The Extractive Industries and Society xxx (2016) xxx–xxx

Contents lists available at ScienceDirect

The Extractive Industries and Society

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

Review article

Pulling the rug out from under: The land tenure dynamics of mining concessions in sub-Saharan Africa☆

James Mitchell

University of Bath, United Kingdom

ARTICLE INFO

Article history:
Received 6 May 2016
Received in revised form 6 October 2016
Accepted 6 October 2016
Available online xxx

Keywords:
Mining
Land tenure
Land use
Sub-Saharan Africa
Agrarian change

ABSTRACT

Recent developments in GIS mapping have shown there are significant overlaps between mining concessions and pre-existing forms of land tenure. Yet, there is limited research that analyses the impact of these overlaps on relevant developmental issues – particularly in sub-Saharan Africa. In an effort to remedy this situation, this article pieces together existing research on the sub-Saharan African region to argue that these overlaps can push pre-existing land users to the margins of land access, which when combined with the indirect forms of environmental degradation unleashed by overlapping land rights can spark community-company conflict in turn increasing risk for investors. Therefore, greater attention needs to be paid to exploring the social, economic and environmental transformation of land in the context of mining concessions, while concessionary contracts need to incorporate an improved understanding of pre-existing land use patterns through community-led mapping and discussion.

Contents

1. Introduction: towards an understanding of the geospatial dynamics of mining concessions

Recent research and developments in geographical information system (GIS) mapping have provided evidence that there are significant overlaps between mining concessions and pre-existing land uses in developing countries (Cuba et al., 2014; Oxfam America, 2014; Munden Project, 2014; Patel et al., 2016). However, there remains limited research on the political, economic, social and geospatial implications of the multifunctional landscapes that this expansion of mining's frontier seems to inevitably create. Therefore, this article provides a critical overview of pre-existing research regarding the land tenure dynamics of mining concessions in developing countries with a case study of sub-Saharan Africa. The article explores the impact of overlaying mining concessions on: pre-existing formal and informal landholding and access rights to natural resources; current rural development indicators (such as livelihoods and land's financial utility); environmental transformation and degradation; and community-company conflict. The dominant position is that overlaying

☆ Forest Peoples Programme, Free, Prior and Informed Consent 2016. [ONLINE] Available from: http://www.forestpeoples.org/guiding-principles/free-priorand-informed-consent-fpic (accessed 20.04.16.).

E-mail address: J.N.mitchell@bath.ac.uk (J. Mitchell).

http://dx.doi.org/10.1016/j.exis.2016.10.003
2214-790X/

mining concessions on top of pre-existing land uses and claims, even if the uses are not formalised by the central government, represents one of the largest impediments to local developmental outcomes. Finally, the article assesses critical research gaps and discusses potential solutions to the negative impacts of overlapping mining concessions.

Much of the critical attention on the mining industry in sub-Saharan Africa is focused on the negative externalities of production, its macroeconomic dynamics and its often mixed developmental record (Bush, 2009; Campbell, 2009; Hilson, 2012). Researchers, however, are becoming more aware of the transformation of land access dynamics that accompanies the expansion of the industry (Bebbington and Bury, 2013; Bury, 2005; Cuba et al., 2014; Oxfam America, 2014; Schueler et al., 2011; Patel et al., 2016; Verbrugge et al., 2015). Many of these research efforts have drawn upon maps to visually represent the spatial expansion of the industry, which is often at odds with pre-existing forms of land use (Cuba et al., 2014; Oxfam America, 2014; Patel et al., 2016). Of course, maps of mining concessions are nothing new. Visualisations of mining concessions represent an integral part of the industry because they represent spatial land claims to particular mineral rights owned or operated by particular companies or individuals (Cuba et al., 2014). Indeed, the historical relationship between land rights and mineral rights is so entrenched that the geographical boundaries of current nation-states have been defined by it. For example, Zambia's territory, which stretches 752.618 square kilometres, marks the border of an old protectorate administrated by the British South Africa Company for purposes of mineral exploration (Government of Northern Rhodesia, 1964). Given that property is often conceived of as a 'bundle of rights' (Payne et al., 2012, 2015; Payne, 2004), we can see that the land and natural resources granted in the form of a mining concession is a form of property owned or controlled by the leaseholder. Mining concessions can be granted to a range of different companies for a variety of different purposes: be it reconnaissance, prospecting, exploration or extraction.[1] In most cases, it bestows upon the bearer the right to move freely around the concession, to transform the land – through the act of drilling or prospecting for example – and to transfer (or sell) the land.

Critical cartography research has taught us that no maps are apolitical but contain biases and as such are vehicles for often-unequal power relations, ideas and polemical notions (Weizman, 2002, 2007). Despite the advancements made by Oxfam America (2014), Cuba et al. (2014) and Patel et al. (2016), much of the current geospatial information regarding mining concessions is currently dominated by the neoliberal policy of making the country as attractive as possible to foreign investment. The only precise maps that can be found on mining concessions in many developing countries is either through Spatial Dimension or in the relevant governmental ministries, usually hidden from the public or viewed only after paying an expensive fee. Spatial Dimension have created numerous mining cadastre maps of developing countries reportedly designed to foster improved stakeholder relations, reduce corruption and increase transparency. Clearly, they are not designed for the purposes of resolving disputes over overlapping claims to land for pre-existing communities. Rather, they are primarily designed to provide geospatial information to mining companies, investors and governments to avoid overlaps with other mining operations and to highlight where there is space for *more* mining concessions. Nevertheless, it is possible to extract important pieces of information from their maps, which reinforce the wider points of this article. For example, Figs. 1 and 2 (below) produced by Spatial Dimension, visualises the horizontal distribution of mining concessions in Zambia and Tanzania respectively.

Both Figs. 1 and 2 show that mining concessions occupy significant tracts of land in Zambia and Tanzania. Nevertheless, despite being able to visualise the spatial distribution of concessions in selected developing countries thanks to Spatial Dimension[2], the first real use of concession maps as critical tools exists in Oxfam America (2014) and Cuba et al. (2014) shared research project. They analysed the spatial overlaps between extractive concessions and the geography of natural resources key to other actors (in particular agricultural producers) in Peru and Ghana (Oxfam America, 2014; Cuba et al., 2014). By using geographic information system (GIS) maps they found a significant relationship – or geospatial overlaps – between land areas with agricultural potential, water resources, forest cover and indigenous and Campesino territories (*ibid*). For example, Fig. 3 visualises the spatial overlap of mining concessions and rural agrarian communities in the highlands of Peru, showcasing a significant overlaps between the two types of land use.

Clearly, these maps have the potential to highlight the vast allocation of space for the purposes of mining, which can be used as evidence to portray mining's geospatial expansion in many developing regions. The maps can also visualise overlaps between concessions and areas of known habitations (for example towns and rural dwellings) along with overlaps with protected areas including national parks – allowing for research to highlight the issue of competing demands for land in many developing countries.

However, despite the radical perspective provided by analysing these maps, they still only provide a superficial overview of the true dynamics of mining concessions and issues of land use, tenure and environmental transformation in selected developing countries. For example, both the Spatial Dimension and the Oxfam America maps do not show the multitude of pre-existing uses and rights to land.[3] Although that would be an ambitious project in itself, it is nonetheless important to use the maps as a starting point for further exploration into the transformative powers of mining concessions. Of course, it is the *point* of the Spatial Dimension maps *not* to show pre-existing and competing rights and claims to land given they largely represent the elitist vision of space within a territory presented to potential investors to showcase the viability for investments that occupy horizontal space. This follows the theme that characterises much of the land-related investment in sub-Saharan Africa. In sub-Saharan Africa, land, even when occupied by customary tenants, is often presented as being unused or underutilized and Noe (2013:4) argues that this 'idle land thesis' helps "rationalize the transfer of rural landscapes into new frontiers of investments".

Additionally, these maps, representative of the flat discourse of cartography, miss out on the vertical dimensions of sovereignty, territory and security, and the way in which subsurface minerals are secured by both surface and sub-surface rights (Weizman,

[1] In this article, a 'mining concession' refers to all types of mining concessions from reconnaissance, exploration and mining (extraction phase) unless specified. There remains a considerable research gap exploring the differing land tenure implications of the separate types of mining concession. Nevertheless, there remain considerable similarities between the types of concession because they are all types of exclusive rights to surface land and sub-surface resources.

[2] An exploration concession is an exclusive right to explore for minerals in a particular land area. A mining license is an exclusive right to extract minerals in a particular land area.

[3] Spatial Dimension is an organisation that, amongst other things, produce 'flexicadastre maps', which are digital representations of mineral concessions in particular countries. They are publicly accessible on the internet (http://www.spatialdimension.com/Cadastre-Portals) and are funded by a number of bilateral aid organisations including USAID, the European Union (EU), the Nordic Development Fund (NDF), the United Nations (UN), AusAid and the World Bank. The countries that they have produced mining cadastre maps for include the Democratic Republic of Congo, Kenya, Liberia, Namibia, Mozambique, Papua New Guinea, Rwanda, South Sudan, Tanzania, Uganda and Zambia. All maps represented in this article have been referenced appropriately.

Please cite this article in press as: J. Mitchell, Pulling the rug out from under: The land tenure dynamics of mining concessions in sub-Saharan Africa, Extr. Ind. Soc. (2016), http://dx.doi.org/10.1016/j.exis.2016.10.003