The Extractive Industries and Society xxx (xxxx) xxx–xxx

Contents lists available at ScienceDirect

The Extractive Industries and Society

journal homepage: www.elsevier.com/locate/exis

Original article

The country and the city: Mobility dynamics in mining regions

Gerardo Castillo[a,*], David Brereton[b]

[a] Department of Social Science, Pontifical Catholic University of Peru, Lima, Peru Av. Universitaria 1801, San Miguel, Lima 32, Peru
[b] Sustainable Minerals Institute, The University of Queensland, Brisbane, Australia

ARTICLE INFO

Keywords:
Rural-urban migration
Household strategies
Social change
Mining
Andes
Peru

ABSTRACT

Mining projects contribute to – and are impacted by – changing patterns of spatial mobility amongst local populations. This paper explores these processes through a case study of the La Granja copper mining project in the Cajamarca region of Peru. Historically, when job opportunities declined many members of extended families moved to coastal cities or more productive lowland farming areas, with some, mainly older, members remaining to secure family land and properties. Conversely, there was an influx back to La Granja when opportunities improved. These two-way migratory patterns have created a fluid and dense network connecting individuals and families across a broader region, helping them to leverage economic benefits and retain control over strategic decisions. The paper relates these findings to wider debates about the nature of migratory processes in Peru and argues for greater attention to be paid to mobility dynamics when analyzing the social impacts of mining projects.

1. Introduction

The spatial movement of people from one territory to another – whether voluntary or forced – is a complex and long-standing phenomenon in the history of humankind. There is now a large body of social science literature focused on understanding the complex drivers of migratory processes (Geddes et al., 2012; Van Hear et al., 2012), which include economic, demographic factors and environmental factors, and social and political dynamics. These drivers encompass 'push' factors, on the one hand and 'pull factors' on the other. Examples of 'push' factors include expulsion due to political tensions and violence and ethnic and religious cleansing, cultural and identity clashes, age and sex imbalances, environmental degradation, climate change (Black et al., 2011), lack of economic opportunities, and development-induced displacement (see, for example, Cernea, 1995; Mathur et al., 2013; Connell and Connell, 2016; Wilmsen and van Hulten, 2017). 'Pull' factors include raised aspirations, new economic opportunities created by urbanization and industrialization, and the generation of remittance flows (Altamirano, 2000; Roberts, 1978; Van Hear et al., 2012). Recently, social impact researchers have identified mining development as a significant driver of migratory behavior at a multiplicity of levels. Areas of focus have included: displacement and resettlement resulting from moving people off lands on or near where resources are located (Szablowski, 2002; Bury, 2007; Owen and Kemp, 2015); in-migration of 'outsiders' attracted by new economic opportunities and improved services (International Finance Corporation, 2009; Gilberthorpe et al., 2016; Bainton et al., 2017); and out-migration when mines downscale or close (Hollywood, 2002; Nyame et al., 2009). These effects have primarily been characterized in negative terms, although some researchers have acknowledged that population growth stimulated by projects can have beneficial consequences under certain conditions, particularly for those regions with static or declining populations (see, for example, Petkova et al., 2009).

This paper examines the complex dynamics of social and spatial mobility relating to the Rio Tinto La Granja copper project (RTLG) in the Cajamarca region of northern Peru. The primary focus is on the experiences and strategies of local families, the ways in which they demonstrate agency, and their ability to influence outcomes. Our core argument is that *Granjinos* have not been static actors, but over the course of several decades have exhibited a relatively high level of spatial mobility and have developed a range of strategies for coping with the economic vicissitudes of the region, taking advantage of these where they can. Drawing on the example of RTLG, the paper addresses the implications of the findings for the understanding of migratory processes in Peru more broadly. We call for further research into the spatial and social mobility dynamics associated with mining projects to better understand how communities respond to and are impacted by mining. We also consider the implications for social management practices in the sector.

The paper is divided into six sections. Following this introduction, Section Two describes the case study location and provides an overview of the research methodology. Section Three summarizes the existing

* Corresponding author.
E-mail addresses: castillo.gm@pucp.edu.pe (G. Castillo), d.brereton@smi.uq.edu.au (D. Brereton).

https://doi.org/10.1016/j.exis.2018.02.009
Received 10 November 2017; Received in revised form 26 February 2018; Accepted 27 February 2018

research literature on spatial mobility, social change, and rural societies, particularly as it relates to Peru. The fourth section analyzes the mobility practices that local families of La Granja have enacted and experienced in the last twenty years, since the beginning of significant mining activities in the area. The fifth section focuses on the creation of spatial dynamics and networks at the regional level. The final section addresses the broader theoretical and practical implications of this research, both in regards to migratory processes in Peru and the social impacts of mining on rural communities.

2. Research area and methodology

The case site is situated in the Cajamarca region of Peru,[1] a region which hosts several large-scale mining projects and in the last two decades has attracted significant investment for mineral development. The paper particularly focuses on the La Granja exploration project, which is currently owned by Rio Tinto, one of the world's largest mining companies. This project is located on the Western side of the sub-tropical Andes in northern Peru, nearly 1000 km from Lima, in the District of Querocoto, Province of Chota (see Fig. 1).

La Granja has been described as the ninth largest undeveloped copper project in the world (Rio Tinto, 2013). The lease area comprises 7400 ha and is situated at around 2000 m above sea level (Rio Tinto La Granja, 2013). The main localities or *caseríos* in the direct area of influence of the project are: La Granja,[2] La Iraca, La Pampa, El Sauce, Paraguay,[3] Cundín, La Fila, El Verde, and La Palma. These localities belong to the district of Querocoto. The *caserío* of La Granja, which the project takes its name from, is the nearest locality.

Although La Granja is in the Cajamarca Region, its main connection is not with the city of Cajamarca but with Chiclayo, a major commercial city on the northern coast of Peru, located in the region of Lambayeque. After infrastructure improvements were made to the road surface for the mining project, a bus journey from Chiclayo to La Granja could take between 8 and 10 h, compared to more than 20 h previously. For an automobile, the travel time has been reduced to 4–6 h.

The copper reserves at La Granja have been subjected to different assessments since the late 1970s.[4] In 1994, the Canadian company, Cambior, obtained a five-year contract from the Peruvian state. By 1997, Cambior had completed mapping, drilling and underground exploration, and prepared to conduct a feasibility study and an Environmental Impact Assessment (EIA) of an open pit mine. In addition, Cambior purchased land and displaced and resettled nearly 350 families from La Granja, La Iraca and La Pampa. In 2001, the project was sold to Billiton Plc. The new operator completed a small metallurgic drilling program, revised the mine's resource estimates, prepared a feasibility study and an environmental baseline, and conducted further impact assessment analysis. Following the merger of Billiton with BHP in 2001, the newly created company, BHP Billiton, decided not to continue with the development of the project and instead returned it to the state. The company prepared and implemented a social closure plan, which included returning the land to the displaced families. In 2006, through a public bidding process, Rio Tinto obtained the lease to explore and develop the project. Further feasibility studies were then conducted to inform decisions about constructing and operating the mine (Rio Tinto La Granja, 2013).

The fieldwork on which this paper is based was undertaken between May and December 2013, when there was a significant amount of development activity underway, including a large-scale drilling program and completion of various pre-feasibility studies, including an EIA and a Social Impact Assessment (SIA). Due to the fall in global commodity prices the project was scaled back in 2014. With the improvement in global copper prices in 2016, there has been a modest scaling-up of activity at the site, although well below the peak of 2013.

Because the La Granja project is still in the early stages of development its environmental footprint has so far been relatively small, mainly involving the building of access roads, sites for facilities and sample pits. The community has also not yet experienced the level of social and economic disruption that is typical of the construction phase. For these reasons, some caution is warranted in extrapolating the findings of this study to the Peruvian mining industry as a whole. However the impacts of the project have been of sufficient magnitude to provide valuable insights into the *processes* whereby Andean people respond to and navigate changes in the external environment brought about by mining development. There have already been substantial social and economic changes in the locality of the La Granja project over an extended period. Regardless of whether the project ultimately proceeds or not, it will have been responsible for the displacement of dozens of families, significant population shifts as people have moved into − and out of − the area, and the creation (and dismantling) of new infrastructure. There have also been multiple negotiations around land and working opportunities, disputes, agreements and acts of resistance. All of these processes have been important in shaping the area around La Granja as a 'place' and peoples' sense of that place (Agnew, 1987).

The research on which the paper is based was conducted by the lead author as part of his doctoral research. The fieldwork included participatory observation in the La Granja area, Querocoto −the district capital–, Chiclayo −the main coastal city in the region– and Ojo de Toro −a rural coastal locality in Lambayeque region. A total of 24 informants from 14 families in Lima, Chiclayo and La Granja were interviewed using an in-depth, extended, semi-structured format (see Fig. 2). This equated to around 280 h of conversation. Sample selection was guided by a typology comprising five categories, organized according to the family's relationship with the La Granja locality. This typology is presented in the Table 1.

3. Spatial mobility, social change, and rural societies

Commencing with early sociological works in the late 19th century, migration has long been regarded as being at the core of the transformation of rural societies. Drawing on West European and North American experiences, social scientists largely regarded migration as a unidirectional movement of people leaving rural areas to settle in the newly industrialized cities. Anthropological research prior to World War II which analyzed cases from non-Western societies (for example, Redfield, 1941) did not challenge this basic model.

The post-colonial experiences in Africa and South-East Asia, and the large-scale urbanization processes which unfolded in Latin America after World War II, demonstrated that there was not a necessary link between rural-urban migration and industrialization. Instead, many societies have urbanized without transforming their economic structure and have remained heavily dependent on the primary sector, especially agriculture. This is evidenced by the growth of large shantytowns and the persistence of high rates of unemployment and sub-employment (Roberts, 1978). Also, some social studies concerning mining areas in Africa and Latin America have drawn attention to the complex and fluid directions of rural-urban migratory flows. These studies have analyzed, for instance, seasonal migration, complementary household economies between farming and mining activities, and the gender imbalances and consequences of the influx of males into mining towns (Godoy, 1995;

[1] In political and administrative terms, Peru is divided into regions, provinces, and districts.

[2] Very recently, the localities of La Lima, La Uñiga and Checos have been separated from La Granja. For the purposes of this paper, they are treated as geographical and social unit.

[3] As in the case of La Granja, Paraguay has been split into two localities with the emergence of La Poza.

[4] The following information and chronology has been obtained through personal communication with the anthropologist Gerardo Damonte, a senior researcher of the Peruvian Think Tank GRADE, who coordinated the elaboration of La Granja Project Social Baseline Survey in 2006. His insights were also valuable in constructing the typology used in our study (see Table 1 below).