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Indicators of mining in development: A Q-methodology investigation of two gold mines in Quang Nam province, Vietnam

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ABSTRACT

Mining plays an increasingly important role in Vietnam's economy and has been central to the economic and social development strategies of a number of provinces. Yet, to date, the ways in which mining is experienced by local residents in mining communities has received relatively little attention. This research employed Q-methodology to examine community perceptions concerning the impact of gold mining in Phuoc Duc and Tam Lanh communes, Quang Nam province, Vietnam. As local subjectivities regarding resource extraction are complex and diverse, Q-methodology allows for the identification of distinct and comparable viewpoints within and between study communities. Results indicate that within Phuoc Duc commune, perceived impacts on the standard of living, livelihoods, health, and quality of life were all concerns of local residents. Perceptions of residents in Tam Lanh indicated a concern for impacts on health and the standard of living as well as limited government protection. Findings from the two case studies suggest that local people's subjectivities about mining impacts were highly nuanced and influenced by geography, demographics, history and culture.

1. Introduction

The impact of mining on local communities in the developing world has been a vibrant area of academic inquiry for several decades (e.g. Bebbington et al., 2008; Aragón et al., 2015; Gilberthorpe and Hilson, 2016; Aragón and Rud, 2016). This body of work is expansive and highlights the diversity and complexity of the relationship between mining and people. In some cases, scholars highlight increased economic activity, job creation, infrastructure development and social benefits (Akabzaa, 2009), while in others attention is drawn to issues such as environmental degradation, income, the displacement of Indigenous peoples and social upheaval (Doyle et al., 2007; Aragón and Rud, 2013, 2016). While a strong tradition of research on mining and development exists across Asia, relatively little work has been undertaken on Vietnam (Tran et al., 2012). This is despite mining playing an increasingly important role in the economies of a number of Vietnam's provinces (Khoi, 2014). The paucity of mining related research in Vietnam is in large part the result of restrictions placed on foreign scholars and bureaucratic limitations on researchers within Vietnam (Waibel and Ehlert, 2012). The research that has been conducted has focused primarily on mineral exploration and the politics of foreign investment (e.g. Carlyle, 2009), and not addressed the 'lived experience'

of people in areas where mining is a significant economic activity.

Resource-based communities are diverse, and their development trajectories and social dynamics vary considerably according to local social and political contexts, commodity type and the business structures associated with resource extraction (e.g. Auty, 1997; Addison et al., 2017; Chuhan-Pole et al., 2017). This diversity drives both the direct and perceived experiences of local communities. Local perspectives are complex and varied, and capturing these viewpoints is challenging (Chapman et al., 2015). A small number of Vietnamese researchers are beginning to pay attention to the relationship between mining and development at the community level (Tran and Nguyen, 2010; Tran et al., 2012) however, much of this work remains broad, with a focus on cross-sectional quantitative research that does not address experiences at the local level. Where detailed research has taken place, scholars have focused on a single or narrow range of issues, such as income distribution and job creation (Tran et al., 2012).

This paper begins to address this lacuna through an examination of local perceptions of the impact of gold mining on communities in Phuoc Duc and Tam Lanh communes, Quang Nam province, Vietnam. The study focussed on residents' views on income generation, pollution, health, employment, conflict, safety and crime, reinvestment, equity, and environmental impacts. The research was undertaken using Q-

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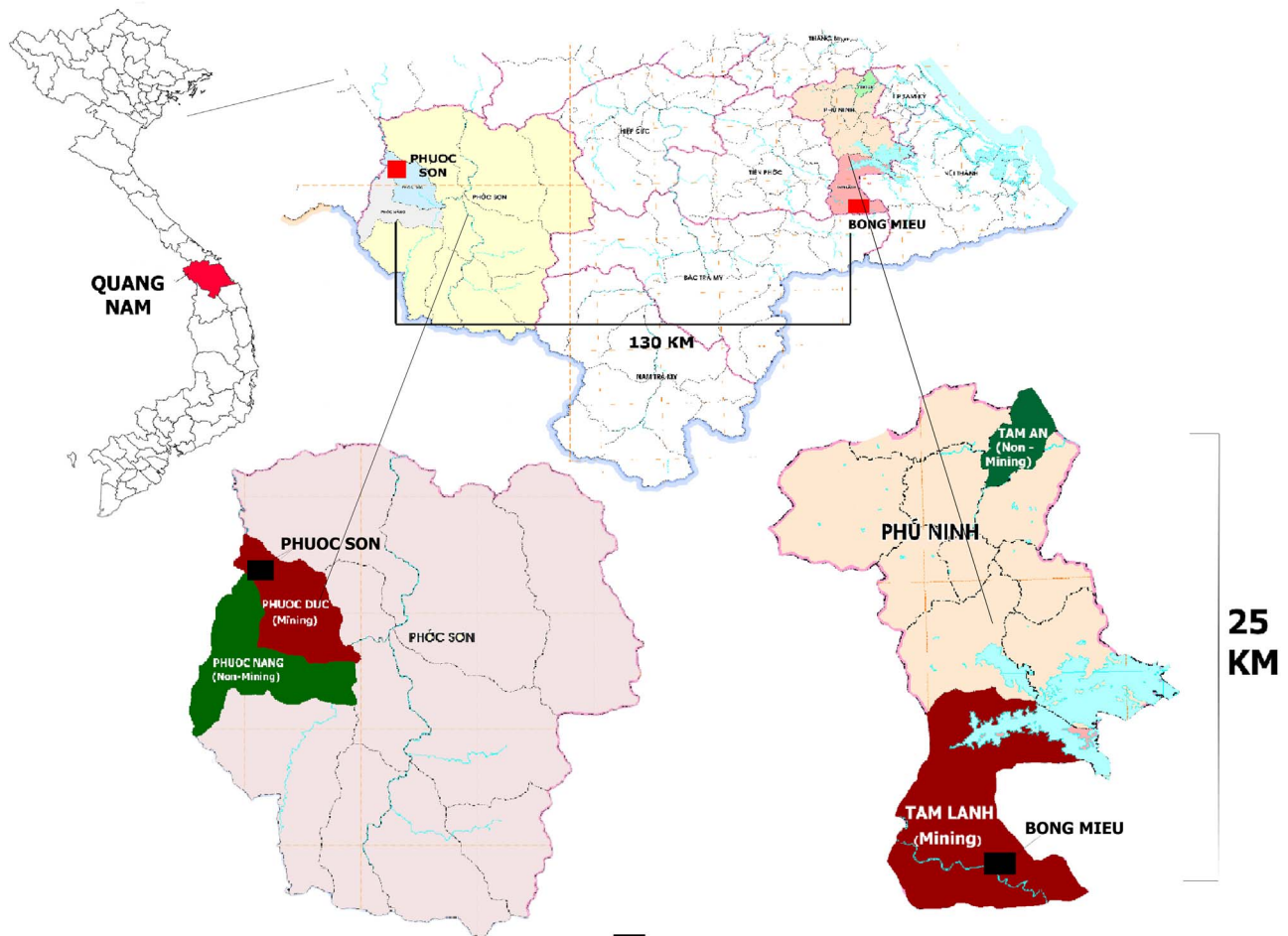


Fig. 1. Phuoc Son and Bong Mieu mine locations.
(Source: Adapted from Quang Nam administration maps).

methodology, which provides a systematic, quantitative means of capturing subjective local perceptions through field-based interviews. While Q-methodology has a long history in the social sciences, only recently has it been applied to understanding community perceptions regarding mining and development (Chapman et al., 2015; Weldegiorgis and Ali, 2016). Results indicate that while there were a number of common themes in the perceptions of residents in both localities, there were important differences that relate to local culture, political context, and environmental conditions. Importantly, the paper demonstrates that policy responses and development practices need to not only account for local perceptions, but also recognise the importance of distinctive geographies, histories and cultures.

2. Methods

2.1. Study area

The research was undertaken in two locations: Phuoc Duc commune, Phuoc Son district, and Tam Lanh commune, Phu Ninh districts, Quang Nam province (Fig. 1). Both communities support gold mines owned by Besra, a Canadian firm with properties in New Zealand, Malaysia and the Philippines. Gold mining was first conducted in Phuoc Duc during the French colonial period (prior to 1945) however, records of these activities are unavailable (Steven and Fulton, 2008). More recently, a gold exploration license was granted to Besra in 1999 and a processing plant was subsequently commissioned in 2011 (Besra, 2016a). In contrast, the people of Tam Lanh experienced several periods of mining activities, the first during the 1880s and again in the

1940s (Stevens and Fulton, 2007). Besra received a license to operate in Bong Mieu in 1997 but it wasn't until a decade later that a gold processing plant was built (Besra, 2016a).

According to Phuoc Son statistics (Pss, 2015), Phuoc Duc is a remote area with a population of 2400. More than 60% is indigenous with 49.34% living in poverty according to the 2014 census. Historically, livelihoods of villagers in the commune was based on agriculture and commercial afforestation. However, mining now plays a significant role in income generation and employment in the commune.

In Phu Ninh province, Tam Lanh occupies a mountainous location with a population of 6708 (0.5% indigenous) and a poverty rate of 3.93% in 2014 (Pns, 2015). Similar to Phuoc Duc, the livelihoods of local residents are based on agriculture and commercial afforestation with mining employment increasing in recent years.

2.2. Selecting indicators of mining and development

According to Merriam-Webster (2016, p. 1), the term indicator is defined as “any of a group of statistical values that taken together give an indication of the health of the economy”. Indicators are measures derived from “observable facts” allowing for the examination of “relative position” when comparing two or more entities (Nardo et al., 2005). At regular intervals an indicator can be used to examine trends, highlight issues, monitor performance and inform policy however, it is important that indicator selection has theoretical grounding.

According to Azapagic (2004), indicators used to examine impacts from mining on local stakeholders generally address three areas of interest: economic issues (e.g. GDP and job creation), environmental

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