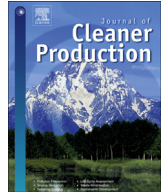


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Mine site-level water reporting in the Macquarie and Lachlan catchments: a study of voluntary and mandatory disclosures and their value for community decision-making

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ABSTRACT

This study explores the extent and quality of localised mining water-related disclosures from the Australian state of New South Wales (NSW). The data set provides an atypical opportunity to study voluntary and mandatory environmental reporting, as mining companies often produce their own voluntary sustainability reports, yet some mandatory reporting is also required due to NSW development consent conditions.

In order to assess the extensiveness of mandatory reporting, development consent reporting requirements are compared to a selection of voluntary water reporting indicators. Most indicators were taken from the Global Reporting Initiative (GRI) and Water Accounting Framework for the Minerals Industry (WAFMI), but the authors also included additional indicators derived from community water-related discussions. It is found that most of the information required by the indicators is also required by the consent conditions. In particular, information relevant to four GRI indicators is reported within either annual reviews or environmental management plans. Consent conditions are discretionary, however, and older consent conditions may not require such reports to be made publicly available through the internet.

Additionally, a content analysis is conducted of available mandatory and voluntary reports from four mining operations. The voluntary reports were found to provide site-level information that was either as good as that found within the annual reviews, or of lesser quality, but in no instance better. Further, no voluntary report stated definitively whether operations impacted on water sources. Nor was there any reporting on water storage capacity or the quality of water after recycling or reuse.

Finally, Dryzek's 'discursive democracy' theoretical framework on the quality of a deliberation system is used to analyse the extent to which NSW legal and administrative processes are designed to facilitate deliberation by catchment residents. Theoretically, the system is well designed, as important information is made publicly available and community consultation is a mandatory part of the process. However, the system is not without flaws and could be improved by providing better access to information.

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1. Introduction

Water management is one of the world's most pressing issues (Palaniappan and Gleick, 2009; World Water Assessment Programme, 2012). Younger and Wolkersdorfer (2004) observe that mining activity often impacts on water in the natural

environment, and that its effects, which include pollution and water reserve depletion, can last for millennia. Furthermore, some mines require water that would otherwise be available for water supply for local townships, irrigation, the environment, or other important uses.

For these reasons, both local and broader communities have a strong interest in relation to the allocation and use of mining water. Protecting this interest requires access to adequate water information and indeed, Hazelton (2013) suggests that access to such information might be considered a human right, because: a) the state has the ability to provide the information; and b) the information is necessary to exercise a founding human right – the ability to participate politically in a critical issue.

Abbreviations: NSW, New South Wales; WAFMI, water accounting framework for the minerals industry; SEA, social and environmental accounting; DPI, department of planning and infrastructure; PCSR, parent company's sustainability report.

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Prior studies have drawn upon the rich legacy of social and environmental accounting (SEA) disclosure research. Yet water accounting is critically different from many other environmental disclosures due to the issue of water context (Hazelton, forthcoming; Irbaris, 2009). Given the uneven distribution of water extraction and demand, equivalent quantities of extraction in different locations may have dramatically different impacts. Therefore, a critical component of water information disclosure is geographically-based site-level reporting, an activity which has received little attention from prior studies. Such site-level reporting might be considered an example of ‘micro’ reporting, that is, reporting at a level below that of the corporate group. Other micro reports might focus on areas, such as product or operational facets.

To address the gap identified above on site-level water reporting and its adequacy to inform local communities, this study examines the reporting practices of mining operations situated within the Australian state of New South Wales (NSW). This data set provided an atypical opportunity to study voluntary and mandatory environmental site-level reporting. Mining companies often produce their own voluntary sustainability reports which, although rarely site-based, frequently contain site-level information.

Mandatory reporting is available due to the fact that under the *NSW Environmental Planning and Assessment Act 1979*, the Minister for Planning, assisted by the NSW Department of Planning and Infrastructure (DPI), can rule that a proposed development will only be permitted if the applicant agrees to abide by certain conditions, called *consent conditions*. Currently, conditions attached to mining development consent typically require the provision of site-level environmental plans and annual reviews¹ (DPI, 2012c). This study can thus contribute to the voluntary-or-mandatory sustainability reporting debate (see Overell et al., 2008 for an overview of this debate).

This paper investigates four research questions, in order to help ascertain how potentially useful the available water information is to catchment residents and other community members. These questions are:

1. How extensive is the mandatory water disclosure required by consent conditions?
2. How extensive is the water information provided by voluntary reports?
3. What, if any, are the noticeable differences between the mandatory and voluntary reports?
4. To what extent can mining water information be potentially used to influence public discussion and decision-making?

The first three questions were investigated by examining water disclosure by mining companies in the Lachlan and Macquarie catchments, both of which are situated within the Murray-Darling Basin in NSW. Nine mining operations were examined, but only four released enough information to be studied. A content analysis was conducted of reports relating to these four operations – referred to as Cases A, B, C and D – to determine the extent to which they reported on a selection of sustainability indicators. These indicators were taken primarily from the *Global Reporting Initiative (GRI) (2013) G4* protocols and the *Australian Water Accounting Framework for the Minerals Industry (WAFMI) (Sustainable Minerals Institute and Minerals Council of Australia, 2012)*, although the authors included a few of their own, derived from community water-related discussions. Cases A to D refer to four underground and open cut copper, gold and coal mining sites.

¹ Companies may give their annual reviews different names, such as ‘annual environment review’ or ‘annual environment management review.’

In order to answer the final research question – to what extent can mining water information be potentially used to influence public discussion and decision-making? – Dryzek’s (2011) ‘deliberative democracy’ framework is used as a theoretical lens to analyse the democratic context of water information, in terms of public discussion and decision-making. As previously noted, mismanagement of water resources can significantly impact people’s lives and their local environments. For this reason, from a deliberative democracy perspective, communities should have access to the information necessary to properly deliberate upon and evaluate how water is being used.

The remainder of this paper is structured as follows: Section 2 provides a review of prior literature relevant to this study. This is followed, in Section 3, by a description of the theoretical framework. Section 4 details the research method, as well as the sustainability indicators selected. Following this, Section 5 provides an overview of NSW mining water disclosure requirements, focussing on the development consent conditions. Section 6 provides the results of applying both the content analysis and theoretical framework to the research questions. Section 7 concludes the paper and suggests areas for future research.

2. Literature review

Numerous researchers have stated that the current level of sustainability reporting needs improvement—particularly in the form of mandatory sustainability reporting requirements. It has been argued that mandatory reporting requirements will increase the credibility of sustainability reporting (Unerman and O’Dwyer, 2007) and reduce the ability of companies to prepare biased and skewed reports (Adams, 2004; Gray, 2005).

Studies have identified deficiencies concerning basic water disclosures – such as water use, water risk assessment, and supply-chain exposure – even by large, water-intensive multinationals (Barton and Morgan-Knott, 2010; Chartered Institute of Management Accountants, 2011; Morikawa et al., 2007; Morrison and Schulte, 2009, 2010). Australian studies have echoed these findings (Association of Chartered Certified Accountants et al., 2010; Carbon Disclosure Project, 2012; Egan and Frost, 2010), leading to widespread calls for improved corporate water reporting.

The mining industry has been of particular interest to sustainability reporting researchers. It has been described as helping to pioneer environmental reporting (Perez and Sanchez, 2009), although there is discussion as to whether the industry has done so out of a sense of social responsibility, to defend its legitimacy, or even both (Coetzee and van Staden, 2011; Pellegrino and Lodhia, 2012).

Prior research has also examined how sustainability reporting by mining companies has changed over time, and generally finds evidence of improvement. De Villiers and Barnard (2000) find that the percentage of mining companies in South Africa making specific environmental disclosures increased between the years 1994 and 1999. However, Antonites and de Villiers (2003) conducted a follow-up study and identified a downward trend in the following two years, particularly in regards to: environmental impacts and risks; environmental objectives and measurement standards; and whether those objectives were achieved. The authors suggest that in the later time period, the companies may have simply felt that voluntary disclosure would do more harm than good.

Jenkins and Yakovleva (2006) examined sustainability reporting by the world’s ten largest mining companies between the years 1999 and 2003, finding that these reports were becoming more sophisticated and covering more complex issues. Less positively, they found that there was significant variation in quality. Further, due to the differing scopes and metrics, it was nearly impossible to compare one company against another.

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