration without any direct involvement in mining activities and only through shared risk contracts and service leasing	Art. 91	The cooperatives are granted with mining rights (prospection and exploration or mining administrative contract) considering its nature of social interests and as a non-profit organisation. The mining activities must be done by the members, but the administrative, technical and advising activities might be subcontracted to other staff.	Art. 127
			The pre-constituted rights are respected in relation to: ex-concession areas (ATE's), lease contracts with COMIBOL in relation to private concessions or nationalised mining areas, shared risk and lease contracts with non- state mining actors and other private companies.	Art. 129, Art. 130
			The holders of administrative contracts cannot transfer their rights	Art. 136
			The cooperatives cannot subscribe contracts of association with private companies (national and international). In case of association they must constitute mixed companies subject to the respective normative.	Art. 151 – I to II

Exclusion	The State will confer mining concession to persons –individuals or collective, national or international- that make an application to the Mining Superintendence	Art. 2	The State mining industry is constituted by the Corporación Minera de Bolivia (COMIBOL) and by the State companies independent of COMIBOL.	Art. 32
	The mining concessions constitute a real right. It becomes an asset transferable, transmissible by heritance, able to be used as a mortgage and can be subject of any type of contract according to the law	Art. 4	COMIBOL on behalf of the State and the Bolivian people has the rights to mining activities of prospection, exploration, exploitation, concentration, melting, refining, commercialisation and industrialisation of minerals, metals, precious and semiprecious stones in the mining areas under its administration.	Art. 61 – I to III
	The Mining cooperatives should be legally constituted according to Law and will enjoy the same rights and obligations of all the mining concessionaries.	Art. 21	COMIBOL has the direct right to associate and sign contracts with other productive actors.	Art. 25
			COMIBOL has the preferential right on mining areas The State can define and reserve strategic minerals to be exclusively exploited by the State company however, respecting pre-constituted rights over these resources. The reserved areas for State exploitation include: the brines and salt lagoons: Uyuni, Coipasa, Chiguana, Empexa, Challviri, Pastos Grandes, etc. IT declares Lithium and Potassium as strategic elements to be developed by the mining public companies	Art. 26 – I to IV
			COMIBOL will keep the mining rights over the mining areas and spots of the nationalisation of mines.	Art. 62
			COMIBOL will develop the basic processes of the evaporitic resources with	

			100% participation of the State in the production and commercialisation of lithium Chloride, lithium sulphate, lithium hydroxide, lithium carbonate and others. The posterior processes of semi-industrialisation and industrialisation will be done through association contracts with private national or international companies, keeping a majority of ownership by the State. It is recognised the rights of exploration, production and commercialisation of the salt (sodium chlorite) in the salt flats of Bolivia by local and cooperative organisations, respecting the pre-constituted rights.	Art. 73 – I to V
Alienation	The State has the primary domain of all the minerals – whether above or underground. The State establishes the mining concessions to individuals or collectives national or international	Art. 1 Art. 2	All mineral resources whatever its origin on the ground and underground of the territory are property and direct domain of the Bolivian people and its management corresponds to the State The mining resources are strategic because they are non-renewable and represent a primary source of fiscal resources and employment The State declares the industrialisation of mineral resources a strategic national priority The State with the participation of productive actors is in charge of promoting and incentive the diversification of mining activities in all the territory.	Art. 2 Art. 8 Art. 9 Art. 11 Art. 131 Art. 92 Art. 93

			The State on behalf the Bolivian people recognises and concedes through the Autoridad Jurisdiccional Administrativa minera (AJAM) (Mining administrative jurisdictional authority) the mining rights to certain mining activities of the productive chain to the productive actors of the State, the private and cooperative mining industries.	Art. 13 – I to III
			The mining rights confer to the holder the rights of prospection, exploration, exploitation, concentration, meting, industrialisation and commercialisation of mineral resources.	Art. 132
			The mining rights do not confer to the holder the property rights in the mining areas and they can't lease/rent the mining areas.	Art. 94
			The mining areas are the geographical extension granted for activities of prospection, exploration and exploitation.	Art. 95
			The mining spots (paraje minero) are the residuals, mine entrances, levels, slags, and similar. Since the mineral resources are property and domain of the Bolivian people under the administration of the State both: mining areas and mining spots are non-transferable, non-confiscable and not subject of inheritance succession.	Art. 97
			The mining rights to be granted would require the approval of the Plurinational Legislative Assembly.	

			The pre-constituted rights of private, cooperatives and the State companies regarding private ownership (concessions) are recognised and respected by the State. The owner of mining rights has the domain, free disposition and taxes over the investments, mining production, assets, equipment and machines inside and outside the mining area. The mining actors have the right to receive profits from the mining activities, including the foreign profit remittances according to the tax norms	
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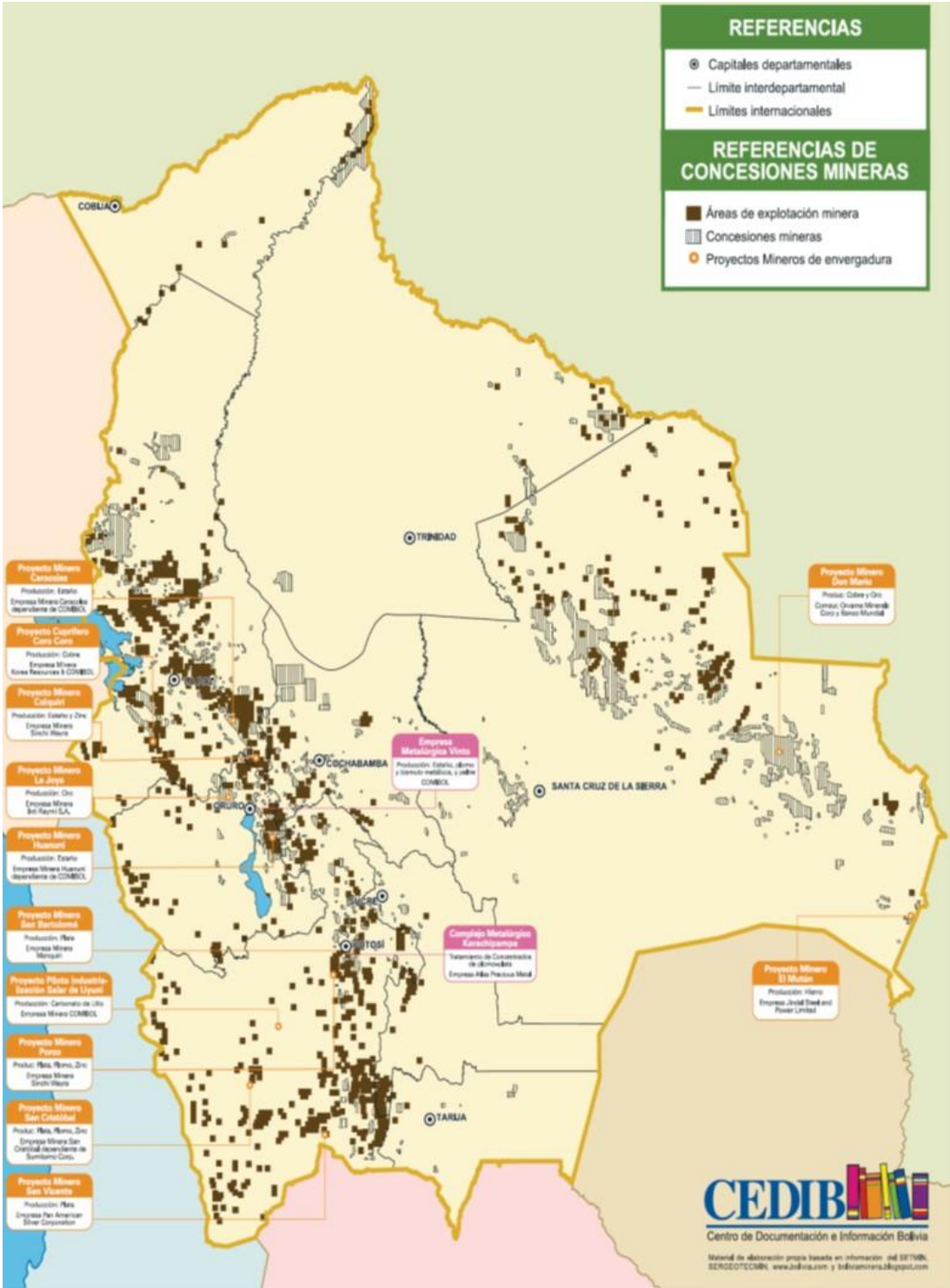
Source: Own elaboration and translation based on Law 1777 and Law 535

Annex 2 - Water rights

Código Minería 1997 – Law 1777		New Mining law – Law 535	
Water			
Characteristics	Article	Characteristics	Article
The mining concession area includes access and withdrawal rights to public land, construction materials including wood and others.	Art. 35		
The mining concessionaires are allowed to use and take advantage of public water within the area with the duty of protect them and restitute them to the watershed.	Art. 36	The holders of mining rights have the right to use natural water within the mining area and inside or underground the mine with the previous authorisation of the competent authority. In no case, the right of taking advantage of water sources should damage, affect or undermine water provision for human consumption, irrigation and the environment. All the mining activities must have the right management of hydric resources above and underground according to the environmental and sectarian norms.	Art. 111 – I to IV
If the concessionaire needs to alter the watershed, a written document must be done to inform the land owners and other mining concessionaires and neighbours. If within 90 days no person presents a claim to the Superintendence of Mining, it will be understood they renounce to their water rights.	Art. 38	When a holder of mining right doesn't have enough hydric resources in the mining area, he will be able to present a demand for water use to the competent authority without damaging the water use of third parties and the life systems of the Mother Earth.	Art. 112
No person individual or collective can stop the mining activities under penalty of compensation to the concessionaire and subject to penal sanctions. Only a judicial authority can suspend a mining activity in case of environmental emergency.	Art. 39		

Source: Own elaboration and translation based on Law 1777 and Law 535

Annex 3 - Map of Mining concessions



Source: CEDIB

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