



Diego I. Murguía, Kathrin Böhling

Sustainability reporting on large-scale mining conflicts: the case of Bajo de la Alumbrera, Argentina

Originally published as:

Diego I. Murguía, Kathrin Böhling (2013):

Sustainability reporting on large-scale mining conflicts: the case of Bajo de la Alumbrera, Argentina

In: Journal of Cleaner Production, 41, 202-209

DOI: 10.1016/j.jclepro.2012.10.012

Diego I. Murguía ^{a*}, Kathrin Böhling ^b

Sustainability reporting on large-scale mining conflicts: the case of Bajo de la Alumbrera, Argentina

^a Wuppertal Institute for Climate, Environment and Energy, Döppersberg 19, 42103 Wuppertal, Germany

^b Technische Universität München, TUM School of Management, 85354 Freising, Germany

* Corresponding author: Diego I. Murguía, Wuppertal Institute for Climate, Environment and Energy, Döppersberg 19, 42103 Wuppertal, Germany

E-mail: diego.murguia@wupperinst.org

Phone: +49-202-2492-293

Fax: +49-202-2492-138

Sustainability reporting on large-scale mining conflicts: the case of Bajo de la Alumbrera, Argentina

Diego I. Murguía, Kathrin Böhling

Abstract

Multinational mining companies operating in Latin America increasingly publish sustainability reports which outline their contributions to sustainable development. Companies argue that reports help communities better understand the importance of the benefits created by mining. However, we argue that sustainability reporting can only play a role in improving a company's performance and reputation if the quality of the reported data is good enough to answer community-raised contentious issues and if such are tackled through a stakeholder engagement process which includes 'anti-mining' groups. The paper examines a mining conflict in Argentina's Bajo de la Alumbrera open pit mine. The assessment is based on a content analysis of Alumbrera's Sustainability Report (SR), primarily from 2009, complemented with insights from the 2010 and 2011 reports. The study reveals that environmental and economic indicators are the most contentious and least reported. The reports examined only briefly acknowledge these issues, and fail to detail the procedures followed to identify and engage stakeholders.

1. Introduction

The investment boom in large-scale metal mining projects in Latin America during the last decades has been accompanied by numerous social and environmental conflicts (Bebbington et al., 2008; Jaskoski, 2011; OCMAL, 2012). Contending parties include multinational mining corporations, national and local governments, international and local NGOs, self-organized local groups, the media, and scholars analysing the conflicts and the stakeholders involved. Conflicts are caused by various factors such as an inequitable distribution of risks, impacts and benefits (Kemp et al., 2011), bad governance practices (Robinson et al., 2006), stakeholder power inequalities, perception gaps and cultural contexts (Calvano, 2008), among others. However, particularly critical is the use of open pit technology for the extraction of low-grade mineral deposits in large-scale operations, nowadays the preeminent technique to extract metals since ore grades have been decreasing over time (Mudd, 2004). This method requires an intensive use of resources (i.e. water, energy, land) and delivers large-scale social and environmental impacts. These often result in the costs outweighing the benefits for society and the environment. This triggers the appearance of disputes, which, if not properly tackled, can escalate to a point where local communities exert economic costs to companies including project delays, damaged infrastructure, harm to reputation and possible negative financial consequences or even the shut down of mines (Franks, 2009; Kemp et al., 2011).

Facing these concerns, corporate social responsibility (CSR) and triple bottom line-driven sustainability reporting with a view to community relations have emerged as a crucial strategic consideration for mining corporations (Jenkins and Yakovleva, 2006) to show what they are doing (Marimon et al., 2012) and with expectations of gaining a better global competitive position by doing so (Vintró et al., 2012). Nonetheless, the role and impacts of CSR by mining corporations in developing countries is a matter of an active debate where polarised positions prevail (Hilson, 2012). This study contributes to the discussion and builds upon the argument of Warnaars (2012) which posits that CSR discourses and programmes in mining, in this case referring to sustainability reporting, instead of lessening conflicts, can play an adverse role and

provoke exactly the opposite by exasperating, or not helping to mitigate, conflicts. Additionally, we argue that sustainability reports lacking data driven by stakeholders' critical concerns and without documented stakeholder engagement processes can cause such counter-intuitive results.

This paper illustrates the argument by addressing the ongoing conflict at Bajo de la Alumbrera mine. Its Sustainability Reports 2009, 2010 and 2011 are analysed along with the degree of stakeholder involvement enforced and reported. Emphasis is placed on the ways in which conflictive issues raised by stakeholders are addressed on an indicator basis according to the Global Reporting Initiative (GRI) scheme. The paper starts with a review of the scholarly literature on GRI-based sustainability reporting in the large-scale mining sector and approaches to stakeholder involvement and then proceeds with the Bajo de la Alumbrera case. Building on content analysis, the company's 2009 Sustainability Report (SR) is first scrutinised with a view to its formal performance. The contents of the performance indicators that structure this report are then compared with written publications posing critical arguments of the mine performance, and a ranking of the most contentious indicators is elaborated. This ranking is compared with the survey results published by Minera Alumbrera in their Sustainability Reports 2010 and 2011 and with the existing literature drawing on stakeholders' perceptions. Discussion of the differences between the written claims of some stakeholders and the reality on the ground captured by the two surveys concludes the analysis. Suggestions for future research are made at the end of the paper.

2. Literature review

2.1. GRI reporting in mining and the issue of data quality

Ever since the Agenda 21 of the Rio Earth Summit encouraged business to communicate their socio-environmental records, the practice of sustainability reporting has been dominated by large organisations (Brown et al., 2009), with companies often following the Global Reporting Initiative, the predominant voluntary reporting framework used by mining corporations (Fonseca, 2010).

Whereas the body of literature on corporate sustainability reporting is vast, one specifically focused on GRI-reporting and mining is emerging. Existing research deals with trends and the evolving maturity of reporting practices, i.e. it seeks to ascertain progress in social, economic, governance or environmental performance disclosure at various levels (Coetzee and van Staden, 2011; Deloitte, 2007; Fonseca, 2010; Lins and Horwitz, 2007; Peck and Sinding, 2003; Perez and Sanchez, 2009; Tsang et al., 2009) or targets social and environmental disclosure as part of the CSR agenda (e.g. Jenkins, 2004; Jenkins and Yakovleva, 2006; Vintró et al., 2012).

One significant aspect is that these studies proceed by comparing several mining companies' sustainability reports among themselves but little attention has been given to in-depth assessments of reports and the quality of the data presented in them. In other words, although much research has been conducted at a macro level, the specific indicators in sustainability reports have been largely ignored. This creates a need for further research (Roca and Searcy, 2012), especially of in-depth business cases to analyse the impacts of the adoption of social standards (Marimon et al., 2012). Furthermore, even studies on mining at the micro level have not focused on the quality of the data reported. This indicates that this aspect requires additional investigation since salient, credible and legitimate information is the first step for institutional innovations directed to resolve social conflict in mining (Bebbington and Bury, 2009).

2.2. Mining conflicts and stakeholder engagement

Stakeholder theory provides relational models to describe and classify companies' interaction with different types of stakeholders. These range from low level involvement (passive participation, tokenism, manipulation) in which companies identify their stakeholders, e.g. through mapping and classifying (Clarkson, 1995), to stakeholder management. The latter of these is where corporations try to manage stakeholders' expectations and the social and economic issues that they support; here a one-way flow of information occurs, rather than a two-way communication, which implies that received views are not acted upon (Manetti, 2011). The highest level of stakeholder involvement, termed engagement, is achieved if stakeholders are recognised as legitimate participants in corporate decision-making rather than subjects whose expectations have to be managed somehow; information is shared, dialogue takes place and a sense of mutual responsibility is created (Andriof et al., 2002). Existing research indicates that cases of stakeholder engagement (SE) are scarce and what currently prevail are practices of stakeholder management (Manetti, 2011). In relation to mining, this entails poor or ineffective communication between the mining operators and affected communities (Hilson and Murck, 2000; Hilson, 2002) or inadequate engagement of all relevant stakeholders (United Nations Interagency Framework Team for Preventive Action, 2010), especially of those who are highly critical of mining operations.

The GRI promotes stakeholder engagement processes in its guidelines. Following Freeman's (1984) classic definition of stakeholders,¹ the principle of Stakeholder Inclusiveness entails the following:

"... the reporting organization should identify its stakeholders and explain in the report how it has responded to their reasonable expectations and interests." it continues, "for a report to be assurable, the process of stakeholder engagement should be documented ... the reporting organization should document its approach for defining which stakeholders it engaged with, how and when it engaged ... failure to identify and engage with stakeholders is likely to result in reports that are not suitable and therefore not fully credible" (GRI, 2006:10, 2011:10).

Despite companies' espoused rhetoric to adhere to these GRI requirements, evidence of robust stakeholder engagement when defining contents of sustainability reports is scarce (Lingenfelder and Thomas, 2011). Likewise, sustainability reports of mining companies often fail to provide full accounts of conflict situations, but instead use these documents to represent their own perspectives (Garvin et al., 2009). Unsurprisingly therefore, the GRI scheme has little credibility among many critical stakeholders; in their views, it does not necessarily serve as a mobilising agent for affected communities and critical NGOs (Brown et al., 2009; Dingwerth and Eichinger, 2010). Research on mining community conflicts is often biased towards community-level perspectives (e.g. Hilson and Yakovleva, 2007; Holden et al., 2011; Kemp et al., 2011; Yakovleva and Vazquez-Brust, 2012) whereas only a reduced number of studies also document management perspectives on conflicts exposing the arguments of contending parties (Bebbington and Bury, 2009; Garvin et al., 2009) or seeking to discover reporting gaps between disclosure and performance (Adams, 2004).

¹ According to Freeman (1984:46), a stakeholder in an organisation's external environment is broadly defined as "any group or individual who can affect or is affected by the achievement of the organisation's objectives."

3. Case study in Argentina: Bajo de la Alumbrera

3.1. The large-scale metal mining debate in Argentina

Compared to neighbouring mineral-based economies like Chile or Peru, the large-scale metal mining industry in Argentina is a developing one with a participation of around 1.1% of the GDP, whereas close to 20% and 10% are reached in Chile and Peru (CAEM, 2012). Argentina possesses a significant metal potential due to large reserves in 3300 km of the Andes mountain range, where many open pit controversial mining projects are located. Promoted by an investor-friendly mining regulatory framework, considerable foreign direct investments have fuelled the country's large-scale prospecting and extracting operations during the last decade. Although investment has reactivated local economies, anti-mining movements have opposed mining operations; some provinces have forbidden open pit mining technologies and some community resistances have deterred the advance of projects, such as Famatina in La Rioja province.

Critical studies on the current mining model in Argentina focus on environmental, economic and ethical concerns, referring to extractivism as a 'loot', emphasising the resistance of local grassroots movements with thick descriptions of the socio-environmental conflicts and discourse analyses (Galafassi, 2008; Robledo and Lumerman, 2009; Rodríguez Pardo, 2009; Solanas, 2007; Svampa and Antonelli, 2009; Walter, 2008). Rather than focussing on mining-related disputes, others stress the positive contributions of mining to economies and society (Jordán et al., 2004; Minera Alumbrera, 2009, 2010, 2011; Secretaría de Minería de la Nación, 2012). The perceptions of stakeholders on mining entered the research agenda recently (Mutti et al., 2012; Yakovleva et al., 2010; Yakovleva and Vazquez-Brust, 2012) but there is limited understanding of how they relate to corporations' espoused portrayal, especially viewed from its appearance in sustainability reports.

3.2. Bajo de la Alumbrera mine

There are few large-scale metal mining projects operating in Argentina; among these the Bajo de la Alumbrera and Veladero are the most productive. The Bajo de la Alumbrera copper, gold and molybdenum mine is a flagship case in Argentina. It was the first open pit mine; beginning operations in late 1997 and with a mine life estimated until 2016. Being the eldest project in Argentina, it received much attention in the influential anti-mining movement and among observers in the media and academia.

There is research available which analyses the 'sustainable development' and 'mining sustainability' discourses employed by Minera Alumbrera, its relationship with nearby communities (Mastrángelo, 2004a,b), the social control strategies used by the company (Composto, 2012) and the stakeholders' perceptions of CSR (Mutti et al., 2012). Concerning economic impacts, Jordán et al. (2004) along with Alumbrera sustainability reports argue that the project has triggered significant development of local suppliers of goods and services whereas Machado Aráoz (2009) argues that the local value chains are disconnected from the global value chains.

Minera Alumbrera, the operating Swiss-Canadian consortium, is known for an allegedly negative environmental performance. There are numerous claims in the literature that the mine pollutes water, air and soil. While the company maintains that no proof of pollution or adverse effects of mining pollution on human beings exists (Minera Alumbrera, 2004a,b, 2011, 2012; Mining Press, 2008; Stambouljian et al., 2010), journalists, prosecutors and civil society organisations see a causal relationship between mining operations and environmental impacts, including pollution,

water shortages and health problems in the nearby areas (Janowicz, 2006; La Capital, 2008; Montenegro, 2009; Nieva, 2002; Renaud, 2009).

4. Methodology

The empirical analysis proceeded in two steps. First, a detailed content analysis, a methodology widely acknowledged in corporate disclosure studies (e.g. Guthrie and Abeysekera, 2006; Manetti, 2011; Perez and Sanchez, 2009), was applied to the 2009 Minera Alumbraera Sustainability Report (SR 2009). This report is based on GRI guidelines and technical protocols, reporting on 84 performance indicators (PI) in total, of which 73 belong to the GRI Sustainability Reporting Guidelines, Version 3.0 (G3), 2000e2006 (GRI, 2006) whereas the other 11 entail Mining and Metals indicators (MM indicators) that have been derived from the 'GRI Mining and Metals Sector Supplement Pilot Version 1.0' from 2005 (GRI, 2005). This report was assessed by comparing the indicators reported with the requirements of the GRI protocols, in order to discover which performance indicators show the lowest reporting quality.

In order to collect and assess the data for all reported indicators, information coding sheets were organised in a database. The sheets followed the design proposed by the Chilean Information Center for Corporate Behavior (CICE, 2009) and covered three sections:

- Section 1 - *Data availability*: the last pages of the SR 2009 provide the reader with a GRI summary where all PI/MMs are listed and classified. This information was organised in information sheets and processed by counting how many of the indicators belonged to each of the four classifications of data availability provided by the company.
- Section 2 - *GRI/SR matching level*: this section seeks to verify the match between the information reported for each PI/MM with the demands of the GRI Protocol (including the Mining & Metals indicators). In the positive case, the number one (1) was assigned; in the negative a zero (0). Indicators with unavailable data, not applicable or not reported were not considered.
- Section 3 - *GRI/SR sufficiency level*: this section evaluates the quality of the given information in the SR 2009 with a focus on its completeness. 'Complete' means that all of the requirements set by the GRI Protocol were met; 'enough' means that requirements were partially fulfilled whereas 'not enough' means that, although some information was provided, it does not fully answer what the Protocol was asking. Results from Section 2 and 3 are presented in Table 1 (see below).

In the second step of the analysis, the conflictive issues revolving around the Bajo de la Alumbraera mine are identified. To this end, different sources of literature were reviewed to detect the hottest points of disagreement between corporate reporting and written critical opinions from stakeholders.² The online journal databases consulted were SciVerse/Science Direct, Springerlink, Informa/Taylor and Francis and JSTOR. This search was complemented with non-journal literature published in paper and digitally; for digital searches, the keyword used to engine the searches was 'bajo de la alumbraera'. 75 sources were found ranging from sources published in 1997-2010, covering a period of 13 years of operations. When reviewing the

² 75 written sources were employed to gather anti-mining groups' visions and to collect opinions favourable to the activity. Academic work encompasses 45 sources including book chapters, papers and presentations in congresses and academic meetings, articles in magazines, field visits and survey reports, PhD thesis, unpublished university reports. Corporate reports include 10 reports/news published by Minera Alumbraera, Yamana Gold, Goldcorp, Micon and the Environmental Impact Assessment Study of the Agua Rica project. Newspaper articles entails 13 national and local sources. State office reports include 3 sources with two reports by the National Secretariat of Mining and one by the National Auditing Office. Sector reports include 4 reports by the National Industrial Association of Argentina, one by the Swedish Trade Council and two CEPAL studies. The full list of the 75 references is available upon request to the corresponding author.

sources, it appeared that information was repeated. To avoid double accounting of the same news, one source was chosen for each punctual incident. All reviewed sources were inductively classified in five categories according to the 'Type of source': newspaper articles, sector reports, corporate reports, state office reports or academic work.

In order to classify the 75 sources, each one was carefully read and quantitative information related to the Alubrera project was collected in the database. Information was organised for each PI, meaning that one source could have provided data for several indicators. If one or more sources was found contradicting the information provided in the SR 2009, it was recorded and the PI was coded with a number one (1), whereas the number zero (0) was given in cases where a lack of literature with opposing arguments was found. This does not necessarily mean that no dispute exists; it rather means that no literature was found for that particular indicator. The analysis therefore reveals the number of indicators met with criticisms and provides a ranking for the most contested indicators.

Once a performance indicator was identified as 'conflictive', the 'Level of conflict' was assessed as follows:

- High (H): this level was given whenever the number of sources found during the literature review addressing that indicator was higher than seven.
- Medium (M): this was established for indicators with a number of sources between four and seven.
- Low (L): collects the least conflictive topics; it was established for indicators with three or fewer sources surveyed.

It could be argued that comparing a one-year report with longitudinal multiple-years sources is a methodologically questionable approach for the identification of conflictive issues. The SR collects information belonging to one year only and the company could have addressed criticisms in previous reports. This was considered as a possibility. In 2009, there was no major manifestation of conflict. Yet since conflicts, rather than being discrete events, must be considered dynamic processes that unfold and develop over years (e.g. judicial prosecutions), they may feature in more than one report. To further address the time-dimension (Lozano and Huisin, 2011) of socio-environmental conflicts, results of the 2009 analysis are compared with related claims and findings of the 2010 and 2011 sustainability reports.

5. Results

5.1. Compliance with requirements of GRI protocol

According to the results of Section 1, Minera Alubrera (MAA) reports on 84 out of an expected total of 89 indicators (94.4%), a high level of quantitative compliance. Furthermore, a large majority of those indicators were reported as having full available data: 65 out of 84 reported indicators (77%). When analysing indicators per categories, the analysis revealed that Environment is one of the most important categories for the GRI and the SR 2009. It hosts the largest number of indicators on which data has been reported. Though differences remain, the total level of compliance between the version of GRI protocols employed and the performance indicators reported in SR 2009 is high in quantitative terms. Results from the analytical Section 2 (see Table 1) reinforce the last statement. Out of 71 indicators reported by MAA with data available (full or partial), 67 (94%) match the information requirements of the GRI Protocols.

Table 1. GRI/SR 2009 matching and sufficiency level.

Performance Indicator Category	Section 2		Section 3			
	Matching level		Sufficiency level			
	No of reported indicators which reflected requirements of GRI Protocols		No of reported indicators in which information reported was:			
	Yes (a)	No (b)	Not enough (c)	Enough	Complete	Percentage of not enough [(c) * 100] / (a+b)
Economic	9	0	6	2	1	66
Environmental	27	0	19	2	6	70
Labor	12	1	7	1	5	53
Human Rights	9	0	4	0	5	44
Society	8	1	4	1	4	44
Product Responsibility	2	2	3	0	1	75
Total¹ (d)	67	4	43	6	22	64

Source: self-elaboration based on CICE (2009) and Minera Alumbraera (2010). Note 1: this Total reflects the total number of indicators reported as data fully available and data partially available.

Whereas compliance is high in quantitative terms, however, analysis of the quality of the reported information reveals a different picture. Indicators with either ‘complete’ or ‘enough’ information reached 28 cases, or 39.4%. Meanwhile the amount of indicators where information was ‘not enough’ achieved 43 cases or a 60.5% of all reported indicators. More often than not, therefore, the indicators reported do not fulfill in good detail all GRI requirements indicating a quality deficit in the reporting procedure as information is provided but not in enough precision to fulfill GRI requirements. The Environmental category performs particularly poorly. It does not only have the highest number of indicators in the ‘not enough’ column (a total of 19 out of 43) but also almost the highest percentage of indicators with not enough information reported.

Thus, moving beyond data availability on GRI performance indicators reveals a gap between the full understanding of the detailed information requirements demanded by the GRI protocols and what companies like Minera Alumbraera are willing to report to achieve the highest level of application. This gap in information disclosure could be an important cause for the controversies aroused by critical stakeholders. Lack of high quality, relevant and verifiable public information in controversial issues like those related to the environment and economic development nurtures misunderstandings and accusations.

5.2. Disputes between Bajo de la Alumbraera’s sustainability report and stakeholders’ opinions

Minera Alumbraera’s SR 2009 pictures a somewhat different reality of mining operations than the one perceived by some groups of stakeholders. The literature review shows that on 27 performance indicators data was found which disagrees with the contents reported in the SR 2009. This number amounts to a total rate of disagreement of 32% (Table 2).

Table 2. Summary of disagreements between Alumbreira’s sustainability report 2009 and stakeholder views.

Category	N of indicators listed in SR 2009	N of indicators disagreeing SR 2009	Disagreeing Indicators Codes	N of indicators per level of conflict		
				High	Medium	Low
Economic	11	6	EC 6, EC 4, EC 1, EC 7, EC 9, EC 8	3	3	0
Environmental	31	11	EN9, EN29, MM6, EN21, EN3, EN26, EN25, EN20, EN4, EN12, EN 16	4	2	5
Labor	16	1	LA1	0	0	1
Human Rights	10	3	MM11, HR 4, HR 5	0	1	2
Society	12	6	SO 1, MM10, SO8, SO6, MM7, SO2	0	3	3
Product Responsibility	4	0	-	0	0	0
Total	84	27	-	7	9	11

Source: self-elaboration based on literature review.

With respect to the number of conflicts per level of importance (absolute numbers) the environmental and the economic performance indicators are the only two categories hosting high-level conflicts. The environmental category is the only one which hosts conflicts in all levels of importance. Moreover, combining the results from this analytical section with those from Section 3 (see Table 1) indicates that the environmental category is not only receiving the highest importance and criticism among stakeholders but is also the worst reported one. It hosts four out of the seven most conflictive issues and has almost the highest share of indicators qualified as reporting ‘not enough’ (70%). This poor reporting quality is reproduced in the economic section of Alumbreira’s SR 2009. This category is not well-reported in the SR 2009, with 6 out of 9 indicators that are qualified as providing ‘not enough’ information (see Table 1). The poor reporting quality on the economic category is surprising given the substantial part of the SR 2009 covering it (10 pages out of 69).

The most contentious topics are the worst reported ones, among which environmental issues are the foremost source of conflicts. For instance, the groundwater extraction at Campo del Arenal relates to the use of a large water volume in an arid area. The company acknowledges the conflict in the SR 2009 and informs that the volume of water extracted is less than that authorised by the provincial water authorities and that, according to their hydrological mathematical predictive model, water extraction has neither severe negative effects on recharge levels of the aquifer, nor on any other water bodies in the nearby areas connected to it (Minera Alumbreira, 2010:55; Scaletta, 2006). Some locals, however, posit that water flow in rivers has been reduced since mining extraction operations began and that agriculture has been significantly affected (Janowicz, 2006; Machado Aráoz, 2009:219; Montenegro, 2009; Renaud, 2009; Saunders, 2008:8). Minera Alumbreira ignores critical postures and states that “even if actors are perfectly aware of the amount of water used by the mining industry, they do not

directly blame mining on water shortage” (Minera Alumbrera, 2010:47). If these concerns are not properly managed, they may turn into sources of further tension and friction that are acted upon by anti-mining movements.

With the exception of the Campo del Arenal and the DP2 channel discharges, none of the other conflicts with high and medium levels listed in Table 3 are presented in the SR 2009. This can be explained due to methodological reasons since the literature reviewed scopes a period of many years of publications whereas the SR 2009 only informs on events occurring in 2009. The difficulty with such a way of reporting resides in the fact that related conflicts emerge in a larger time-span, when little or no action has been taken to resolve them. Therefore, lack of reference in the SR 2009 to the underlying tensions as shown in Table 3 proves that the report does not allow the identification of them and the stakeholders involved. An almost conflict-free scenario is shown and the disputes presented do not directly tackle long-lasting claims by critical stakeholders that the literature revealed.

5.3. Sustainability reporting in light of the ongoing conflict

During the years 2011 and 2012 the disputes and protests underlying the mining operation went on. The National Route 40 was blocked near Belén in May 2011, delaying vehicles transporting equipment and personnel belonging to Minera Alumbrera. In early 2012, selective road blockages were executed by some groups of stakeholders of the Tinogasta assembly preventing the pass of trucks transporting mining equipment. The protests were repressed by local police forces and the blockages were lifted. The parties involved did not engage in any dialogue process and the conflict is ongoing (Aranda, 2012; Mu, 2012). At the same time, Minera Alumbrera continued publishing sustainability reports. The 2010, 2011 reports followed updated GRI guidelines. Interestingly, the latter report is presented as part of the Xstrata Copper Group commitment to ‘transparency and stakeholder engagement’. Engagement is understood here as Corporate Social Involvement through which investments are performed in improving infrastructures and the undertaking of surveys to collect citizens’ views, opinions and expectations.

Two surveys were carried out recently:

- In 2009 and 2010, the Argentine Business Council for Sustainable Development (CEADS) identified citizens’ views in the primary impact area (PIA) (towns of Santa María, Andalgalá and Belén) and in the capital cities of Catamarca and Tucumán. The results of this opinion survey show common unsatisfied needs for housing and health in all sample areas; basic infrastructure such as freshwater networks and roads and highways to connect cities and promote tourism are also highly-valued citizen demands (Minera Alumbrera, 2011:42).
- In November 2011 the consulting group Pulso Local undertook a similar survey. A total of 1400 interviews along with focus groups were conducted in the PIA towns, also in Catamarca and Tucumán capital cities together with the town of Tafí del Valle. The results largely confirm our 2009 analysis. Economic and environmental issues attract major concerns. The unequal distribution of wealth generated by mining, use of water and pollution are heavily criticized. Moreover, negative impacts on health are considered worrisome by some organizations (Minera Alumbrera, 2012:17-18).

Beyond such overlaps, there is surprisingly little mentioning of the ongoing tailings dam leakages or the significant water extraction from the aquifer, which have been scandalised for many years.

MAA signals to have coped with these problems but unsettled issues remain, for example long term environmental concerns as to the management of the tailings dam once the project comes to an end, the pollution accusations, claims of insufficient local development or even the development of the nearby Agua Rica project and its synergistic adverse environmental pressures on water availability. The view of reality produced by the survey in nearby towns is different from the claims related to concrete local demands such as basic infrastructure, jobs, health and education, with less focus on long-term environmental issues. The two most contentious environmental issues identified by stakeholders' publications (see Table 3) do not appear as major concerns of those surveyed, nor does the problem with the tailings dam.

Table 3. Results' Summary. High and medium level topics ordered by number of sources found^a

<i>Topic and GRI Code</i>	<i>Type of source found</i>					<i>Total Number of sources found</i>	<i>Level of conflict</i>	<i>Topic of conflict</i>
	<i>N</i>	<i>S</i>	<i>C</i>	<i>S</i>	<i>A</i>			
	<i>A</i>	<i>R</i>	<i>R</i>	<i>O</i>	<i>R</i>	<i>W</i>		
							<i>High (H) = > 7 sources</i>	
							<i>Medium (M) = 4 – 7 sources</i>	
Water extraction (EN 9)	3	0	4	1	12	20	H	Magnitude of the negative environmental impacts of water extraction at Campo del Arenal
Slurry pipeline breakage (EN 29)	3	0	4	0	9	16	H	Pipeline fracture, spillage of concentrate, claims of pollution and of illegal exports of minerals
Local Suppliers (EC 6)	0	1	0	1	9	11	H	Claims of insufficient development of local value chains and industrial technology suppliers
Tailings dam leakages (MM 6)	0	0	3	0	8	11	H	Tailings dam facility leakages and pollution problems associated (Environmental indicator)
Subsidies and incentives (EC 4)	2	0	2	1	6	11	H	Financial assistance from government (generous subsidies and incentives derived from the current legal mining regulatory framework)
Economic impacts (EC 1)	3	1	2	1	3	10	H	Lack of transparency in Alumbreira's balance sheet and in the amount of taxes and royalties paid
Pollution accusations (EN21)	3	0	0	1	6	10	H	Discharges in the DP2 channel and pollution accusations
Local hiring (EC 7)	0	0	1	0	6	7	M	Magnitude of local hiring in the nearby area (it is argued that the amount of locals hired is not high)
Employment multipliers (EC 9)	0	0	0	0	7	7	M	Indirect economic impacts (impact of employment multipliers at local, provincial and national

<i>Topic and GRI Code</i>	<i>Type of source found</i>	<i>Total Number</i>	<i>Level of conflict</i>	<i>Topic of conflict</i>
				scales)
Impact on nearby communities (SO 1)	0 0 1 0 5	6	M	It is argued that the amount spent in CSR programs is too low in comparison to the profits

Source: self-elaboration based on GRI (2005), GRI (2006a, b) and literature reviewed. NA = newspaper article; SR = sector report; CR = corporate report; SOR = state office report; AW = academic work.

^a In relation to the sources of information which allowed for this classification and hierarchy of the conflictive topics, the most common source of information were the documents categorized as 'Academic work', having been used 102 times as sources. In the second place, with similar numbers around 22-23 times, are located 'corporate reports' and 'newspaper articles', with a very little appearance of 'sector reports' or 'state office reports' showing a lack of publicly-funded research to monitor studies by the mining company.

6. Discussion and conclusions

Mining activity is on the rise in Argentina. With growing activity in the large-scale metal mining sector, potential conflicts between mining operators and investors on the one hand and mining-critical stakeholders on the other are likely to be multiplied. Sustainability reports can become an effective CSR tool to communicate a mine's contribution to sustainability and reflect stakeholder engagement processes tackling critical movements, but we identified the need for re-visiting the quality of the data disclosed and stakeholder involvement procedures.

According to mining companies, sustainability reports provide a balanced view and precise credible data on their performance towards sustainability taking into account stakeholders' concerns, becoming a crucial part of CSR activities and a step to secure the social license. Nevertheless, this study revealed that by portraying low quality or no data on contentious issues, the reports lose credibility and might provoke a counter-intuitive effect. The paper shows that criticism in the literature is focused on long-term issues such as infrastructure and economic issues, on long-term environmental pressures (large-scale water use, shortages and leakages) and pollution accusations. This is in line with the findings portrayed by Mutti et al. (2012), related to the areas of major concern to civil society groups: job creation, royalties, responsiveness, water shortages and pollution. Yet Alumbra's perception of stakeholders' claims refers to short-term local demands which have orientated their CSR investments. In some cases this slightly overlaps with written criticisms, but in general does not address and downplays the most contentious topics appearing in the literature. This results in a report with little credibility for critical groups who have fuelled the conflict.

On the other hand, findings demonstrated that mining-related conflicts tend to persist if stakeholder expectations are managed rather than engaged within reporting. In the SR 2009, anti-mining movements are not mentioned, perhaps because they do not threaten or enhance Alumbra's legitimacy significantly. The newer reports acknowledge the existence of critical stakeholders and the conflict situation, at least, by positing it as a key issue, a risk and a challenge. This proves that, as claimed by Coetzee and van Staden (2011), organisations increase disclosure levels in response to stakeholder scrutiny threatening their legitimacy. Nonetheless, communication strategies or any other manifestations of will to engage with anti-mining criticism are not duly reported, and arguably, are absent. Regardless of how representative in numerical terms anti-mining movements are, all three examined sustainability reports do not provide a documented monitoring either of how stakeholders were selected for surveying or of any processes conducive to structured dialogues with opponents. This includes

their recognition as legitimate stakeholders, as required by stakeholder engagement processes and the Stakeholder Inclusiveness Principle exposed in the GRI guidelines. This is consistent with findings by Yakovleva and Vazquez-Brust (2012) who argue that mining companies in Argentina often negotiate their CSR activities in response to expectations of selected local stakeholders but overlook the concerns of informal anti-mining movements.

Likewise, as argued by Mutti et al. (2012), the relationship with stakeholders seems to be following a management strategy led to convince stakeholders of the benefits brought by mining with sustainability reports working as CSR tools intended to do that. The sections on 'Sustainable Communities' in all reports provide detailed narratives of economic investments in constructing and refurbishing infrastructure, and provision of training for productive processes. Alubrera's permanent statement is that they need to work on communities' perceptions but they do not go beyond that to describe how they will engage with the most critical stakeholders. In view of the latter, the lack of an engagement process and a report with incomplete data to answer their concerns indicates that sustainability reporting is not helping significantly in changing their perceptions or improving communication, much less to achieve the social license.

At a local level, this study provides an original summary of the most contentious issues that Minera Alubrera might focus on to improve the selection of stakeholders on which to re-assess their communication strategy. It is anticipated that the presented ranking of controversial topics will allow the company to better identify the issues that require improved data quality and help government agencies acknowledge concerns of anti-mining movements. The presented case shows that progress towards incorporation of a broader range of stakeholder concerns is possible. Conducting surveys is a first step towards stakeholder engagement but is certainly not sufficient. Sustained societal pressure seems to be essential.

A limitation of our study lies in the lack of field interviews which would have added qualitative depth and made results more representative of the total inventory of stakeholders' opinions; however, results in this paper do not provide a representative opinion of an entire stakeholder population but summarised and classified the most salient critical stakeholders' voices and positions in the written literature since the project started. Future field research of critical stakeholders' unpublished opinions might provide deeper and more structured insights into the full range of criticisms.

Considering the gap between Alubrera's perceptions of stakeholders' claims and the results identified by previous research and this study, it would be interesting to conduct further research through interviews with the company and government directors in order to establish drivers behind these disputes and ways of making contending parties engage in dialogues beyond power inequalities e perhaps as an innovation in the GRI reporting. Beyond such micro-level research, much would be gained through cross-case analysis of GRI reporting on conflictive projects in Argentina's mining sector or in comparison to neighbouring jurisdictions. This would identify more general findings about management strategies of companies and institutional innovations required to tackle the issue of effective stakeholder participation in decision-making processes within the controversial mining sector.

Acknowledgements

Authors are grateful to the Katholischer Akademischer Ausländer-Dienst (KAAD) for having financed part of this research and to Prof. Dr. Saleem Ali for his useful comments.

References

- Adams, C., 2004. The ethical, social and environmental reporting-performance portrayal gap. *Accounting, Auditing & Accountability Journal* 17, 731-757.
- Andriof, J., Waddock, S., Husted, B., Rahman, S., 2002. *Unfolding Stakeholder Thinking. Theory, Responsibility and Engagement*. Greenleaf, Sheffield.
- Aranda, D., 2012. El conflicto minero. Página 12. Available from: <http://www.pagina12.com.ar/diario/sociedad/3-195038-2012-05-28.html> (accessed 31.05.12).
- Bebbington, A.J., Bury, J.T., 2009. Institutional challenges for mining and sustainability in Peru. *Proceedings of the National Academy of Sciences* 106, 17296-17301.
- Bebbington, A., Humphreys Bebbington, D., Bury, J., Langan, J., Muñoz, J.P., Scurrah, M., 2008. Mining and social movements: struggles over livelihood and rural territorial development in the Andes. *World Development* 36, 2888-2905.
- Brown, H.S., de Jong, M., Levy, D.L., 2009. Building institutions based on information disclosure: lessons from GRI's sustainability reporting. *Journal of Cleaner Production* 17, 571-580.
- CAEM, 2012. Cuidado del Medio Ambiente. Aspectos económicos. Available from: <http://www.unmundodeminerales.com.ar/medioambiente/aspectos.php?menu=8> (accessed 25.10.12).
- Calvano, L., 2008. Multinational corporations and local communities: a critical analysis of conflict. *Journal of Business Ethics* 82, 793-805.
- CICE, 2009. *Guía para el análisis de reportes de sustentabilidad de grandes empresas. Una mirada desde la sociedad civil*. Red Puentes, Fundación Avina. June.
- Clarkson, M.B.E., 1995. A stakeholder framework for analyzing and evaluating corporate social performance. *The Academy of Management Review* 20, 92.
- Coetzee, C.M., van Staden, C.J., 2011. Disclosure responses to mining accidents: South African evidence. *Accounting Forum* 35, 232-246.
- Composto, C., 2012. *Minería a gran escala y control social. Apuntes de investigación sobre el caso argentino*. *Acontracorriente* Vol. 9, 3, 254 – 290.
- Deloitte, 2007. *A Mine of Information. An Analysis of Sustainable Development Reporting in the Mining Industry*. Deloitte & Touche LLP, London.
- Dingwerth, K., Eichinger, M., 2010. Tamed transparency: how information disclosure under the global reporting initiative fails to empower. *Global Environmental Politics* 10, 74-96.
- Fonseca, A., 2010. *Requirements and Barriers to Strengthening Sustainability Reporting among Mining Corporations*. PhD Thesis, University of Waterloo, Ontario, Canada.
- Franks, D., 2009. Avoiding mine-community conflict: from dialogue to shared futures. In: *Proceedings of the First International Seminar on Environmental Issues in the Mining Industry*, Santiago, Chile.

- Freeman, R.E., 1984. *Strategic Management: a Stakeholder Approach*. Pitman, Boston.
- Galafassi, G., 2008. Minería de oro y plata y conflictos sociales. Un proceso de historia reciente en la Patagonia. In: *XXI Conference on Economic History*, pp. 23-26.
- Garvin, T., McGee, T.K., Smoyer-Tomic, K.E., Aubynn, E.A., 2009. Community-company relations in gold mining in Ghana. *Journal of Environmental Management* 90, 571-586.
- GRI, 2005. *GRI Mining and Metals Sector Supplement Pilot Version 1.0. Incorporating an abridged version of the GRI 2002 Sustainability Reporting Guidelines*. Amsterdam, The Netherlands.
- GRI, 2006. *RG. Sustainability Reporting Guidelines 2000-2006. Version 3.0 (G3)*. Amsterdam, The Netherlands.
- GRI, 2011. *RG. Sustainability Reporting Guidelines 2000-2011. Version 3.1*. Amsterdam, The Netherlands.
- Guthrie, J., Abeysekera, I., 2006. Content analysis of social, environmental reporting: what is new?. *Journal of Human Resource Costing & Accounting* 10, 114-126.
- Hilson, G., 2002. An overview of land use conflicts in mining communities. *Land Use Policy* 19, 65-73.
- Hilson, G., 2012. Corporate social responsibility in the extractive industries: experiences from developing countries. *Resources Policy* 37, 131-137.
- Hilson, G., Murck, B., 2000. Sustainable development in the mining industry: clarifying the corporate perspective. *Resources Policy* 26, 227-238.
- Hilson, G., Yakovleva, N., 2007. Strained relations: a critical analysis of the mining conflict in Prestea, Ghana. *Political Geography* 26, 98-119.
- Holden, W., Nadeau, K., Jacobson, R.D., 2011. Exemplifying accumulation by dispossession: mining and indigenous peoples in the Philippines. *Geografiska Annaler: Series B, Human Geography* 93, 141-161.
- Janowicz, V., 2006. *La pesadilla minera. El Pregón de Salta*. Available from: <http://luchadores.wordpress.com/2006/07/28/la-pesadilla-minera/> (accessed 15.10.10).
- Jaskoski, M., 2011. *Resource Conflicts: Emerging Struggles over Strategic Commodities in Latin America*. Center on Contemporary Conflict, Monterey, United States of America.
- Jenkins, H., 2004. Corporate social responsibility and the mining industry: conflicts and constructs. *Corporate Social Responsibility and Environmental Management* 11, 23-34.
- Jenkins, H., Yakovleva, N., 2006. Corporate social responsibility in the mining industry: exploring trends in social and environmental disclosure. *Journal of Cleaner Production* 14, 271 – 284.
- Jordán, R., Sarudiansky, F., Watanabe, G., Tassile, L., Rodriguez, I., Daneri, R., 2004. *Actualización del informe de impacto económico del proyecto minero Bajo de la Alumbrera*. Universidad Nacional de San Martín, San Martín.

Kemp, D., Owen, J.R., Gotzmann, N., Bond, C.J., 2011. Just Relations and Company–Community Conflict in Mining. *Journal of Business Ethics* 101, 93 – 109.

La Capital. 2008. Las sombra de La Alumbreira en las enfermedades de la población la minera "ayuda" a cambio de silencio. May 21.

Lingenfelder, D., Thomas, A., 2011. Stakeholder inclusiveness in sustainability reporting by mining companies listed on the Johannesburg securities exchange. *African Journal of Business Ethics* 5, 1-13.

Lins, C., Horwitz, E., 2007. Sustainability in the Mining Sector. *Fundacao Brasileira para o Desenvolvimento Sustentavel*, Rio de Janeiro, Brasil.

Lozano, R., Huisingh, D., 2011. Inter-linking issues and dimensions in sustainability reporting. *Journal of Cleaner Production* 19, 99 - 107.

Machado Aráoz, H., 2009. Minería transnacional, conflictos socioterritoriales y nuevas dinámicas expropiatorias. El caso de Minera Alumbreira, in: Svampa, M., Antonelli, M (Eds), *Minería transnacional, narrativas del desarrollo y resistencias sociales*, Biblos, Buenos Aires, pp. 205-228.

Manetti, G., 2011. The Quality of Stakeholder Engagement in Sustainability Reporting: Empirical Evidence and Critical Points. *Corporate Social Responsibility and Environmental Management* 18, 110-122.

Marimon, F., Alonso-Almeida, M. del M., Rodríguez, M. del P., Cortez Alejandro, K.A., 2012. The worldwide diffusion of the global reporting initiative: what is the point?. *Journal of Cleaner Production* 33, 132-144.

Mastrángelo, A., 2004a. Con dos minas de oro, Belén no tiene caminos. Una interpretación ideológica de las investigaciones financiadas por el Banco Mundial. PhD Thesis, National University of Misiones, Argentina.

Mastrángelo, A., 2004b. Las niñas Gutiérrez y la mina Alumbreira. La articulación con la economía mundial de una localidad del Noroeste argentino, first ed. *Antropofagia*, Buenos Aires.

Minera Alumbreira, 2004a. Minera Alumbreira y la responsabilidad ambiental. Respecto de la "rotura del mineraloducto". Press release from September 19, 2004. Available from: <http://www.alumbreira.com.ar/art-002-b.asp> (accessed 18.10.10).

Minera Alumbreira, 2004b. Resultados de los análisis químicos del agua de Villa Vil: No se produjo contaminación del agua potable ni del agua de riego. Available from: <http://www.alumbreira.com.ar/art-002-d.asp> (accessed 18.10.10).

Minera Alumbreira, 2009. Xstrata Copper. Minera Alumbreira Sustainability Report 2008.

Minera Alumbreira, 2010. Xstrata Copper. Minera Alumbreira Sustainability Report 2009. Belén, Catamarca.

Minera Alumbreira, 2011. Xstrata Copper. Minera Alumbreira Informe de Sostenibilidad 2010. Belén, Catamarca.

Minera Alumbreira, 2012. Xstrata Copper. Minera Alumbreira Informe de Sostenibilidad 2011. Belén, Catamarca.

Mining Press. 2008. Alumbreira no contamina: el peritaje (texto completo). November 14th.

Montenegro, R., 2009. El impacto ambiental y social de Minera Alumbreira sobre cinco provincias argentinas. Antecedentes de violación a normativa vigente y derechos humanos por parte de Alumbreira Limited y sus gerencadoras (Xstrata Copper, Goldcorp Inc y Yamana Gold). Pedido de rechazo de los fondos procedentes de YMAD destinados a universidades nacionales. Facultad de Psicología, Universidad Nacional de Córdoba y FUNAM, Córdoba, 47pp.

Mu., 2012. Minas de oro. Cooperativa de Trabajo La Vaca, N° 52, March.

Mudd, G., 2004. Sustainable Mining: An Evaluation of Changing Ore Grades and Waste Volumes. In: International Conference on Sustainability Engineering & Science, Auckland, New Zealand.

Mutti, D., Yakovleva, N., Vazquez-Brut, D., Di Marco, H.M., 2011. Corporate social responsibility in the mining industry: Perspectives from stakeholder groups in Argentina. Resources Policy 37, 212 – 222.

Nieva, H. O., 2002. Variación de parámetros geoquímicos, río Vis Vis, Catamarca, Argentina, causas y consecuencias. Master Thesis, Institut National Polytechnique de Lorraine, France.

OCMAL, 2012. Sistema de Información para la gestión comunitaria de conflictos socio-ambientales mineros en Latinoamérica. Observatorio Latinoamericano de Conflictos Ambientales. Available from: <http://www.conflictosmineros.net> (accessed 28.08.12).

Peck, P., Sinding, K., 2003. Environmental and social disclosure and data richness in the mining industry. Business Strategy and the Environment 12, 131-146.

Perez, F., Sanchez, L., 2009. Assessing the Evolution of Sustainability Reporting in the Mining Sector. Environmental Management 43, 949–961.

Renaud, J., 2009. Impacto de la mega minería sobre las poblaciones locales en Argentina. SERPAJ, Buenos Aires.

Robinson, J., Torvik, R., Verdier, T., 2006. Political foundations of the resource curse. Journal of Development Economics 79, 447– 468.

Robledo, J., Lumerman, P., 2009. Análisis de la conflictividad socio ambiental en Argentina. El conflicto minero: emergente de la nueva conflictividad socio-ambiental en Argentina. In: Di Paola, M.E., Sangalli, F., Coarsi, S. (Eds.), Informe Ambiental Anual 2009. FARN, Buenos Aires, pp. 79-105.

Roca, L.C., Searcy, C., 2012. An analysis of indicators disclosed in corporate sustainability reports. Journal of Cleaner Production 20, 103-118.

Rodriguez Pardo, J., 2009. Vienen por el oro, vienen por todo. Las invasiones mineras 500 años después. Ediciones CICCUS, Buenos Aires.

Saunders, S., (Ed.). 2008. Investing in conflicts. Public money, private gain: Goldcorp in the Americas, Rights Action, Washington DC.

Scaletta, C., 2006. Oro para hoy... Página 12 Newspaper. October 22nd 2006.

Secretaría de Minería de la Nación, 2012. Minería Argentina. Oportunidades de Inversión. Informe de gestión. Buenos Aires. Available from: <http://www.mineria.gov.ar/pdf/informe-de-gestion.pdf> (accessed 05.05.12).

Solanas, F., 2007. El despojo de los metales argentinos. Realidad Económica 227, Buenos Aires, April 1st to May 15.

Stamboulian, D., Borrueal, M., Fridman, D., 2010. Programa de Evaluación del Estado Sanitario en Zonas de Influencia de Actividad Minera en la Provincia de Catamarca. FUNCEI.

Svampa, M., Antonelli, M., (eds)., 2009. Minería transnacional, narrativas del desarrollo y resistencias sociales. Biblos, Buenos Aires.

Tsang, S., Welford, R., Brown, M., 2009. Reporting on community investment. Corporate Social Responsibility and Environmental Management 16, 123-136.

United Nations Interagency Framework Team for Preventive Action, 2010. Extractive industries and conflict. Guidance Notes for Practitioners. Draft.

Vintró, C., Fortuny, J., Sanmiquel, L., Freijo, M., Edo, J., 2012. Is corporate social responsibility possible in the mining sector? Evidence from Catalan companies. Resources Policy 37, 118-125.

Walter, M., 2008. Nuevos conflictos ambientales mineros en Argentina: el caso Esquel (2002-2003). Revista Iberoamericana de Economía Ecológica 8, 15-28.

Warnaars, X.S., 2012. Why be poor when we can be rich? Constructing responsible mining in El Pangui, Ecuador. Resources Policy 37, 223-232.

Yakovleva, N., Vazquez-Brust, D., 2012. Stakeholder perspectives on CSR of mining MNCs in Argentina. Journal of Business Ethics 106, 191-211.

Yakovleva, N., Vazquez-Brust, D., Mutti, D., 2010. Corporate social responsibility of mining companies in Argentina. Presented at the Climate Change and Green Growth: Innovating for Sustainability, Seoul, Korea.