



Contents lists available at ScienceDirect

Journal of Cleaner Production

journal homepage: www.elsevier.com/locate/jclepro

A discourse analysis on how the sustainability agenda is defined within the mining industry

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ARTICLE INFO

Article history:

Received 1 July 2013

Received in revised form

28 March 2014

Accepted 28 March 2014

Available online xxx

Keywords:

Sustainability

Sustainable development

Mining

Minerals

Discourse analysis

ABSTRACT

The mining industry has positioned itself within the sustainability agenda, particularly since the establishment of the International Council of Mining and Minerals (ICMM). However, some critics have questioned this position, since mining requires the extraction of non-renewable finite resources and commercial mining companies have the specific responsibility to produce profit. Complicating matters is that terms that represent the sustainability such as 'sustainability' and 'sustainable development' have multiple definitions with varying degrees of sophistication. This work identifies eleven sustainability agenda definitions that are applicable to the mining industry and organises them into three tiers: first, Perpetual Sustainability, that focuses on mining continuing indefinitely with its benefits limited to immediate shareholders; second, Transferable Sustainability, that focuses on how mining can benefit society and the environment and third, Transitional Sustainability, that focuses on the intergenerational benefits to society and the environment even after mining ceases. Using these definitions, a discourse analysis was performed on sustainability reports from member companies of the ICMM and the academic journal *Resources Policy*. The discourse analysis showed that in both media the definition of the sustainability agenda was focussed on Transferable Sustainability, with the sustainability reports focused on how it can be applied within a business context while the academic journal took a broader view of mining's social and environmental impacts.

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1. Introduction

The establishment of the International Council on Mining and Metals (ICMM) ([International Council of Mining and Metals \(ICMM\), 2012a](#)) in 2001 and the Mining, Minerals and Sustainable Development (MMSD) project in 2002 ([International Institute for Environment and Development, 2002](#)) acted as a catalyst for the mining industry to position itself within the sustainability agenda (which encompasses concepts such as 'sustainability' and 'sustainable development'). From a communication standpoint, this can be seen at the corporate level with mining companies producing sustainability reports and reporting to international frameworks ([Pellegrino and Lodhia, 2012](#)) including the Global Reporting Initiative ([Global Reporting Initiative, 2013](#)).

Some critics have questioned mining's sustainability claims ([Kirsch, 2009](#); [Power, 2002](#); [Whitmore, 2006](#); [Young and Septoff, 2002](#)) since mining requires the extraction of finite natural resources and results in significant, at times negative, environmental and social impacts. However, the minerals industry has clearly made contributions to the development of society. In particular, mining produces the minerals, metals and energy that have been the central driver of development since before the industrial age ([International Council of Mining and Metals \(ICMM\), 2012a](#)) as well as providing employment and training ([Lawrence, 2005](#); [Trigger, 2003](#)), paying taxes and royalties ([Auty and Warhurst, 1993](#); [Mikesell, 1994](#)), providing vital infrastructure to local communities ([Günther et al., 2008](#)) and providing the materials needed for a low carbon economy ([International Council of Mining and Metals \(ICMM\), 2012b](#)). In addition, there is a compelling business case for mining to embrace the sustainability agenda within operations particularly in terms of lower costs ([Van Berkel, 2007a, b](#)) and lower risks ([Esteve, 2008](#); [Hamann, 2003](#)).

Establishing corporate level sustainability goals is a fundamental early step in mining's contribution to the sustainability agenda. Some have questioned if corporate level sustainability

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goals are currently being implemented at an operational level (Adams and Evans, 2004; Dando and Swift, 2003; MacLean and Rebernak, 2007), highlighting that once goals have been established further effort is required for them to be realised (Corder et al., 2010; Hilson and Murck, 2000; McLellan et al., 2009; Tuazon et al., 2012). However, language has both a reflective and constructive facility (Berger and Luckmann, 1967; Fairclough, 1992; Hajer, 1997; Hall, 1997), and therefore, can play an important factor in not only establishing corporate sustainability goals (Kemp et al., 2012; Laine, 2005; Schrettle et al., 2014) but also to setting the responsibilities of companies to achieve those goals (Buhr and Reiter, 2006; Laine, 2005) and promoting their implementation (Lodhia, 2012; Thøger Christensen et al., 2013). An example of the use of language to set and implement corporate goals can be seen in safety, whereby, a step change from the nomenclature of 'acceptable risk' (Furter, 2010) to the declaration of 'zero harm' as a corporate goal (Anglo American, 2013; McLeod, 2008) and commitment to implement this goal within operations (Anglo American, 2009) reduced fatalities by 70% in a five year period compared to almost no reduction in the previous 5 year period, as shown in Fig. 1, despite some internal resistance to the appropriateness of such a strong goal within a mining context (Carroll, 2012).

A complication in establishing corporate sustainability goals and communicating progress in achieving these goals is the number of definitions used for terms such as 'sustainability' (70 different definitions (Lozano, 2008) and 'sustainable development' (over 100 (Dale, 2001)). Despite being distinct concepts, these terms are often used interchangeably (Lozano, 2008), contradictorily and sometimes to infer existence of other concepts (Carew and Mitchell, 2008). The lack of clarity surrounding these definitions has been mentioned and criticised previously (Hopwood et al., 2005; Lele, 1991; Mebratu, 1998; Robinson, 2004). A key reason for the magnitude of definitions is that the meaning of these terms is inherently context dependent (Bebbington, 2001; Hopwood et al., 2005; Kirsch, 2009). Here, a discourse analysis (Brown and Yule, 1983; Gee, 2005; Wetherell et al., 2001) has been performed that examines the use of these terms within a particular context, thereby, indicating how the mining industry positions itself within the sustainable agenda. The discourse analysis was performed on sustainability reports from ICMM member companies articles from the Resources Policy journal (Elsevier, 2013) to provide perspectives from both the industry and academia. This work provides eleven definitions of the sustainability agenda that are then grouped into three tiers:

- Tier 1 – Perpetual Sustainability, which focuses on benefits to shareholders and the continuation of mining;
- Tier 2 – Transferable Sustainability, which extends benefits to the broader community and environment; and
- Tier 3 – Transitional Sustainability, which focuses on providing intergenerational benefits to the broader community and environment, including after the completion of mining.

The analysis showed that the common definitions of the sustainability agenda lay within Tier 2, an intermediate level of sophistication that identifies the role of mining in maintaining or improving environmental and social standards without fully considering its intergenerational benefits and impacts. This indicates that more work needs to be performed at both at a corporate and operational level to fully align the contributions of mining to the sustainability agenda.

The rest of this article is organised as follows. First, it describes the methodology of the work, outlining how the definitions were derived and then applied to media as well as outlining limitations of the study. Second, it describes each of the definitions and provides examples of their use in the media. Finally, it presents the results of the discourse analysis first, in each medium separately and second, in a cross media analysis.

2. Material and methods

2.1. Defining the sustainability agenda in a mining context

The first stage of the research was to identify a set of definitions that describe how the sustainability agenda is defined within the mining industry. This was performed in the following steps.

First, a set of definitions for the sustainability agenda was derived by investigating its general use from a social (Jenkins and Yakovleva, 2006; Vallance et al., 2011), environmental (Goodland, 1995; Pearce, 1987), business (Mort, 2010), and micro/macroeconomic perspective (Nafziger, 2012) as well as its use in a mining context (Department of Resources, 2011; Fonseca et al., 2012; Hilson and Murck, 2000; Laurence, 2011; Owen and Kemp, 2013).

Next, the definitions were analysed to determine their suitability to the mining industry. Definitions that overlapped each other were combined while certain definitions were adapted. Ultimately, eleven definitions were chosen that could accurately represent the sustainability agenda in a mining context.

The final step was to organise the definitions into a hierarchy, based upon the level of sophistication from a very narrow scope, focussed on ensuing continuous mining or benefits delivered solely to direct shareholders, to a broader view, which described how mining could provide short or long term benefits to society and the environment.

The definitions and their tiers are described in Section 3.

2.2. Application of sustainability definitions to mining media

After identifying the sustainability agenda definitions they were applied to media related to the mining industry. Two media were analysed: sustainability reports from member companies of the ICMM and the academic journal Resources Policy.

Sustainability reports outline the environmental and social performance of mining companies. Sustainability reports were a suitable medium for this study since they provide a pertinent indication to how the sustainability agenda is defined by major mining companies. Table 1 shows the number of reports published by different mining companies according to the year of publication. Only sustainability reports that were publically available on companies' websites were analysed. Sometimes, these reports used

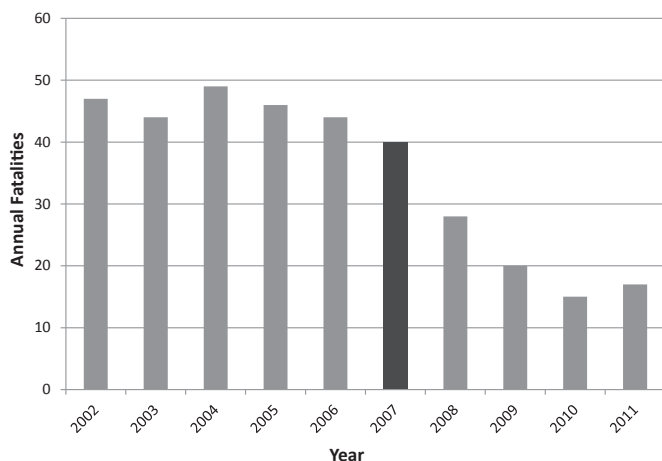


Fig. 1. Number of annual fatalities in Anglo American before and after the declaration of 'Zero Harm' in 2007 (Anglo American, 2003, 2007, 2013).

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