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Research paper

A sustainable livelihood framework to implement CSR project in coal mining sector

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ABSTRACT

Corporate social responsibility (CSR) in mining areas has increased momentum especially in countries like India where it has been made mandatory. The primary objective of this paper is to document actual social challenges of mining in field areas and find out how companies in the coal sector can work in a systematic manner to achieve uplift of affected communities. The first part of the paper draws evidence from three different bodies of literature, i.e. CSR and coal mining, capacity building and livelihood generation in mining areas. We try to converge the literature to propose a novel framework for livelihood generation work through capacity building with the help of CSR investments. The paper also documents a live case of planning and the implementation of capacity building activities in Muriadih coal mines in the Jharkhand state of India and offers lessons to both business and policy makers. The proposed framework has only been experimented in a local context, yet has the potential to be replicated in other mining areas.

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1. Introduction

The mining industry is of utmost importance in the economic development of countries as over 20 million people in the world depend upon mineral resource extraction as a basis for their living (Jenkins, 2004). Since prehistoric times, mining has been an essential contributor to social development. Minerals have met uniquely human needs through the ages, including securing food and shelter, providing defence, enhancing hunting capacities, supplying jewellery and monetary exchange, enabling transport, heat and power systems, and underpinning industry (Hartman, 1987). Mines not only create direct and indirect employment opportunities but also generate foreign exchange earnings and tax revenues (Das & Mishra, 2015). While there are many economic benefits of the industry, it is also blamed for various environmental risks and socio-economic consequences affecting both people and the environment (Kemp, 2010; Jenkins, 2004); these effects include social disruption and dislocation, relocation and resettlement, and adverse impacts on heritage and livelihoods (Danielson, 2006; Kemp, 2010; Owen & Kemp, 2015). Mining activities also lead to various geological and environmental problems such as the

deterioration of land and water resources, geologic hazards and destruction of the ecological landscape (Zhiguo et al., 2011).

Literature supports the view that most of the world's active mines and exploration activities are in environmentally and socially vulnerable areas. Once mining is completed, countries require reclamation plans for coal mining sites to undo the effects on the environment and the surrounding habitat. A vast scale of land disturbance and displacement of people is caused by mining activities (Mishra, 2009; Owen & Kemp, 2015; Whitmore, 2006). All these issues stress the need to consider how land reclamation can be performed in conjunction with the creation of sustainable livelihood opportunities for communities living in surrounding areas and many firms in different countries are working to ensure sustainable livelihood for the community and people at large. Both environmental and social issues need to be tackled in the context of minimizing environmental impacts and improving the quality of life of displaced people by means of increased livelihood opportunities. Literature highlights cases where these initiatives have been implemented in various countries and an account of this has been presented in subsequent sections. Yet, the existing literature is very limited, diverse and is written in different contexts which makes it difficult to draw any meaningful conclusions for both academia and in practice. To focus corporate efforts towards CSR and community development, it is pertinent that investments are made in more focused and meaningful livelihood activities. There

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are almost no examples, in the literature, of a specific development framework for guiding these activities in mining areas and our paper aims to fill this gap. This paper, therefore, contributes by reviewing the literature in three different domains and providing a novel framework for sustainable rural livelihoods in mining areas in the context of the changing CSR regime in India. The proposed framework has the scope and potential to be replicated in other mining areas and contributes to CSR frameworks as well.

The purpose of this paper is twofold:

Firstly, to examine the literature on CSR in the mining sector in the context of livelihood development. Secondly, to provide a framework linking CSR and the skill development needs of local communities with the help of a case study.

This paper consists of five sections. The section 1 provides background and describes the objectives. The section 2 talks about the methodology of the study. Section 3 concerns results and has been organized into two subsections. The first subsection sums up the literature review: namely sustainability challenges of coal mining, challenges of coal mining in India, capacity building trends in the mining sector and CSR in mining areas. The second subsection describes the case study of a skill development program being implemented in the Muriadih coal mining area of Jharkhand state in India. Section 4 provides discussions in the form of a summary and convergence of literature review from different areas. Section 5 provides conclusions and future research implications. A novel framework for livelihood and value chain development in the context of CSR work by mining companies is also discussed in this section.

2. Material and methods

As the focus of this study is to examine the literature related to CSR practices in mining firms, in the context of livelihood development and capacity building, the paper draws upon literature from leading academic journals from the following databases: Viz, Wiley (onlinelibrary.wiley.com); Science direct (www.sciencedirect.com); Emerald (www.emeraldinsight.com) and Google Scholar (scholar.google.ca). A group of scientific journals in the above-mentioned databases which were likely to include work in the field of CSR for the mining industry in the context of livelihood where searches were made related to relevant keywords were selected. The main keywords used for the bibliographic search are presented in Table 1 below. The next step included the scanning of the collected articles and their classification. First, all articles that were repeated in different databases were excluded, then, keeping the scope of paper in mind, the title and abstract of the retrieved articles were reviewed for their relevance to research questions by the authors and all non-relevant articles lying outside the objectives of the study were excluded. After the screening process and thorough analysis, a total of 62 papers including reports were

selected for this study. The detailed keyword selection and papers under each category are presented in Table 1 and Fig. 1 below.

The study also presents the case study of Muriadih coal mining in the Dhanbad district in Jharkhand, India. The data for the case study was gathered through live experiences of the authors of the project. The timeline for data collection is from the start of the project in July 2015 to March 2017. Various research tools, such as conducting: a need assessment survey, socio-economic survey and resource assessment represented important inputs for the case study.

The selection of a mining site and the number of villages for this study is explained in detail in section four of this paper.

3. Results

This section of the paper is organized into two sub-sections. The first section presents in-depth literature review and the second section reveals the results of the case study being implemented in livelihood development in mining areas.

3.1. Literature review

The review of literature is focused on four areas based on the objectives of the study, i.e. environmental and social issues in the mining Sector; impact on local livelihoods; CSR and mining companies, capacity building and skill development in mining areas. Based on the existing literature, we have tried to identify research gaps and provide research directions in this emerging area of CSR and sustainable livelihoods in the context of changing the regulatory regime and emerging paradigms in corporate social responsibility and sustainable development goals. While this paper provides literature inputs from a global perspective, it has been written in the context of Indian coal mining scenarios. This paper also uses input from a case study implemented in the Muriadih coal mines of the Dhanbad district in the Jharkhand state of India and proposes a novel framework for livelihood development and implementation in the local context, yet has the potential to be replicated in other mining areas.

3.2. Sustainability challenges of coal mining

The major environmental problems at the mining stage consist of the degradation of land which is perhaps the most serious impact of coal mining operations. Mining projects not only affect the people whose land and houses have been taken away for mining but also people living in the general vicinity as they suffer from local environmental impacts, which include water scarcity, air, noise, and water pollution, health impacts, etc. Open cast mining causes much greater degradation to land than underground mining (Kemp, 2010; Kumar, Gupta, & Radhakrishnan, 2015). With a

Table 1
Keyword classification of articles.

Subject area	Key words Used	No of Papers selected for review
CSR and Mining	• CSR (5) • CSR and mining industry (9) • CSR and community development (7) • CSR and stakeholder engagement (5)	26
Capacity building and Mining	• Capacity Building (8) • Skill Development and Training (6)	14
Livelihoods and Mining	• Livelihood (5) • livelihood security (4) • Gender equality (4) • Poverty eradication (4) • Employment and sustainable rural livelihood (5)	22

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