

# **In the name of the environment: The political economy of socio-environmental conflicts in Altiplano mining areas of Bolivia**

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## **Introduction**

Conflicts provoked by access and control of territories and, hence, over the natural resources contained in those territories, are not new in the Latin American and Bolivian histories. Internal and external conflicts such as the War of the Pacific between Chile and the alliance Peru-Bolivia in 1879-1883, the Chaco War between Bolivia and Paraguay in the first half of the 1930s, and more recently the fears of divisional conflicts between the 'Media Luna' group (an informal political coalition of four departments from Eastern Bolivia) and the *Altiplano* (high plateau) departments are examples of how political interests are driven by economic motives aiming to access and control territories. These wars and conflict were not only motivated by patriotism feelings, but were also caused by the willingness of expanding access to the rich mineral resources contained in the Atacama desert, the presumed oil resources in the Chaco region, and to control the fiscal resources derived from gas and oil exploitations in the Bolivian Orient.

In more recent years, the implementation of neoliberal policies in most Andean countries has facilitated the entry of transnational companies (TNCs) into national economies and territories. Whichever the benefits derived from that new model, the increase of foreign investments in the extractive sectors of these countries has been followed by unexpected conflicts that have emerged in the territories where those investments have been located. Real or potential economic benefits have not been enough to offset the real or presumed social costs and environmental damage that the rise of extractive industries would have produced. In so far as the scale in which those companies operate articulate local, national and international spaces (productively, financially, managerially and politically), in the same way as the

organizations supporting the local population in conflict do, the outcome has been the spread of conflicts along national territories and regionally too. That has meant a significant threat to the governance of the particular territories where the resources are located and also to the governability of the entire national territory.

This paper aims to analyse the emergence of conflicts in areas with strong presence of extractive industries in Bolivia and postulates that, in order to understand the causes and developments of socio environmental conflicts, a framework centred in political economy elements is needed. Those elements, refer to: i) The institutional apparatus (public and private) that facilitate or constrains the entry of foreign investments; ii) the political context at national and subnational scales; iii) the extent to which local communities are organized in social movements; iv) the TNCs' style of intervention; and, v) the presence of a NGO sector, which apart from its concern upon disadvantaged local population, also transmits international position(s) upon environmental concerns. A second order of environmental factors happens to be due to the instrumental use of the environment. The environment in itself is not the main cause of conflicts, but an element that can be used in order to achieve other goals in the process of negotiation. That does not deny the importance of environmental concerns in some external agents, but strengthens the economic and social priorities of local stakeholders. Troubles in governance systems respond to the dominant position of one or another agent/stakeholder, which explains why outcomes could be different in terms of the amount and strength of conflicts, the possibilities for their effective management and resolution, and the implications for economic growth and good governance.

### **Mining in Bolivia**

It is often said that, since colonial times Bolivia has been 'a mining country' (c.f. Enriquez, 2002). Although that assertion can be relativized in more recent years based on the increase of hydrocarbons and a more visible participation of agriculture – the two other sectors that compete for the use of natural resources – it is a fact that mining is a key sector in the country economic structure. Between 1990 and 2005 mining was on average 3.9 per cent of the GDP, it accounted for 36.5 per cent of exports and directly absorbed 1.3 per cent of the active population.

Table 1: Macroeconomic magnitude of Mining, Hydrocarbons and Agriculture in Bolivia

Year	Percentage of GDP			Percentage of National Exports			Percentage of Public Investment (PI)			
	Mining	Hydrocarbons	Agriculture	Mining	Hydrocarbons	Agriculture	Mining	Hydrocarbons	Agriculture	PI funded by royalties
1980		4.9		61.9	23.7	14.5				
1985		5.6		39.1	55.5	4.9				
1986		4.3		30.9	51.1	14.8				
1987		4.2		35.3	43.6	17.1				
1988		4.4		45.0	36.0	15.8				
1989		4.4		47.3	25.2	18.1				
1990	5.9	4.3	15.4	42.7	23.7	13.2	0.5	32.1	8.4	
1991	4.5	3.4	15.5	39.8	26.9	10.0	1.0	28.0	8.0	
1992	4.4	2.9	14.4	48.9	17.3	6.1	1.0	22.0	6.8	0.0
1993	3.2	2.0	14.7	47.3	12.7	6.5	0.9	19.7	5.9	0.0
1994	4.0	0.9	15.2	39.0	9.5	9.5	1.2	20.3	3.2	0.0
1995	4.8	1.2	14.9	43.2	12.9	10.5	1.2	11.0	3.3	0.0
1996	4.6	1.3	14.2	36.9	10.9	12.0	0.9	9.1	3.3	0.0
1997	4.3	2.1	14.9	39.3	8.4	13.8	0.7	4.9	4.5	0.0
1998	3.6	1.9	12.6	32.8	7.3	9.3	0.7	0.5	10.4	4.7
1999	3.4	2.0	13.3	28.2	5.3	8.7	0.7	0.5	7.8	4.4
2000	3.4	3.2	13.0	28.8	12.1	7.6	0.5	0.0	9.0	3.2
2001	3.1	3.3	13.3	25.1	22.4	4.0	0.3	0.0	9.2	4.3
2002	3.1	3.4	13.0	25.2	25.2	4.5	0.5	0.0	9.2	5.6
2003	3.2	4.3	13.4	22.0	30.1	5.6	0.6	0.0	8.2	6.6
2004	3.4	6.0	13.4	20.2	37.6	5.8	0.2	0.0	8.2	7.3
2005	3.5	6.3	12.2	19.4	47.7	6.1	0.5	0.0	10.2	13.0

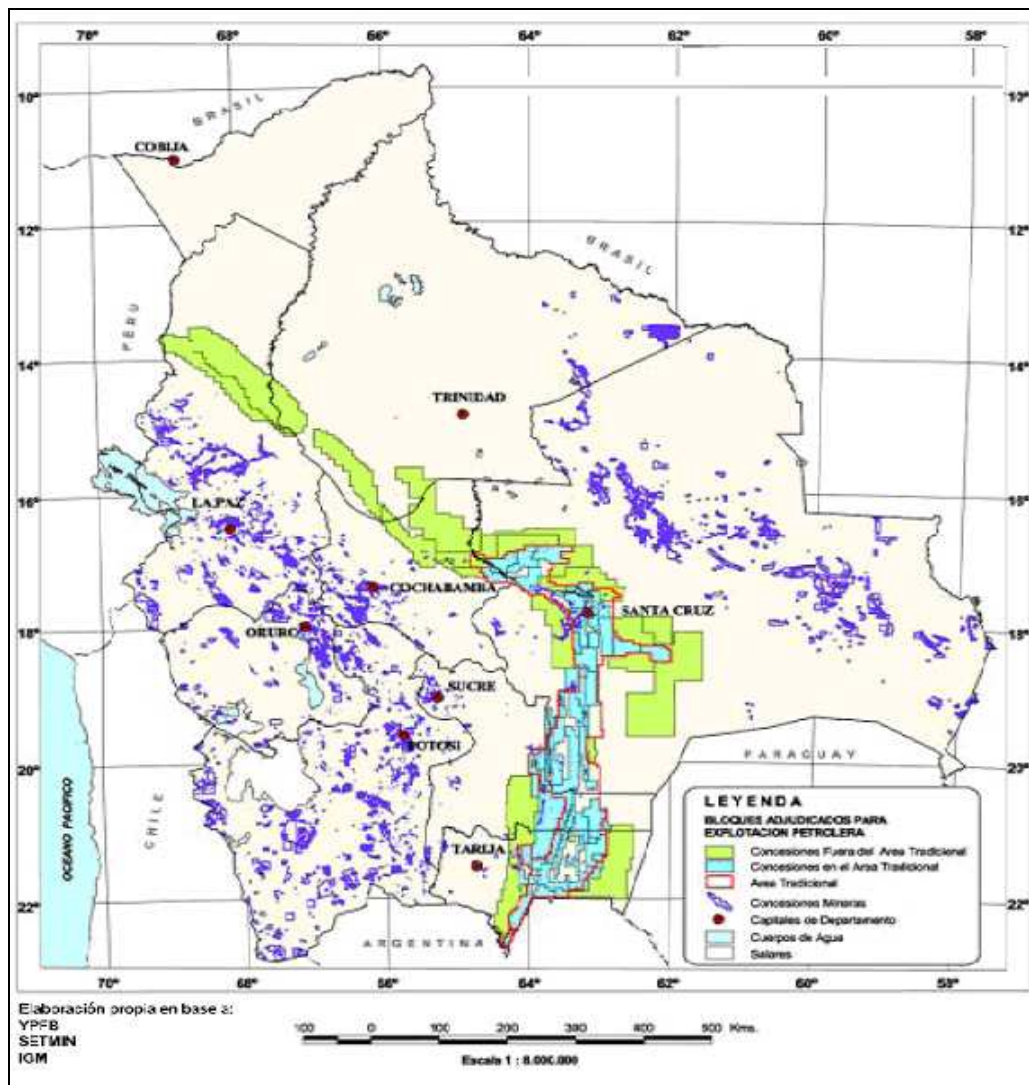
Notes: Blank cells = data not available. Exports until 1990 follow the classification of traditional and non-traditional, and from 1991 of economic activity.

Based on: INE (1997, 2006), Secretaria Nacional de Minería (1995).

Geographically, mining has also defined a singular landscape where mining activities and their externalities have shaped the rural space around those spaces rich in tin, silver, ores and

more recently gold. Such a landscape, defined at the beginning of the 1900s by Bolivian investors has not changed significantly in the last 20 years. Potosí, Oruro and some areas of La Paz are the main recipients of successive extraction projects. Despite the estimated substantial untapped mineral resources all along the Altiplano and some other areas of the country, and the radical changes in economic institutions and policies, significant new investments have not happen – at least not in the same scale that they did in other South American countries such as Chile and Peru. Furthermore, the few smelting and refining facilities that existed in Bolivia have reportedly not been well maintained since their initial construction, and the historical practice of exporting mineral raw materials overseas to be further processed remained the model for mineral exploitation in the country (Monahan, 2004, quoted in Anderson, 2004).

Map 1: Mineral and hydrocarbons concessions in Bolivia, 2001



From: Ministerio de Desarrollo Sostenible y Planificacion (2001)

What changed in the Bolivian mining sector are the hands under which those exploitations have happened. Until the early 1950s, the mining sector was controlled by big Bolivian miners such as S. Patiño, A. Aramayo and M. Hochschild – the so called ‘Tin Barons’ or ‘The Rosca’ group. The Bolivian National Revolution of 1952, carried out under the leadership the Movimiento Nacionalista Revolucionario (MNR), implied the nationalization of largest tin mines, the creation of the Bolivian Mining Corporation (COMIBOL), the generation of a cooperative model where workers were given a role in the mines management. The reversion of the revolution under Siles Zuazo's term in mid-1960s meant that workers’ role in the administration of the nationalized tin mines was eliminated. However, in 1969 a leftist faction of the military came to power implementing a new wave of nationalization and established again social benefits for the mining working class. Since that period the nationalized companies were concentrated in the Bolivian Mining Corporation (COMIBOL). COMIBOL was largely criticized for its lack of investments and poor contribution to the Bolivian economy and when international tin prices collapsed in the 1980s, the Unidad Democrática Popular’s (UDP) government decided abandoned the statist model adopted for the mining sector. In 1985 the Banzer's program, known as the New Economic Policy (NEP), promoted the liberalization of the mining sector in order to attract foreign investments and increase output. After the tin prices declined dramatically in 1986, COMIBOL was forced to close the majority of its mining operations and laid off about 30000 workers under a process of ‘relocation’ where most of them passed to a condition of new cooperative members. Additionally, American and Canadian gold companies were given all sorts of incentives to increase their mining projects in the country.

Ownership changes in the mining sector have also meant changing power relationships, that is, the extent to which different groups within the sector – large and medium private miners, the government mining corporation, cooperatives and workers – have controlled the country economy and politics. To this spectrum, in the last ten years or so a new group has made visible its presence in the set of stakeholders: peasants. The particularity of this later group is that it has become visible through the emergence of social and environmental conflicts, conflicts in which the NGO sector and the international community have also been involved.

### **The political economy scenario of conflicts**

Conflicts linked to the mining sector in Bolivia can be classified in three groups: labor, political and environmental. Labor conflicts can be seen as class-based struggles provoked by the desire to improve working conditions (wages, industrial security, social benefits). They

basically lay on working-class movements of protest and the negotiation processes that happen between mine managers (and eventually mine owners) and employees. Although third parties may intervene, the negotiation is circumscribed to the internal space of the productive unit (the private or public company). This is not to say that labor conflicts do not have a political dimension. In so far as they try to change the balance of powers among the parties in conflict, they contain a political element. However, such a political component is of different nature and the conflict does not attempt to produce significant change in the sector power structure, particularly if it is controlled by private firms.

Environmental conflicts oppose groups who coincide in a single territory and struggle for controlling the rights of access and use of that territory and the resources that it contains. Conflicts are also produced due to damages on the environment, which are considered as threats for the livelihoods and wellbeing of local population. With the increase of large (foreign) mining investments in rural and peri-urban areas, these conflicts engage several parties from inside and outside the territories directly affected. Notably, they involved civil society organisations – grassroots organizations as well as ‘the social movements organisations’ (Bebbington, 2007) – who operate at several scales in local and global spaces and whose visions of ‘the environmental’ differs among each other. Indeed, *the environmentalists* vindicate a position that in many cases is qualified as ‘anti-mining’ and, given the unavoidable environmental consequences from mining, advocate for a non-mining use of the rural area. The *socio-environmentalists* do not oppose the establishment of mining projects in the rural area, but raise concerns about the social implications of the conditions in which mines operate, mainly in terms of health, employment, resource conservation, and environmental damage mitigation and compensation. Somehow this group would lie on an ‘environmental justice’ position.

Political conflicts have to do more with struggles between different stakeholders who try to control the way in which the sector should be driven. They are provoked by opposite groups who get to articulate and represent a position. Groups may or may not be directly related to the sector and, in that sense, the space of struggle and negotiation goes beyond the firm and even the mining sector. Political conflicts include ‘macro-agents’, each one representing an interested party – i.e. large foreign and national companies, the association of national medium entrepreneurs, the cooperatives federation, the mining workers, groups from the organized civil society. The State plays a triple role in these conflicts. The most direct is when it makes part of the sector as a public mining company or corporation. A second role – less direct – corresponds to its function of regulating the sector and a third role lays on the State

policies and apparatus that guaranties order within the sector and the territories in which the sector operates, in other words its role in governance.

### *Labor Conflicts*

Conflicts in the contemporary history of the Bolivian mining sector have basically been of labour and political nature. Given the sector's importance in the economy and the dominant technology based on intensive labour, mine workers acquired a prominent role in the emergence of social movements from the country working-class. Six years preceding the revolution of 1952 and based on painful experiences of 'masacres obreras' (cruel repression of workers demands and protests) with state participation, the first national meeting of mining workers declared 'the Pulacayo thesis' establishing the following consigns inspired on Trotsky's thought (Condori, 2007: 43): i) Minimum wage and a moving scale of wages; ii) 40 hours of weekly working periods and multiple periods; iii) The right to a job. If the capitalists had not been able to guaranty enough jobs, direct control of mines by the workers should have to be done; iv) Workers' control over the bourgeoisie's [the capitalist miners'] habits of ownership and fraud [against the State]; v) Armament for workers; vi) A proletarian dictatorial government led by an alliance of workers and peasants; vii) A federation of socialist republics in Latin America.

This confronting position, led by mining workers within the 'Central Obrera Boliviana' (COB), lasted for more than 38 years. Even under the apparent co-government of the MNR and the working-class unions, COB continued to struggle against the successive dictatorships and the Bolivian Mining Corporation (COMIBOL) – the outcome of the nationalization process initiated in 1952 and disqualified as an instrument of 'the imperialism' and 'the American influence' that defended private interests.

Although the mining union (the FSTMB) claims to have been a single force all along those decades, it is also true that parties inside the COB were successively coopted by governments, in turn provoking division among the working-class and the significant raise of 'white-collar' workers in the COMIBOL and other government dependencies. The conquest of democracy in 1982 meant for the mining workers a new opportunity in which the group – and particularly the leaders – would have tried to defend a statist regime and to take control over the COMIBOL. That did not happen and, instead, the sector crisis, aggravated by the collapse of tin prices in international markets in 1986, implied the liquidation of the COMIBOL and with it the emergence of a big new group of 'cooperativists' – most of the 30,000 COMIBOL workers who were 'relocated' in new cooperatives. The economic crisis brought too the loss

of a dominant political power that traditionally had the mining sector among the social movements with repercussion on its presence in other formal spaces of the country politics. That was translated in the most recent dominance of the (Aymara) indigenous movement that put in power Evo Morales (from the coca-growers sub-sector), and in whose presidential election the FSTMB and the National Federation of Mining Cooperatives (FENCOMIN) played a secondary supportive role.

### *The revival of the private sector under neoliberal policies*

The way how the extractive sectors have evolved in Bolivia to a great extent responds to the establishment of a neoliberal macroeconomic framework since 1985 under Paz Estenssoro's (from the MNR) government. Such a set up took action due to the unmanageable economic, political and social disorder provoked by former nationalist and popular policies (CEMYD 1990, Luna 2002), a situation that was aggravated by the collapse of tin prices in the world market as a result of a falling world demand and the selling of reserves by the United States. With regard to the Mining sector, the neoliberal policies implied (Government of Bolivia: DS 21060, 21377):

- The decentralization of COMIBOL in four subsidiary sections grouping exploitations in the Northern, Southern, Center and Orient regions.
- A restructuring process of COMIBOL that aimed to 're-enabling' its development in the medium and long run, and meant a legal set-up to strongly reduce its labour charge through the so-called 'relocation' process.
- Rental contracts between COMIBOL regional sections and cooperatives (particularly those formed by ex-COMIBOL workers)
- Free contracting and commercialization of mineral and mining products
- The capitalization of public enterprises
- The modification of mining royalties and patents according to scales of production, type of metals and profit levels.
- The formation of the Bolivian Mining Task Force aiming to advice and produce a development strategy with projects to be funded by the World Bank.
- Devaluation and adoption of a crawling peg exchange rate regime without a preannounced path (IMF, 2007).

Next to the economic reform in the 1980s, the institutional reform in the 1990s included changes in the tax system applicable to the mining sector; this was initiated in 1991 and



concluded in 1997. The reformed system establishes a unique regime based on a combination of taxes to profits (the Impuesto a las Utilidades Empresariales – IUE, fixed at 25%) and a complementary tax (the Impuesto Complementario a la Minería – ICM, with a variable aliquot according to prices fluctuations). In so far as the IUE can be credited against the ICM, the real tax burden is reduced to the highest one. Together with this, and to motivate the reinvestment of profits in the country, profits repatriation was taxed at 12.5 per cent.

With regard to the use of fiscal resources generated in the sector, the reform included transfer of competences from the central government to the *prefecturas* (regional governments), both for control and administration of fiscal resources.

Some main results of the implementation of this neoliberal model have been:

First, a significant reduction of mining workers whose number dropped between 1985 and 1988 from 30174 to 7213. Some of these were absorbed by new cooperatives created on the basis of 7441 ex-labourers (CEMYD 1990). The rest had to migrate to urban areas and neighbour countries (Argentina and Chile), to new colonization areas (mainly in the Orient) and some zones of small-scale gold reservoirs.

Second, it was strongly recommended that COMIBOL and Bolivia ‘should focus only on those metals in which it can achieve a comparative production costs advantage as might be possible with small high-grade tin mines and with large scale silver production as examples’ (Stolberg Ingenierberatung Gmbg, 1987, quoted in CEMYD 1990). Similarly, exploratory, productive and marketing activities should be taken out from the State and left to the private sector.

Third, despite the new economic model, public investments in the mining sector grew between 1987 and 1990 and then dropped significantly until being zero in 1998. In contrast, private investments increased based on a strategy of new joint-ventures between transnational companies and ‘large’ Bolivian firms oriented to exploit gold and poli-metals (zinc-silver-lead). Under this scheme the most important – and the single one for about 7 years since the de new model was implemented – was the Inti Raymi mine, which brought US\$ 150 millions from the Bolivian-American consortium Zeland Mines-Battle Mountain Gold Company. Main investments in the poli-metals sub sector came from the consortium Compañía Minera del Sur (COMSUR)-Río Tinto Zinc, who invested about US\$ 30 millions between 1991 and 1994 in two mining sites (Porco and Bolivar, both in Potosi). Finally, Andean Silver invested

about US\$ 100 millions in the poli-metals complex of San Cristóbal (also in Potosi) between 1996 and 2000 (Banco Central de Bolivia, 1999, quoted in Enriquez, 2002).

Fourth, in aggregate, production of the four main metals increased significantly since 1986 until nowadays. Growing volumes of production, however, responded to different actors in time. Indeed, without major private investments until the early 1990s, for several years the small companies, the cooperatives and what remained from the State moderated the downfall. Since 1992 the increase can be mainly attributed to big companies. Nevertheless, the increase of volume could not lessen the effects of decreasing prices and, hence, the sequential decrease of export values. (See Table 2)

Table 2: Bolivia, effects of neoliberal policies on the Mining sector  
(Index numbers)

	Mining GDP	Mining Exports	Investments			Volumes of production			
			Public	Private	FDI	Zinc	Tin	Gold	Silver
1990	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1991	103.3	87.4	274.0	116.2	142.2	129.0	107.3	68.9	104.0
1992	105.0	92.9	354.0	115.6	256.4	143.6	106.3	44.4	112.5
1993	113.7	93.8	303.3	93.8	195.4	125.3	96.4	146.7	125.9
1994	113.7	107.4	389.3	101.2	263.9	107.7	101.3	213.3	112.5
1995	125.3	125.2	418.7	56.8	509.0	148.3	85.8	235.6	129.0
1996	119.2	117.2	344.0	52.7	648.3	150.1	80.6	213.3	116.2
1997	119.5	122.5	243.3	26.8	1295.9	155.6	86.5	228.9	116.2
1998	118.9	106.7	245.3	2.4	1557.0	156.3	71.2	266.7	124.4
1999	113.2	97.4	262.7	2.7	1533.3	146.1	77.7	222.2	123.8
2000	114.9	104.2	197.3		1263.2	152.8	84.2	217.8	141.2
2001	111.3	83.4	138.7		1331.0	136.7	69.8	239.0	131.9
2002	111.4	85.1	181.3		1515.9	136.5	76.6	217.7	148.4
2003	112.2	90.6	190.7		860.3	140.1	95.0	180.8	150.2
2004	103.1	112.1	76.7			142.0	105.0	119.1	132.9
2005	115.0	133.5	100.7						

Notes: Blank cells = data not available.

Based on: INE (1997, 2006), Secretaria Nacional de Minería (1995).

Fifth, most of the mining areas, formerly declared as fiscal reserve, were made available for exploitation<sup>1</sup>. This was accompanied by the setting up of a modern system of mining concessions – which got significant support from the Canadian Cooperation (CIDA) – reducing the timing from 720 to 120 days and allowing a higher precision of the areas to be granted.

Sixth, as a result of the tax system reform, the tax rate has fluctuated around 2% between 1986 and 2000, with clear signs of stability since 1997 when a new Mining Code was instituted (Enriquez, 2002). The effect of this on the mining regions' public budget was significant. New fresh tax flows were transferred to the *Prefecturas* (100% of the ICM). However, in so far as the tax reform did not establish any mechanism to use those resources within the department (i.e. shares of distribution among municipalities and communities, or participatory channels for the elaboration of prefectural budgets), mining rents would have been used at discretion of local politicians (Loayza et.al. 2000).

Seventh, in parallel to those developments, the evolution of other economic sectors shows a positive tendency of growth. According to official statistics, between 1990 and 2005 the economy grew at an average annual rate of 3.53 per cent. Mining and Agriculture, the two sectors mainly located in the rural area, grew at 1.08 and 3.25 per cent in average per year, respectively. Mining absorbs 2.33 of active population in the urban area and 1.96% per cent in the rural area. Agriculture means almost 42% per cent of the working rural population. The Index of Human Development rose from 0.563 in 1992 to 0.669 in 2005.

Eighth, in spite of all those positive developments experienced in the last 20 years, Bolivia has yet critical levels of poverty as well as country and regional inequality. These have been mostly critical in the rural Altiplano where main mining departments such as Potosi and Oruro expose a stringent contrast between the wealth they produce and the overspread poverty. At country level, poverty incidence in 2001 was estimated in 71 per cent (61 per cent in urban areas and 88 per cent in rural areas) and national income inequality has been estimated in 0.46 for 1999. More critically, the difference between both areas with regard to extreme poverty is 40 to 74 per cent (UDAPE & INE, 2006). Potosi is the department with the highest rates of poverty and Oruro is second in extreme poverty levels. Income-wage difference in the mining sector between the urban and rural areas is almost 2:1 (INE, 2005). Whilst cities like La Paz and Santa Cruz have HDIs of 0.730 and 0.759, rural municipalities

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<sup>1</sup> The only exception was the Salar de Uyuni, which contains huge reserves of lithium, and is also a preserved area as the world largest salt desert.

in Oruro hinge around 0.568 and those in Potosi are in a range of 0.340 and 0.554 (PNUD, 2005).

Much of these differences can be used to explain the emergence of social and political conflicts in areas where extractive industries have expanded. The fact that part of these conflicts has appeared invested as socio-environmental conflicts responds to two influential factors: first, local population's ideas – backed up by strong informal institutions and weak formal institutions – on access and control of natural resources like land and water are embodied in a broader concept of territorial dominion; second, the influence of some actors from the civil society whose awareness of and agendas on socio-environmental issues have printed out an 'environmental stamp' on many social organizations and their movements who primarily vindicated economic priorities.

An argument for this suggestion is developed in the following section based on the study of a case composed by a mine (Inti Raymi) and a department (Oruro).

#### *Environmental conflicts*

Openly declared 'environmental conflicts' linked to the expansion of the mining industry in the Bolivian Altiplano started quite recently. However, setting up the pre-conditions for making those conflicts visible, there is a series of events where government and civil society organizations – fundamentally NGOs – have played fundamental roles. The short summation of these goes back to the preparatory events for the Rio Summit in 1992 where organizations like LIDEMA (a consortium of NGOs to defend the environment) brought an environmental agenda based on two principles: the incorporation of environmental awareness into public policies – notably those regarding the mining sector – and the establishment of some legal mechanisms for mitigation and compensation in case of environmental damage. Both were made effective through modifications in the Mining Code and the Environmental Law 1333, together with the administrative and financial implementation with support of the World Bank, the Inter American Bank, bilateral cooperation agencies from the United States, Germany, Holland and Japan, and some international NGOs like the World Resources Institute (Enriquez, 2002). Studies, programmes and projects made part of the package for more than 10 years.

As in many cases, however, all these initiatives, effort and willingness for improving Bolivia's abilities to be on a sustainable development path and reduce the likelihood of the

emergence of conflicts, were not enough. Some structural factors of the country's economic base and society have not yet been addressed. These regard the following aspects.

i) Scarcity and poverty of resources

In Altiplano departments, like Oruro and Potosi, soils for agricultural use are scarce (less than 7 and 14 per cent respectively), but between 57 and 47 per cent could support livestock activities (INE, 2005). Given the extended practice of extensive animal husbandry, pressure on land and water is always present. Although agriculture represents a small proportion of rural income, animal husbandry (sheep and llamas) keeps a double role in rural household's economies. It makes part of the household diet as it is also a 'cash-flow box' to afford non-food expenses, and it is an activity that makes part of people's livelihoods – particularly of the elderly – with an intangible (non-economic) value. That induces competition for land use between mining and livestock-rising wherever the two activities coincide in the same territory, and it also induces concerns about overall contamination due to mining activities, even in areas far away from mining sites. Furthermore, the fact that livestock is an asset with market value makes of it the means through which local population perceives (or believes perceiving), measure, negotiate and claims compensation in case of environmental risk and damage.

Water is by far a scarcer resource. Rainfall in the Altiplano is low and decreasing from North to South. The two main sources are the Desaguadero river, which runs between the Titicaca lake in La Paz and the Poopo lake in Oruro, the former of freshwater and the latter salty and shallow. Given the soils salinity waters become salty as they approach Oruro, consequently are less useful for agriculture or consumption. Sources of drinking water for urban and rural population are underground reserves that need to be pumped out. Given the costs involved in doing this 80 percent of Oruro city has access to clean water and less than 60 percent would have it in the whole department.

ii) The urgency of economic priorities in people's livelihoods

Given the restrictions of the natural environment, people's livelihoods rely on two main activities: migration and livestock. Migration has two destinies, Oruro and other Bolivian main cities, and increasingly Northern Argentina. The main expectation of a rural Orureno is, then, employment. Production and income derived from farm activities are more and more complementary to the household economy (Urioste et al, 2007).

On that basis, valuation of the natural environment is reduced to a ‘minimum safety net of resources’ (whatever strictly allows the household to reproduce its labor force). Beyond that threshold any value attached to accessing to more land or water depends on the opportunity it will have to be marketed, for instance to sell the resources to mining companies. The multiple forms created to keep control of land (settling down the elderly in the communities, crop and livestock-sharing, and rental) or in some cases misuse and abandonment (Urioste. op.cit) are testimonies of this. In these circumstances, real and presumed damage to the environment caused by mining activities is contested on the basis of *who* the provoker of the damage is. Indeed, in Oruro mining contamination is spread all over the department and this has been caused by COMIBOL mines, private companies such as EMIRSA and Sinchiwayra, and the thousands of small cooperative miners. However, ‘environmental’ concerns and conflicts are basically denounced and brought to the point of conflict when big companies are involved. On one hand, it is difficult for the population to complain against the state because it has been one of the big polluters as well as employer, and nowadays is supposed to be the regulatory agent. On the other hand, complaints against the cooperativists are difficult to sustain given their strong family and social ties with the rest of rural population. Finally, when conflicts involve big companies, each time that some ‘environmental’ concern appears, new requirements of jobs or contracts are also put on the negotiation table.

### iii) Institutional land issues

Access to land in the rural Altiplano is possible under two mechanisms: the market in those areas where private ownership is allowed and community membership in the rest. Within communities, individuals are private owners of the plots they control for agriculture purposes, while lands for livestock use are of common use and ownership. Despite the rights for land use that individuals and communities have, unless they are declared ‘indigenous communities’ (which in Oruro do not occur even though the Aymara and Quechua population is predominant) they do not possess rights on the under-soil. Underground resources belong to the State; as such it can negotiate, expropriate and take full control – at least on legal and institutional grounds.

In practice, access and control of land happens within broad territorial and institutional frameworks. The ways in which land rights and ownership have evolved after the land reform initiated in 1953 are rather based on community-based (hence ad-hoc) institutions which, although were useful and efficient to allocate resources among households, once communities are exposed to new relationships with more formal actors (i.e. big mining companies and some agents from the State) and the rural area opened up for new activities, these are

insufficient to guaranty solid basis for fair and sustainable resource allocation. Indeed, as Urioste et. al. (2007) suggest, a very low percentage of community lands are legally recognized. Individual titling inside communities has happened *de facto* and what can be observed is a mixed regime that combines individual and common ownership. The law, however, does not allow such combination. Communities should opt for collective ownership (under the modality of ‘lands of communitarian origin’) or pass to individual private ownership.

In a context where there is strong interest from private companies and the State for the most profitable use of rural territories, a weak institutional framework on land and water rights only contributes to the emergence of conflicts. Despite the legal arrangements between mining companies and the State, and the initial communities’ consent for mining activities, negotiations between companies and local population – with or without State intervention – are endless, involve high transaction costs both to the company and the population, and become a potential source of conflict. These regard land prices, use of water, the involvement of community members in mining operations (as workers, service-providers, contractors and the like), identification of environmental damage and establishment of compensating mechanisms. For instance, Inti Raymi had to pay up to three times for the same land, the use of the Desaguadero river for filling in the open pit was made *de facto*, and the long standing environmental audit has been delayed due to, among other causes, the difficulties for establishing the *just* boundaries of the assessment.

#### iv) Territorial aspects

The dispute over the rural territory in Bolivia, although strongly based on access to land and the benefits derived from its possession, goes beyond the only sense of economic possession. The willingness of territorial control has also to do with a sense of ownership and belongingness that restraint a complete detachment from the rural space. The several meanings that natural resources have to local population (either economic, religious or mythical) produces a complex set up in which territorial rights are claimed. This has implications for any kind of commercial transaction between non-rural agents (e.g. mining companies or the State) and local rural population. They also shape discussion and decisions on territorial ordering and planning.

Although this is not a new theme in countries like Bolivia, developments made on international agreements about indigenous people’s rights – like the UN Declarations and Resolutions – and the ascent of ‘indigenous movements’ into local and central governments

have strongly brought into political debate the ‘territorial issue’. This influences the relationships between mining companies and communities in a way that gives communities additional (formal) means to defend their rights and eventually negotiate in better terms with external agents, but it also provides an incentive to divide the rural territory and to produce compartments of new ‘indigenous’ territories – particularly wherever mineral resources or hydrocarbons have been proved or are suspected to exist. This, as well as it becomes a defensive mechanism that aims to politically strengthen the groups disputing a territory on the basis of common property, is also a ‘strategic move’ to access and control highly profitable natural resources.

An additional effect of this is that it introduces new sources of potential conflict between local groups in some regions – particularly where land conflicts exist – and between regions in the country. The intention of dominant powers is, then, not only to ensure territorial rights to extract natural wealth, but also to facilitate the consolidation of a geopolitical power whose economic implications reinforce their control over territories.

v) The asymmetrical relationships between and inside civil society organizations

Organizations of social movements (Bebbington, 2007), i.e. those civil society organizations who advocate for the rights of local population and provide logistic and financial support to confront the unjust practices of mining companies and the State, act at several scales – locally, nationally and/or internationally (Bebbington and Hinojosa, 2007). These organizations put in place a mix of strategies which respond both to the needs of grassroots organizations and to own agendas. The strength or the weakness of the relationships between local population (their grassroots organizations included) and the organizations of social movements relies precisely on the balance of people’s needs and aspirations and the organizations’ aims.

Similarly, the coherence of action within the NGO sector, and hence its strength, depends on how the NGOs manage a balance between their different mission, strategies and positions in regard to extractive industries and social and environmental conflicts. In the Bolivia case there have been periods in which such a balance was achieved and produced institutionalized spaces for formal coordination and new organizations – for instance networks of environmental NGOs such as LIDEMA and FOBOMADE. However, there were also periods when the unbalance gave place to lack of cooperation, isolation and even rivalry. Opposite positions among NGO actors hinged around three aspects: First, whether the NGOs should confront big companies; second, what capacity they have to do it; third, how the troubles



produced by extractive industries should be raised and contested. Made progress on the former two, the heart of the discrepancy was about an ‘environmentalist’ versus a ‘socio-environmental justice’ position. Although the divide between the two could be narrow on theoretical grounds, in practice it does make difference and brings implications in the ways in which NGOs relate with grassroots organizations and cooperate within the NGO sector.

Those differences have implications on the outcomes derived from conflicts and even on the popular understanding of ‘who are really conflicting: Is the problem between the mining companies and the population, or is it between the companies and the NGOs? As such, the *disappointment* that some organizations from the NGO sector have produced – and eventually been expanded to the whole sector – is due to the expectations that individuals and organised actors (from the civil society, the State or the private sector) have created upon the role that NGOs and similar organizations should play.

vi) Knowledge gaps

Another controversial aspect in any conflict is the ways in which facts regarding the sources of conflict, i.e. the evidence about social and environmental damage and its magnitude, are perceived, communicated and discussed by each one of the actors involved in the conflict. What can be observed is a gap between ‘modern’ and ‘traditional’ knowledge. Whilst companies – and usually the central government too – base their position on the technical grounds of environmental impact assessments, project appraisals and the like, local population and grassroots organizations make their claims based on popular knowledge.

The same happens with the set of formal regulation regarding relations between the mining industry and communities, territorial legislation and the state competences on resource allocation and conflict management. In addition to the complexity of how legal terms are formulated and interpreted, language barriers are an additional source of misunderstanding.

At the end, the result of these gaps is mistrust of each other and of the agents who carry on with the studies, and a sense of unfairness in whatever outcome is provided to manage and solve the conflict.

**Final remarks of a research in progress**

Since the 1990s Bolivia has been scenario of contrasting developments in terms of its economic growth and revival of extractive industries, its political struggles, the social and

indigenous movements that in parallel have emerged and the ways in which the environment has been used for articulating disparate aims and interests.

A political economy reading of those developments shows that – however its significance – the environment has to be placed in its exact dimension for a better understanding of the causes, routes and outcomes of environmental and socio-environmental conflicts; a distinction worthy to be made given the implications for analytical interpretation and policy making that it implies when the destiny of rural territories and the best allocation of natural resources come into debate.

More than answers, what can be provided to that debate are standing points on which the diverse positions in conflict can be understood and questions that can only be expected to be solved within the economic and political processes in course. Some of those questions are in regard to: What are the optimal uses of the rural territory? How to get a social and geographical balance between wealth creation and people's rights to self-determination? What kinds of governance models would be more appropriate to diminish the occurrence of conflicts? What roles for external agents such as the NGOs are more suitable?

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