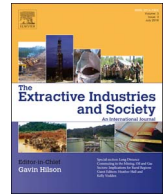




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The meanings of mining: A perspective on the regulation of artisanal and small-scale gold mining in southern Ecuador[☆]

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ABSTRACT

Before Christmas 2016, an elementary school in Zaruma, Ecuador was swallowed by a collapse in the ground linked to illegal gold mining activity taking place underneath the town. This incident, along with widespread environmental contamination, proved distressing for the inhabitants of the district of Portovelo-Zaruma (P-Z). However, the revenues from this mining activity sustains the livelihoods of local people, including supplying revenue to support regional investments in agro- and aquaculture. The Ecuadorian Government has intensified its efforts to address the problems of control and regulation but the results thus far are underwhelming and partial. This paper reflects on why this is the case by untangling the complexities of the mining taking place and its regulation. I argue that current state intervention is dominated by the discourse of natural science, in deep need of complementation from critical social science in order to convey the deeper causes of the sector's problem. By employing a perspective from the tradition of political ecology, the paper represents a first step towards opening up this context to the social sciences. The analysis contributes to the growing literature on artisanal and small-scale gold mining (ASGM), particularly to discussions about its contentious character and regulation.

1. Introduction

This article presents an empirically-grounded analysis of mining regulations and mining practices in the district surrounding the towns of Portovelo and Zaruma (P-Z) in El Oro Province, Southern Ecuador. It is a case aimed at illustrating the challenges involved with regulating artisanal and small-scale gold mining (ASGM) in the context of the broader field of extractive industries.

In the analysis, I use a political ecology framework with special emphasis on socio-political dynamics. There are two main reasons why such an approach was adopted. The first stems from the observation that the mining community of P-Z finds itself entangled in a process of environmental degradation and social marginalization (cf. Benjaminsen, 2015; Robbins, 2012). The second reason stems from the observation that existing research on ASGM is mostly highly-scientific, focusing heavily on the environmental aspects and technical features of the sector (Nichols et al., 2015; Veiga et al., 2014; Miserendino et al., 2013). Accordingly, a main objective of this study is to complement this research with insights from the social sciences and to engage critically with what is going on in P-Z. This twin-motive is rather conventional within the tradition of political ecology (PE), especially in critical social

analyses (e.g. Murray Li, 2007; Ferguson, 1999, 1994) confronting implicit assumptions made about development initiatives. As Robbins (2012) suggests, PE is “a community of practice united around a *certain kind of text*” (p. 20, italics in original). These “texts”, the author continues:

...can be understood as to address the condition and change of social/environmental systems, with explicit consideration of relations of power. Political ecology, moreover, explores these social and environmental changes with an understanding that there are better, less coercive, less exploitative, and more sustainable ways of doing things. (ibid.)

Given the solid evidence of a skewed and capitalist-driven world (e.g. Piketty, 2014), with great costs absorbed by the environment (e.g. Klein, 2015), I agree that this critical stance is indeed legitimate. Still, I argue that this should not lead us towards interpreting local power asymmetries and local labour exploitation merely as consequences of an unjust world. As I will show, such an analysis is wrong and I argue that political ecologists, perhaps more than anyone, need to be both careful and consistent with their empirical observations when formulating stories about people and places.

A striking particularity of ASGM in P-Z is the absence of organized

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resistance to mining and its socio-environmental consequences. Given the fact that this context is the most renowned case of ASGM in Ecuador, this suggests that P-Z is not fit for environmental campaigns which, analogous to the environmental justice movement, tends to focus on the consequences of large-scale corporate extraction. While natural science on mining and its hazards in P-Z is critical to local mining practice, its epistemological foundation (positivism) obscures the intrinsic cultural, social, economic and political dimensions of the problem. In other words, while natural science is informative in an interdisciplinary sense, it largely focuses on the symptom (pollution) while failing to elaborate on the socio-political conditions that (re)produce the deeper causes.

Accordingly, I suggest that instead of merely identifying the mining praxis in P-Z as contaminating and unsustainable, we take one step back and ask: *How does local history influence current mining identity and praxis? How is legislation and regulation conceived from a local point of view? How does current regulation impact on its objective and vice-versa?* I argue that unpacking these questions provides for an improved conceptualization of the problem of regulation. Furthermore, my analytical scope is on the *enforcement* of mining legislation and not so much on the political processes that shape legislation itself. As such, the paper represents a specific case in a growing number of diverse social conflicts related to mineral extraction² and helps to understand why some communities express either resistance or consent (Conde and Le Billon, 2017). Yet, in contrast to studies of mining conflicts at the extractive frontiers where claims and rights of indigenous groups in opposition to neoliberal expansion constitute the major line of inquiry, this case is about the regulation of ASGM in one of the oldest mining communities in Latin America with an absence of indigenous people. Contrastingly, this paper examines the co-existence of different scales and practices of gold mining within a proud, mestizo mining community.

I draw upon two episodes of ethnographic fieldwork in P-Z, the first during the summer of 2015 (three months) and the second in January/February 2016 (one month accompanied by a photographer). The data collection was predominantly qualitative. I visited numerous processing plants and mines and spent a considerable amount of time in the urban areas of P-Z. Of particular methodological importance was my collaboration with ARCOM (Ecuadorian Agency of Control and Regulation of Mining). I accompanied ARCOM weekly on their inspections of mines and processing plants, including the largest mine in P-Z (an extensive network of tunnels from a 300 m deep spiralling, underground decent with enough room for big trucks to pick up ore) and the smallest (a 40 m horizontal, subterranean tunnel in the garden of an artisanal miner and agriculturist). I conducted more than 30 semi-structured interviews of regulators, miners and workers (both active and retired), mine/plant owners and administrators, local politicians, historians and laypeople. These interviews contained a series of numerous informal conversations. Additionally, I have frequented the region for the last 16 years for personal reasons, and discussed the pros and cons of mining (i.e. its regional meaning and impact) with people from all sorts of backgrounds residing in the province of El Oro.

The paper begins by outlining the constituents of ASGM research, after which, the particularities and complexities of P-Z are examined. Section 4 reflects upon the challenges of enforcing mining legislation while problematizing governmental intervention. Section 5 presents an empirical sequence on the problematic claim for resource sovereignty in addition to providing a brief economic analysis. I avoid a traditional perspective of *resistance* (cf. Scott, 2008). Rather, I apply the perspective of legal pluralism, in which formal laws and local norms or “raw laws” (Machado et al., 2017:5) are juxtaposed and imbued with practical, local meaning (cf. De Theije et al., 2014). Furthermore, I make use of an innovative reconceptualization of the concept of sovereignty (McNeish, 2017: 1129). Instead of thinking about sovereignty in terms

of nation state’s monopoly of control over land and resources within its borders, McNeish (2017) suggests that it can also be used by reference to popular (civil society) claims towards control over resources. However, the analytics of resource sovereignty applied to the context of P-Z indicate that legitimate claims of autonomy may also serve to obscure internal power asymmetries and thus undermine both regulations and wealth distribution.

My main argument, however, is that in addition to a strong articulation of path dependency deriving from more than six centuries of continuous mining activity, the current power relations permeating the ASGM community of P-Z are key obstacles towards mitigating the social and environmental consequences generated by the mining activity. The paper is a first step towards opening up the context for critical social science, including the environmental justice movement. I argue that governmental intervention to combat the detrimental consequences of ASGM in P-Z would benefit from a more comprehensive understanding of the dynamics at play, in a way in which the role and positioning of the Ecuadorian State (central, provincial, municipal) is also scrutinized.

2. Artisanal and small-scale gold mining (ASGM): an overview

The ASGM sector has received a growing attention from scholars, activists, and the public over the last decade. This attention correlates with increasing gold prices that peaked in mid-2011 when a gram of gold was valued at almost 60 US dollars, resulting in a remarkable growth and intensity of this form of gold mining. With current gold prices around 40 dollars a gram, the ASGM sector today employs about 16 million people throughout the world (Seccatore et al., 2014). Beyond ASGM, this last boom in mineral prices (2009–2012), was accompanied by a liberalization of mining laws and investment opportunities, which in turn intensified latent social conflicts surrounding mineral extraction *and* spawned new conflicts as the mining/commodity frontier was pushed into new territories around the world (Conde and Le Billon, 2017).

The general picture of ASGM – informal mining carried out in remote places by marginalized people that has severe socio-environmental consequences but which alleviates poverty – is well-known (e.g. Verbrugge, 2015; Seccatore et al., 2014; Miserendino et al., 2013; Hinton et al., 2003). The challenges in relation to contamination is epitomized by ASGM being the largest consumer of mercury in the world, using approximately 1400 t a year (Veiga et al., 2015). Concurrently, researchers have carried out studies on mercury contamination from ASGM for several years (e.g. Clifford, 2017; Veiga et al., 2015, 2014; Smith et al., 2016; Telmer and Veiga, 2009; Hilson, 2006). To address this problem more comprehensively, the United Nations launched the Minamata Convention in 2013, which Ecuador ratified in July 2016.

Two main scholarly tracks are often combined when examining ASGM. The first is an empirical critique of the technologies employed by the miners and suggestions on how to improve this.³ The second is a critique of the legal frameworks in which the sector operates and accordingly, a discussion on the contradictions and inconsistencies in mining legislation (Marshall and Veiga, 2017; Arsel et al., 2014), including ASGM’s embeddedness in specific, socio-cultural structures (Persaud et al., 2017). Following this last point, social science has informed us about “the cultural logics of illegality” (High, 2012) in ASGM with an emphasis on ethnographic explanations of its persistence and meaning to people (Verbrugge, 2015). Hence, the regulation of ASGM can either be analysed in relation to the formation of mining legislation or its enforcement and responses in the field. Both analytical grounds have important relevancy for advancing comprehension of ASGM as a complex and dynamic sector. However, while acknowledging the efforts towards developing a coherent and effective legislative framework

² Cf. the Environmental Justice Atlas – <https://ejatlas.org>.

³ As continually showcased in the *Journal of Cleaner Production*.

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