Enhancing Change in Zambia's Mining Sector

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Zambia is a resource-dependent nation, and since the privatisation of the mining sector power resided with a few foreign firms. The era since the electoral victory of the Patriotic Front has been characterised in part, by a policy of resource sovereignty that climaxed with the expropriation of two flagship mines in 2021. Crucially, the process of resource nationalism culminating in expropriation has allowed actors to *perceive* the possibility of institutional change in the organisational field of mining. Following the expropriations, the government that initiated them lost an election shortly after. Subsequently, a crucial industry has been thrown into disarray with scant indication as to the future direction concerning mining in Zambia. This paper seeks to frame the historic power distribution of the mineral sector as one-sided and in the favour of foreign firms, and that expropriation presented a critical juncture for the state and other organisational groups and actors to restructure power relations within the mineral sector. Zambia holds examples that can be built on to capitalise on the rupture that occurred through expropriation. Strategic litigation from communities that have been directly affected by mining against foreign firms and the enhancement of the formalisation program for small-scale mining (SSM) through social entrepreneurialism are existing methods that aid this shift. With further resources this two-pronged approach can solidify post-expropriation change. The end-goal is socio-economic progress through compensation, labour rights, shared mineral wealth, and protected environmental goods.

Keywords: small-scale mining, expropriation, resource-dependency, resource-nationalism, institutional change.

Power and Institutions in Zambia's Mining Sector

Zambian mining constitutes approximately 10% of GDP, 73% of total export value and 68% of foreign exchange earnings. Additionally, it produces 28% of government revenue and formally employs 2% of the national workforce. The majority of assets were held by 5 firms until 2020. They owned 70%-80% stakes in large-scale mines while Zambia Consolidated Copper Mines- Investment Holdings (ZCCM-IH), held 20% stakes as a minority partner. 80% of Zambia's copper was mined by these companies (EITI, 2019). There are smaller mining businesses largely owned and operated by ZCCM-IH (Ngambi & Mwiinga, 2016). There is small scale mining (SSM), whereby rural workers use manual tools to dig for ore in groups or individually (Hilson, 2007). Since the 2020 expropriation of Konkola Copper Mines (KCM) and Mopani Copper Mines (MCM) from Vedanta and Glencore respectively, the government is a majority stakeholder, alongside Barrick, First Quantum and China Non-Ferrous Metals. This has drastically altered the balance of power, as demonstrated in the tables below (ZCCM-IH, 2021).

Mining Asset	Kansanshi Mining Plc	Kalumbila Minerals Ltd	Konkola Copper Mines Plc	Luanshya Copper Mines Plc	Lubambe Copper Mines Plc	Lumwama Mining Company Ltd	Mopani Copper Mines Plc	NFC Mining Plc
Parent Company	FQM-80%	FQM 100%	Vedanta-79.2%	CNMC-80%	EMR-80%	Barrick-100%	Glencore-80%	CNMC-85%
State	20%	N/A	20.8%	20%	20%	N/A	20%	15%

(Mine ownership distribution prior to expropriation)

Mining Asset	Kansanshi Mining Plc	Kalumbila Mining Ltd	Konkola Copper Mines Plc	Luanshya Copper Mines Plc	Lubambe Copper Mines Plc	Lumwama Mining Company Ltd	Mopani Copper Mines Plc	NFC Mining Plc
Parent Company	FQM- 80%	FQM - 100%	N.A	CNMC-80%	EMR-80%	Barrick-100%	N/A	CNMC-85%
State	20%	N/A	100%	20%	20%	N/A	100%	15%

(Mine ownership distribution post-expropriation)

The organisation of the mineral sector prior to the recent expropriations, placed the majority of the nation's assets in the hands of foreign firms, which led to unequal power distribution. Subsequently, firms had been able to mistreat workers, damage the environment and avoid tax (Siwale & Siwale, 2017). The leverage these firms held for domestic revenue sources and the use of stabilisation clauses in investor-state contracts did

not solely affect government revenue, but also the development of labour, tax and environmental policy that could benefit Zambia's wider society. There is a lack of incentive in using resources on forming policy that does not affect the intended target (Oshionebo, 2010). Subsequently, Zambia's mining policy has limited effect outside of medium-sized mining assets and SSM (Ng'ambi & Mwiinga, 2016; Oshionebo, 2020).

Large firms, government, small businesses, mining-adjacent farming communities, employed miners, governmental departments, and NGOs all form an organisational field that interacts through the common meaning of Zambia's mining sector, following Di Maggio and Powell's definition, *"organizations that, in the aggregate, constitute a recognized area of institutional life: key suppliers, resource and product customers, regulatory agencies, and other organizations that produce similar services or products"* (1983: 148). Given mining's centrality to the history, culture and economy of Zambia, it's institutions, like any, are deep-rooted and resistant to change (Mondoloka, 2017).

Institutions are informal constraints and formal rules, devised for the purpose of confining a wide array of behaviours across multiple fields (North, 1991). North's (1991) conception of path dependence within social sciences, drew parallels from technological change (Pierson, 2000). It is relevant when discussing the issues facing institutional change in mining, as the sector's organisation is the consequence of history. Once a route is taken, change will likely be costly and complex, therefore, the incentive remains to continue on the initial path due to a wide range of factors, such as increasing returns, which incorporates inflexibility (Arthur, 1994). Path dependency is observable in resource-dependent states (Fadiran & Sarr, 2016). Firstly, Rhodesia was a colonial extractive society largely formed to provide lead, copper and coal to the British, then, after independence, as a post-colonial state where nationalised mining was the largest employer, to thirdly a privatised economy

whereby copper mines are controlled by a few large foreign firms, on whom the state are reliant for fiscal linkages (Sokoloff & Engermann, 2000; Acemoglu et al, 2001; Fraser & Larmer, 2010; Caramento, 2020). The technological aspect of path dependency is relevant when focussing on how mineral extraction has developed in the context of post-colonial states with foreign multinationals. Not only does this represent a historical continuity of colonial extractive states, but it also demonstrates the technological and economic aspects of large extractive projects. For mining to realise profit it requires many years of waiting, significant large sunk costs and the latest technological advantages (Runge, 2012). These three aspects in effect exclude post-colonial resource dependent states to undertake projects of this scale, which combined with the state-dependency on these projects for funds, ultimately lends the balance of power to the extractor over the host state.

Subsequently, mining firms hold power over actors within the organisational field. This is exemplified by stabilisation clauses in investor-state contracts, which demonstrates the asymmetry of power (Oshionebo, 2018). They make investment immune to new legislation that affects profit, often through direct compensation (Cameron & Kellas, 2008; Oyewunmi, 2011). This inhibits the development of domestic laws, in addition to the efficacy of sanctions. This sheds light on why Zambia has increased mining royalty taxes ten times between 2002- 2018 (EITI, 2019), with little increase in tax revenues (Readhead, 2016). For instance, KCM in one year paid $6m tax on ores that generated over $1bn (Dymond et al, 2007). Glencore and Vedanta were both granted royalty rates at 0.6% instead of the standard 3% and a capped corporate tax rate of 25% (Uzar, 2017). Public goods also have limited protection as environmental legislation can only be exacted in return for compensation (Oyewunmi, 2011).

Expropriation is a route out of the dynamic, but it is costly, diminishes investor confidence, and removes technology and knowledge (Opp, 2012). However, remuneration from foreign firms is minimal, and the inability to protect collective goods impacts communities (Mulenga, 2019). Expropriation destabilises institutional equilibria. Destabilisation provides new paths born out of collective decision-making that are new, attractive equilibria (Boyd & Richerson, 2008). An example is the divergence of focus of mining from foreign and large-scale to SSM and the nascent collective belief that mining firms can be challenged through litigation. Mining up until 2020, represented an example of extreme institutionalism, whereby actors could not conceive the plausibility of change owing to likely rebuffal by elites (Lukes, 1974; Di Maggio, 1988; Dorado, 2005). Social research theorists stipulate the redressing of power imbalances as a crucial part of sustainable societal change (Gamson, 1975; Gaventa, 1980; Tarrow, 1998; Alvord et al, 2004), and expropriation provides a critical juncture at which these relations can be rectified.

Within organisational theorising exists a contradiction, that of the possibility of institutional change when actors' decision-making is constrained by the institution it seeks to change (Holm, 1995; Seo & Creed, 2002). Dorado (2005) notes that institutional change comes from varying profiles and is defined by agency, resources and opportunity (Di Maggio, 1988; Dorado, 2005). Agency within this is; habitual, sense-making or strategic. Temporal orientation determines agency; habitual relates to the past, sensemaking to the present, and strategic to the future. Resource mobilisation is defined by three processes; leverage, accumulation and convening. Opportunity is an objective condition that renders the field opaque, transparent, or hazy owing to multiplicity and the extent of institutionalisation, saliently the perception of opportunity is affected by the actor’s

temporal orientation and networks (Zucker, 1977; Sewell, 1992; Whittingdon, 1992; Emirbayer & Mirsche, 1998; Dorado, 2005).

Within the organisational field of the mineral sector are multiple institutions, the formal is represented by contracts and legislation, whereas the informal relates to the dynamics of relationships firms and state, and less powerful actors and their separate relationships with firms and state. The informal constraint here is effectively fear of reprisal. Communities fear challenging the status quo, whilst government (previously) feared the loss of foreign investment (Voigt, 2018). The shift to resource nationalism is endogenous, fuelled by exogenous factors of growing debt and garnering votes in elections (Bueno de Mesquita & Smith, 2009; Goldring & Wahman, 2016). The processes leading up to resource nationalism can be seen through evolutionary institutional change. In this perspective, change has "*a quality of punctuated equilibria*", in this the change is associated with a crisis or shock, but in reality it is the product of evolutionary steps away from a pattern that is no longer an equilibrium (Greif & Laitin, 2004; 639). The shock was expropriation, however, the processes leading to it were evolutionary steps away from foreign firm domination. This disruption lends volatility in the field. Subsequently, the perception of opportunity for change within the organisational field shifts, although, the perception of opportunity varies between actors (Aldrich, 1999).

Community Responses

Under the backdrop of calls for resource nationalism, Vedanta was successfully sued for compensation by 1,826 Zambian villagers, in a campaign spearheaded by James Nyasulu, a noted campaigner and poultry farmer from Chingola who coordinated Zambian and British

NGOs and lawyers (Gayle, 2019). The campaign started in 2011, however, until Vedanta v Lungowe (2019), litigation through the Zambian courts had remained largely unsuccessful, until the innovation of trying the parent companies of mines in the courts of states where the parent company was incorporated, as often they have stronger legal institutions. Vedanta's pollution from Nkana affected air quality, fishing stocks and drinking water. Vedanta argued against the use of the UK courts on grounds of forum non-conveniens, however, this was overruled and the UK court granted compensation to the villagers (Van Ho, 2020).

For many communities nestled in the shadows of imposing mines, the suffering through polluted collective goods developed into a cultural norm. Many communities affected by mining's negative externalities such as Kabwe or Chingola carried on farming and living in increasingly polluted areas, unable to hold firms to account. Beyond this the response of the government has been to individualise blame in areas affected by mining, whereby the onus has been placed on individuals to find clean water rather than punish firms that have poisoned water sources (Waters, 2019). There exist examples of striking miners in Zambia (Uzar, 2017), but the emergence of nearby communities demanding compensation is a nascent phenomenon. Litigation on behalf of marginalised groups against corporations demonstrates agency with a temporal orientation towards the future, and a change in collective expectations from passivity to demand (Alvord et al, 2004; Dorado, 2005). This conceptualisation of agency links well to Vedanta v Lungowe which showed the effectiveness of collective litigation against firms, whilst simultaneously demonstrating a collective decision made by a marginalised group to break from a failing equilibria, that of suffering, to an optimal one, characterised by compensation and deterrence against future environmental damage (Boyd & Richerson, 2008). These outcomes delineate this as

strategic litigation (Barber, 2012), which also paved the way for Kabwe v Anglo American, an ongoing class action lawsuit to respond to the legacy of lead poisoning from Broken Hill Mine (Waters, 2019). This success is the result of coordination between Zambian NGOs, marginalised communities, trade unions and lawyers both domestically and abroad. Within Dorado's (2005) conception of change, we see the profile of leveraging in a highly institutionalised field. Politically skilled actors, in this instance lawyers, Nyasulu and NGOs, held a strategic form of agency, with an understanding that certain actions could lead to compensation. Burt (1992) notes the importance of brokers, like Nyasulu who connected UK lawyers and NGOs such as Foil Vedanta, with his community. The community was defined by sensemaking who once the collaboration was brokered provided testimonies crucial to the case (Dorado, 2005).

Deterring firms from damaging collective goods and marginalising communities is important, however, restructuring power has to provide a new direction for the sector overall. Regarding institutional change, within the organisation of the mineral sector, a key challenge is the enhancement of sustainable SSM, a practice which employs more and damages the environment less than traditional large-scale projects. Zambia has sought to incorporate informal mining institutions into the domestic legal sphere, to combat extralegal economic activity. Legislative efforts have been made with regards to licencing and buying targets, actions which stem from De Soto's (2000) legalistic approach. The formalisation of SSM in Zambia is widely considered successful, however, there exists a gap between formalisation and practice due to educational and technological deficits (Siwale & Siwale, 2017). Technological and educational support to complement the current efforts to formalise SSM, could help soften the reliance on foreign firms (Hilson, 2007). Conventional economic wisdom is against formalising SSM, instead focussing on the efficient extraction of

resources, which necessitates large-scale projects with access to investment and technology (Veiga & Marshall, 2019). SSM is inefficient in strict profit-making terms, but it has wider socio-economic and environmental benefits, as it creates more employment as a low-tech, labour-intensive practice. Employment is important, given that the private sector has managed to increase the amount of extraction without increasing employment, owing to technological advancements (Runge, 2012). Estimates in Sub-Saharan Africa number 15-20mn direct jobs, and further tens of millions of jobs in upstream and downstream activity in SSM. Additionally, the sector helps sustain subsistence agriculture communities, through additional informal work directly and through the supply chain (Hilson, 2020). There are legitimate concerns regarding unregulated SSM, specifically relating to health and safety, child labour and criminal groups controlling underground mineral markets, these issues could be remediated through formalisation of the sector (Hilson & Maconachie, 2017).

An example of social entrepreneurialism affecting change in SSM was seen at the International Conference on Artisanal and Small-Scale Mining and Quarrying. This was coordinated by the Federation of Small-Scale Miners Associations of Zambia (FSMAZ) and the Association of Zambian Women in Mining (AZWIM), convening international and national groups with an interest in SSM. The conference involved knowledge sharing, policy strategies, discussions on institutional barriers and the socio-economic benefits of SSM (IISD, 2018). The organisers represent an example of social entrepreneurs who facilitated change. Since the conference and once the expropriation actions commenced, policies have emerged for formalisation, such as SSM licencing and the buying of ore from small scale miners by ZCCM-IH, who now have a target of 40,000tn per annum from SSM (Siwale, 2019).

The change within the mining sector in relation to SSM as a whole can be understood as one of partaking. This is when institutional change is the consequence of differing actions that gradually converge, with no individual or organisation credited for the outcome (Dorado, 2005). This describes what has been seen until this point, as numerous separate actions led to convergence; (1) the economic inefficiency of subsistence farming which led to the necessity of SSM. (2) The scale and importance of mining in the state leads to the association of mining with economic benefits for individuals. (3) The emergence of a black market required a policy response of formalising SSM. (4) The return to resource nationalism by a government that came to power in 2011, culminating in expropriation of foreign mining assets and a new direction for the sector. (5) Associations coordinating a growing SSM sector to protect individual and collective rights. In this, we see accumulative resource mobilisation and we see the association as social brokers with strategic agency, utilising the sensemaking agency of SSM workers and connecting their concerns and aspirations with policymakers (Dorado, 2005). Though the associations hold a role of note in the advancement of the cause, the sheer scale of outcomes converging prior to this shift demonstrates partaking.

Scaling Up and Social Entrepreneurial Gaps

The use of strategic litigation for communities and the formalisation of SSM has seen success, however, there exists a gap for social entrepreneurialism to build on these processes of change. The concept of scaling up within social entrepreneurialism focusses on three aspects; that of servicing more people with the initial provision, augmenting the initiative so primary stakeholders receive wider benefits beyond the specific function, and

efforts that lead to shifts in behaviours of actors capable of adding to change (Uvin et al., 2000; Alvord et al, 2004).

There are still many challenges related to SSM, such as environmental degradation. Degradation relates to inefficiency, as only 50% of ore can be extracted, leading to further unnecessary digging. This is solved through low-cost methods such as portable sluices, ball mills, and water removing pumps, which increases the efficiency of extraction (Hilson, 2020). Efforts regarding education must complement any technological additions, to limit safety issues and environmental damage (Buxton, 2013; Siwale, 2019). The SSM conference organisers formed a point from which to scale up. Capacity building, package dissemination and movement building are all concepts that apply to transitioning towards SSM. Capacity building is integral for educational advancements for the efficiency of mining and the limitation of environmental degradation. Package dissemination could follow Grameen Bank, and use microcredit for individuals to buy efficient technology or for groups and small businesses to buy earth-moving equipment, mirroring the maize technology used in Plan Puebla (Alvord et al, 2004). Whereas movement-building, through coordinating with existent mining unions, local NGOs and international bodies would help advance the cause of SSM as a legitimate movement of communities rather than a flawed economic opportunity (Hilson, 2007). A movement as well would likely attract political support as it would create a new voting bloc.

These concepts are equally useful in filling the social entrepreneurial gap for marginalised communities affected by mining pollution. So far, the residents of Lungowe and Kabwe have relied on a disparate network of community leaders, lawyers, NGOs, academics and international organisations, which has limited efficacy. Capacity building has the ability to change cultural norms, and enhance education surrounding the effects of

mining toxicity. A notable norm in question is the individualisation of the blame for lead toxicity in Kabwe, a persistent issue whereby individuals are blamed for drinking toxic water as opposed to firms blamed for poisoning water supplies (Waters, 2019). Further education could help pre-existent household-level strategies for avoiding toxicity but also educate on root causes of toxicity and the legitimacy of compensation to other affected communities. Microcredit could also be of use to give communities the ability to raise funds for lawsuits. It could also mirror the use of providing microcredit in agriculture for technology to identify toxicity in water and soil (Alvord et al, 2004). Movement building could link together multiple communities affected by mining, all of whom incorporate the strategy of trying parent companies in their home states. In doing so lawyers and NGOs who led the class actions, could engage in knowledge-sharing with multiple, marginalised communities.

Uncertainty, Path Dependency, and Options Ahead

Zambia's mineral sector underwent profound change, a process of change that is ongoing. For the first time since privatisation the hold of foreign firms over the sector has weakened. However, the salience of path dependency and institutional rigidity is exemplified by the events that followed the expropriations. The government (the Patriotic Front) responsible for the expropriations lost the election shortly after the expropriations to the United Party for National Development, an administration which has since its election sought to court new forms of external investment to capitalise on their mothballed large-scale mining projects. In some instances, a new government will try to distance itself from the previous, and in turn implement policy initiatives that brought them to power. The purpose of which is often to strengthen their chances of re-election (Tufte, 1978). This

naturally requires capital, of which without the mines paying taxes and operating at full capacity would be unfeasible. This political issue is compounded by the realities of elections in post-colonial states. An empirical study on public finances after elections in post-colonial states showed that public funds are often exhausted prior to elections, which subsequently demands a need for austerity prior (Schuknecht, 2000) . The incoming government will be unable to fund their programme without the mines. As such, the potential benefits of expropriation could be seemingly reversed, and in turn providing a stark example of the rigidness of path dependency, even in the face of institutional shocks.

Institutional analysis gives insight into barriers to change, whereas institutional change profiles allow a deeper understanding of how change has occurred so far, furthermore concepts such as path dependency allow us to evaluate why institutions are difficult to alter. The current administration may return to large-scale mining projects, however, at the very least they have two options available. One whereby, they rebalance the organisational set, in affect ceding power over to a new external investor and thus return to the status quo. Or they can capitalise on their control, and enhance the other actors within the organisational set. The enhancement of the successful examples of social entrepreneurialism would allow the extension of the reactions to change caused by expropriation into more meaningful and sustainable movements and initiatives. These social gaps, if filled, could help Zambian society transition away from an economically and environmentally unsustainable system reliant on fiscal linkages to one with increased equity and protection of environmental goods. Through both litigation and enhancing SSM, Zambia's citizens can start the process of truly connecting with the resources of their country, rather than watching it's removal by actors with little interest beyond profit. In turn, creating a sustainable society with tangible socio-economic advancements.

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