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# Vulnerable populations affected by mining: Predicting and preventing outbreaks of physical violence



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#### ABSTRACT

Mining occurs in ever more remote areas of the world inhabited by some of the world's most vulnerable populations. Loosely framing these populations as living in 'developing country' contexts does not adequately address the risk of physical violence they face as a result of mining activity. This article explores the risk of violence that may be exacerbated by rises in commodity prices. Whether short lived or long-term, dramatic increases in mineral prices appear to drive behaviour leading to physical violence for vulnerable populations. The article posits that there may be a relationship between the actual or perceived value of mineral resources and the level of violence that occurs in mining-related conflicts. Consequently, it is theoretically possible to proactively anticipate potential outbreaks of violence in vulnerable populations. Underlying is a mapping exercise of mining related conflict to see where mining related conflict is happening; to identify precipitant causes of mining related conflict; and, to discover potential correlations in the degree of violence and the value of the mineral(s) implicated. Implications are drawn for how preventative measures might be put into place in order that human suffering is not increased when financial markets drive up commodity prices.

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#### 1. Introduction

This paper argues that company-community conflict in the mining sector is a product of potentially mitigable triggers or drivers. We problematise the relationship between commodity price and mining-related conflict. Since the early 2000s, mineral and energy commodity prices have increased, along with growing demand for mined resources. As reported by the ICMM, "The increased output of metals and the increased value of most metals have resulted in a rise in value of the global metal and industrial minerals mining industry from US\$214 billion in 2000 to US \$644 billion by 2010" (Ericsson and Hodge, 2012, p. 7). These phenomena have fuelled rapid global expansion of the extractive industries, with much of this growth located in the Global South as well as regions in the Global North where indigenous communities still honour their traditional lifestyles.

Accompanying the increase in mining activity has been a rise in the number of conflicts between companies and local communities (Banfield et al., 2005; Cliffe and Roberts, 2011; Osuji, 2011; Rasche, 2010). The wide range of consequences to

the lives and environments of people working for, and living within, the impact zone of a mine has the potential to either generate or reawaken both sustained and episodic conflict with communities (Carstens and Hilson, 2009). Such conflict can become physically violent. There are examples of overt, physically violent conflict involving mining companies and communities throughout the world. Well publicised examples include the Tampakan copper mine in the Philippines (Pamfilo et al., 2005), the Panguna gold and copper mine in Bougainville (Boege, 2010), the diamond fields of Sierra Leone and Liberia (Custers and Matthysen, 2009), and countless gold mines in South Africa or the Americas (BICC, 2008; Clark, 2002; Özkaynak et al., 2012; Rustad and Binningsbø, 2012)

The risks related specifically to outbreaks of physical violence for vulnerable populations are particularly concerning. Vulnerable populations in relation to mining are characterised firstly as those with limited power and financial resources (CIDSE, 2009). However, they also have particular challenges related to issues such as displacement, resulting from both voluntary or involuntary resettlement, as witnessed in Limpopo, South Africa and Colombia (Farrell et al., 2012; Harker, 2008); human rights issues as in the DRC, Congo and Indonesia; artisanal mining, as in Porgera, Papua New Guinea (ERI, 2014; Human Rights Watch, 2010); and indigeneity (Fijn et al., 2012; Forest Peoples Programme and

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Tebtebba Foundation, 2006; O'Faircheallaigh, 2013). Exacerbating the singular and cumulative effects of these vulnerabilities are related issues which drive conflict, including human security, bribery and corruption, a lack of employment opportunities, loss of traditional livelihoods, health and safety of mine workers, family and community cohesion, corporate-community communication, information transparency, trade practices, threats to cultural integrity, and environmental change (Paull et al., 2006; Bainton 2009). Many of these drivers are cross-linked in multiple ways. For example, rapid in-migration population increases of prospective legal and artisanal workers to mine sites increases the pressure on local communities without capacity or infrastructure to support their needs (Rigg, 2007). Overall, these multiple drivers of conflict configure in unique ways that have the potential to contribute to expressions of physical violence for mining-affected communities.

In addition to considering the variety of drivers of mining company-community conflict named above, this article examines the one driver that has been largely missing in these discussions: the role of commodity prices. The article reports findings from a preliminary study undertaken to investigate possible links between commodity price changes and rates of community-level violence in vulnerable communities. Our initial research, while limited in scope, suggests there is a link. We are not alone in noticing this possible correlation. In their analysis of recent trends in Colombia, Idrobo et al. (2014) observed that "the rise of illegal gold mining that took place in Colombia after the large increase in the international price of gold, led to higher levels of violence in regions of Colombia with the presence of gold deposits" (p. 109).

We suggest that rising commodity prices could be interpreted as an early warning signal for impending increases in mining company-community violence. In other words, if, for example, there is a spike in diamond prices it may be reasonable to anticipate that mining activity, and related social and environmental stressors, will intensify in and around diamond fields. The article concludes that, by correlating spikes in commodity price with known vulnerable community contexts, mining companies and governments might choose to implement specific interventions supportive of human well-being, rather than or in advance of the more forceful response of deploying military or riot police. Preemptively addressing basic human needs has potential to reduce pressure on other social and economic conflict drivers in the mining context. In so doing, preventive action could reduce the potential for outbreaks of physical violence, while minimising the unwanted costs and outcomes of mining related conflict for local and international stakeholders.

The next section describes the various forms of violence that can be present in the mining context according to peacebuilding theory. Next, we provide an overview of the literature we used to inform the development of our methods, described subsequently. In the results is an indicative series of tables isolating data sources. mineral values, conflict location, type of mining, and number of people who died/suffered serious injury as a result of the conflict. While we recognise there are often a number of compounding and contributing factors resulting in loss of life in the mining context (e.g. poverty, livelihood opportunities, governance, economic and political pressures), these variables are not examined in this article but will be explored in subsequent research. As well, no detailed economic modelling was done; the original study was strictly a 'proof of concept' exercise, not the development of a sophisticated prediction tool. The final section of the article discusses the implications of the possible correlation of mining-related violence with the value of minerals extracted.

#### 2. Mining and conflict: what constitutes 'violent'?'

In the literature on peacebuilding theory, 'conflict' is a term that has the potential to be interpreted in multiple and different ways and is not always physically violent. For the purposes of this article, we borrow from Peace Terms (Aall, 2011) which defines conflict as:

... an inevitable aspect of human interaction, conflict is present when two or more individuals or groups pursue mutually incompatible goals. Conflicts can be waged violently, as in a war, or nonviolently, as in an election or an adversarial legal process. When channeled constructively into processes of resolution, conflict can be beneficial. [p. 14]

Non-violent conflict is simply part of the human experience and can be an indication that an opportunity for change is emerging in the relationship between individuals or organisations (Bond, 2014). Change is an integral characteristic of mining, being a large, disruptive activity in competition for land and water with communities. Environmental impacts (pollution and competition for resources) are most commonly precipitate conflict, followed by absence of stakeholder consent, community health and safety concerns, and various socio-economic issues (revenue distribution, loss of culture and customs, and dissatisfaction with communication processes) (Davis and Franks, 2014).

Mining-related conflicts are complex, characterised by a range of effects classed as 'violent', and with multiple drivers (Whiteman and Mamen, 2002). While not always true, the prevailing anecdotal perception is that mineral extraction, as such, fuels physicallyviolent conflict. Mineral extraction activities have certainly been associated with conflict, physical violence and death on six continents over the millennia; and the very large footprint of modern industrial mines almost always dictates major human and environmental disruption and displacement. Since 2005, articles have regularly appeared linking certain minerals with violent conflict: gold; gemstones (particularly diamonds); platinum; and rare earth metals (e.g. coltan, tin, tantalum and tungsten) (Fig. 1). Ross (2003) not only makes the claim that "natural resources play a key role in triggering, prolonging, and financing conflicts" (p. 17) but also states that "the natural resources that cause these problems are largely oil and hard-rock minerals, including coltan, diamonds, gold, and other gemstones" (ibid.). In the international policy arena, the response to these mining-related conflicts has been to label and respond to them as an abridgment of Human Rights (Feil and Switzer, 2004; Kallman and Karmel, 2012; Ruggie, 2011b).

While development of extractive industries may deliver some benefits to surrounding communities, corporations seldom

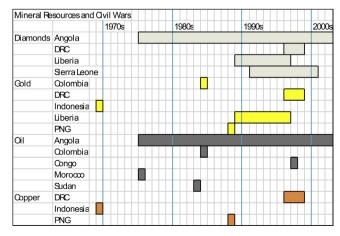


Fig. 1. Links between civil wars and mineral wealth (adapted from Ross (2003), Fig. 2).

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