

Title

Differentiating social risk and impact in mining

Summary

Many project teams are challenged by the social dimensions of mining. To improve the way social risk is assessed by these teams, its relationship with SIA must be clearly understood.

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Putting the social back into science: Quality social impact assessment

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Social risk, social impact, coal mining, project evaluation

1. Introduction

Mining is an activity capable of dramatically changing the environmental and social landscape, and it is described by some commentators as one of the most socially disruptive interventions possible (Peck and Sinding, 2003). In Australia, social impact assessment (SIA) is used to evaluate the social dimensions of mining projects. In this environment, the term ‘social impact’ is well established. A new term, ‘social risk’, is starting to gain traction. It is being used in policy documents and standards, and incorporated into project risk assessment workshops. However, very little work has been undertaken to differentiate the meaning of these terms. Are they the same thing? If they are not the same thing, what differentiates them?

This paper identifies the characteristics that differentiate social impacts from social risks and explores why the terms need to be clarified in the context of coal mining project evaluation.

2. Literature review

2.1 Scholarly constructions of social impact and social risk

Since the formalisation of SIA in the 1970s, scholars have sought to clarify what the term ‘social impact’ means. Franks (2011, p. 1817) defines it as “the effect of an action”. According to Ziller (2012, p. xvi), social impacts are “the consequences to groups of people, or society as a whole, arising from a decision or an action”. In this sense, Franks (2011), Ziller (2012), Graetz and Franks (2015), and Vanclay et al. (2015) consider social impacts to be consequences that are experienced or felt, in a physical or perceptual sense, either directly or indirectly, over the short or long term. Franks (2011) describes social impacts as being either positive or negative while Ziller (2012) and Vanclay et al. (2015) observe that social impacts can manifest in changes to people’s self-esteem, values, ways of life, culture, community, identity, sense of belonging, health and well-being, fears and aspirations, rights, environment, political systems, access to work, services and amenities, and so on.

There is no consensus on the meaning of social risk in the grey and scholarly literatures. Social risk definitions, however, can be categorised in three ways, depending on who or what is at risk; that is, as risk to people, the business or to both people and the business. For Brereton and Parmenter (2006, p. 1) social risk is risk to people: “a social risk exists

wherever there is the potential for an existing or planned project to impact adversely on one or more social entities (such as residents of nearby communities, Traditional Owners, adjoining landowners or local businesses)”. Kytte and Ruggie (2005, p. 6) present a contrasting definition:

social risk occurs when an empowered stakeholder takes up a social issue area and applies pressure on a corporation (exploiting a vulnerability in the earnings drivers, e.g. reputation, corporate image) so that the company will change policies or approaches in the marketplace.

Anglo American (2014, p. 9) uses a dual orientation of social risk, defining it as the “probability and severity of risks to the business as well as to employees, contractors and external stakeholders”.

The grey and scholarly literatures differ in the way they consider social impacts and social risks. In the policies and standards published by mining companies, international finance institutions and so on, it is common for the terms ‘risk’ and ‘impact’ to be coupled or used interchangeably (see AngloGold Ashanti, 2012; IFC, 2012; Anglo American, 2014). In contrast, scholars tend to engage with social impact and social risk separately. There is an extensive body of scholarly literature that engages with social impact and another that focuses on the sociology of risk, but very little work that explicitly compares and contrasts the two concepts.

2.2 SIA and risk management

Vanclay et al. (2015) present leading practices for SIA in the IAIA’s *Guidance for Assessing and Managing the Social Impacts of Projects*. There are very few global frameworks developed specifically for assessing social risk, but a common framework used in the Australian coal industry to manage risk more generally is AS/NZ ISO 31000:2009 *Risk Management – Principles and Guidelines*. Table 1 compares the two processes and shows that the activities undertaken in SIA and risk management are very similar. The communication and consultation activities which have been separated out in ISO 31000 are integrated into the SIA processes. The key differences between the two processes are underlined in the table. These differences are that SIAs include: supporting communities with change, establishing a grievance mechanism, negotiating impacts and benefits agreement, and designing and implementing a participatory monitoring plan. These four activities, which

relate directly to engagement with external actors, are not precluded from the risk management process *per se*, but they are not articulated.

Table 1: Comparison of SIA and risk management processes

SIA process+	Risk management process*
<p>Understand the issues</p> <ul style="list-style-type: none"> • Understand the project • Clarify roles and responsibilities • Social area of influence • Community profiling • Inform communities • Inclusive participatory processes • Scope issues • Assemble baseline data 	<p>Establish the context</p> <ul style="list-style-type: none"> • Define the external and internal parameters to be taken into account when managing risk and setting scope and risk criteria.
<p>Predict, analyse and assess the likely impact pathways</p> <ul style="list-style-type: none"> • Social changes and impacts • Indirect impacts • Cumulative impacts • Affected party responses • Significance of changes • Project alternatives 	<p>Risk assessment – risk identification</p> <ul style="list-style-type: none"> • Find, recognise and describe risks • Identify risk sources, events, their causes and consequences • Use historical data, theoretical analysis, informed and expert opinions, and stakeholders’ needs where appropriate. <p>Risk assessment – risk analysis</p> <ul style="list-style-type: none"> • Determine the nature of risk and the level of risk • Risk analysis provides the basis for risk evaluation and decisions about risk treatment (mitigation). <p>Risk assessment – risk evaluation</p> <ul style="list-style-type: none"> • Process of comparing the results of risk analysis with risk criteria to determine whether the risk and/or its magnitude is acceptable or tolerable
<p>Develop and implement strategies</p> <ul style="list-style-type: none"> • Address negative impacts • Enhance benefits and opportunities • <u>Support communities with change</u> • <u>Establish a grievance mechanism</u> • <u>Negotiate impacts and benefits agreement</u> • Develop SIMP • Establish partnerships to implement SIMP 	<p>Risk treatment</p> <ul style="list-style-type: none"> • Process to modify risk <ul style="list-style-type: none"> ○ Remove risk source ○ Change the likelihood • Change the consequence

<ul style="list-style-type: none"> • Implement ongoing social performance plans 	
<p>Design and implement monitoring programs</p> <ul style="list-style-type: none"> • Indicators to monitor change • <u>Participatory monitoring plan</u> • Implement adaptive management • Evaluation and periodic review 	<p>Monitoring and review</p> <ul style="list-style-type: none"> • Continually check, supervise, critically observe or determine the status in order to identify change from the required performance level • Determine the suitability, adequacy and effectiveness of the subject matter to achieve objectives
<p>Qualitative data for SIAs is collected via social engagement mechanisms.</p>	<p>Communication and consultation</p> <ul style="list-style-type: none"> • Communicate and consult with external and internal stakeholders should during all stages of the risk management process. • Establish a consultative team to ensure that the interests of stakeholders are understood and considered

+ Source: Vanclay et al. (2015), p. 7; * Source: International Organization for Standardization (2009), ppvi-7, 14.

3. Research method

The data for this paper were generated from a much larger doctoral study that examined how Australian coal mining project teams construct and assess social risk. The research design comprised two methods of data generation which were undertaken in consecutive stages: an exploratory review, followed by case research. The exploratory review comprised face-to-face, semi-structured interviews with 31 industry participants selected from diverse roles and different types of organisations.

In stage two, case research was selected to generate rich data about a specific mining project so that two different but complementary levels of data could be generated – broad data from the across the Australian coal industry and rich data from a specific project. Case research enabled the triangulation of research participants’ experiences and perspectives of the same project. The case selected was the Koala Extension Project¹, a contemporary, large open-cut mine.

¹ A pseudonym is used to maintain project anonymity.

4. Differentiating the concepts of social impact and social risk

The development of two distinct bodies of literature – SIA and the sociology of risk – each with its own set of scholars, has resulted in the evolution of different terminology to describe similar concepts; that is, social impact and social risk. Both concepts relate to people being the subject of some external phenomenon, but what are the differentiating factors?

Social impact is defined by Ziller (2012, p. xvi) as “the consequences to groups of people, or society as a whole, arising from a decision or an action” and by Vanclay et al. (2015, p. 95) as “something that is experienced or felt, in a perceptual or corporeal sense at the level of an individual, social unit (family/household/ collectivity) or community/society”. On the other hand, social risk is defined by Worden (2019, p. 1) as “uncertainty and ambiguity about the physical or non-physical consequences of a future event or activity, such as coal mining, on individuals or civic entities.” From these definitions, one can identify two key indicators for differentiating impacts and risks: temporality and certainty. In brief, the term ‘social risk’ refers to consequences that may, or may not, materialise in the future. By contrast, a social impact is something that has already happened or is happening now.

A third point of differentiation between the concepts relates to materiality. I am not using the term ‘materiality’ to denote relevance or significance, but in its more literal sense, as meaning capable of being observed or identified. Subject to methodological constraints (such as inadequate baseline data), a social impact can be discovered, described and, in certain cases, quantified (for example, the number of people experiencing respiratory diseases as a result of increases in dust levels). By contrast, because risk refers to potential future outcomes, the likely scale and nature of these consequences can only be inferred from other data sources (such as historical trends and patterns, experiences of similar communities and indicators of vulnerability) and are, therefore, uncertain.

Moving now to the assessment of social impacts and social risks, I note that SIAs are typically carried out ex-ante; that is, in advance of a project or other activity being initiated, although Western and Lynch (2000), Ahmadvand et al. (2009) and Mahmoudi et al. (2013) observe that SIAs can also be undertaken as ex-post assessments. When conducted ex-post, SIAs measure the social *impacts* of projects; that is, “the consequences [...] arising from a decision or action” (Ziller, 2012, p. xvi). When used to predict the potential impacts of a

project, particularly those which could have adverse consequences for individuals or social entities, SIAs are effectively engaging in a form of social risk assessment (SRA), notwithstanding that such studies do not often use the language or tools of risk analysis. The main points of difference are that SIAs typically have a broader focus and remit including, for example, the documentation of baselines and provision of descriptive data about the characteristics and history of communities in the area of influence.

5. SIA and SRA practice in Australian coal mining

Coal mining project teams are very familiar with the concept of risk. Risk drives the project evaluation process from concept, through prefeasibility, feasibility and presentation of the project to the board for final investment decision. Project teams tend not to have the same level of familiarity with SIA methodologies and may not have the skills to judge the standard of the report that is delivered.

The predominant approach to assessing the social dimensions of coal projects in Australia is to consider SIA and SRA as two distinct mechanisms. The SRA is conducted in a workshop environment, either in a full workshop or in a break out group of social practitioners. SRA workshops can be undertaken at any stage of the project lifecycle and can be undertaken multiple times. In contrast, the SIA is only carried out once during the life of a project and is generally commenced in late prefeasibility or in early feasibility.² Although it may be scoped by the project team, usually after the SRA, the SIA is outsourced to a specialist consultancy. Often there is little relationship between the two mechanisms or the two groups of people who undertake them; the social impact assessor may not even participate in SRA workshops.

Ownership of social data is fragmented and oversight of the SRA process is not considered nor specified. In other words, it is not clear who is responsible for social data and the assessment of social risk. The individual mechanisms used to assess social risk can become disconnected over the life of the project. The knowledge generated by each separate assessment may not be shared beyond the team that undertook the assessment, making it challenging for the project evaluation team to develop a comprehensive understanding of the social risks generated by its project.

² In this context, the life of a project means from concept through to final investment decision. It does not include mine construction or operation.

A less common approach, exemplified by the Koala Extension Project team, is to integrate the collection and assessment of social data. One of the many integration methods used by the team was the incorporation of a desktop SRA into the SIA. The assessment had four steps: determine the likelihood and consequences of social risks, assess ‘technical risk’, rank ‘stakeholder perceived risk’, and compare technical risk and perceived risk. ‘Perceived risk’ is the term applied to the risk perspectives of actors interviewed during the scoping stage of the SIA. These risks were ranked according to the frequency with which they were raised by a particular social entity, such as landholders or indigenous groups. A social risk matrix that had six consequence categories (catastrophic, massive, major, moderate, minor and negligible) and five likelihood categories (almost certain, likely, possible, unlikely and rare) was used to guide the ranking process. The SRA was structured around the assessment of 10 social factors: population change, changes in demand or capacity for community infrastructure and services, recreation, social amenity, health and well-being, sense of community, the economy, community sustainability, intergenerational equity, and cumulative impacts. It is unusual to find desktop SRAs of this type integrated into SIAs for coal mining projects. The assessment acknowledged that how people think about and respond to risk can differ, and that these differences need to be understood by the project team in order to assess and avoid or mitigate social risks.

The team also ran a series of risk mitigation workshops to enable interested stakeholders to suggest and shape the mitigation measures articulated in the environmental impact statement (EIS). Stakeholders were cognisant of the content of the EIS before the development application was submitted to the state government.

6. Conclusion

By itself, differentiating the terms ‘social impact’ and ‘social risk’ will not resolve the weaknesses apparent in the way many coal mining project teams assess the social dimensions of their projects. It will, however, bring clarity around what is being assessed and, therefore, improve the likelihood that project-generated harms to people are avoided or mitigated using measures that are fit-for-purpose.

This paper suggests that ‘social’ can be put back into ‘the science’ of coal mining project evaluation by clarifying the terms that social scientists use in this context. Given that most

SIA undertaken as part of project evaluation are focused on social risks rather than social impacts, a revolution is needed to shift current thinking and clarify what is actually being assessed.

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