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Class Formation and Capital Accumulation in the Countryside: Artisanal and Small-Scale Gold Mining in South Kivu, DR Congo

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ABSTRACT

To date, the expansive social science literature on artisanal and small-scale mining (ASM) in Africa has received little attention from scholars of agrarian political economy. This paper attempts to bridge this gap, based on an in-depth study of ASM in South Kivu Province of the Democratic Republic of the Congo. The main argument is that the capital-labour social relation underpinning ASM in South Kivu has facilitated the emergence of a capitalist managerial class of dynamic and prosperous rural Congolese. This class has, in turn, been driving increasing sectoral productivity via technological assimilation and capital formation, while also making commercial and productive investments in other, non-mining sectors. Drawing from the findings, the common conceptualisation of African ASM as a low productivity, subsistence activity is questioned, and the perception in the existing literature that African ASM miners and foreign mining corporations are not in competition for the same mineral deposits is challenged.

Keywords: gold, mining, Congo, accumulation, corporations, class

INTRODUCTION

Artisanal and small-scale mining (ASM) in Africa has grown significantly in recent decades.[1] Between 1989 and 2019, the estimated number of African ASM miners increased from one million to ten million (World Bank, 1993, 2019), as ASM established itself as "an economic mainstay in rural sub-Saharan Africa" (Hilson, 2009, p. 1). This growth has been driven by two factors. First, the mass movement of rural Africans into off-farm employment under the strain of multiple economic, social and political pressures from the 1970s onwards (Alobo Loison, 2015; Banchirigah, 2006; Bernstein, 2007; Berry, 2002; Ellis, 2006). Second, the most recent commodity super-cycle, peaking in 2011, during which the price of gold, for example, increased more than five-fold from US$279 to US$1,572 per troy ounce.[2]

Concurrent with the recent growth of ASM on the continent has been its displacement to ever more marginal sites of operation to make way for new, large-scale industrial mining projects. ASM displacement is often financed by incoming transnational corporations (TNCs), and frequently takes place as government military-led 'sweeps' (Banchirigah & Hilson, 2010, p. 166).[3] The marginalization of ASM has been theoretically sustained by a widely held belief in the assumed developmental benefits to be reaped from high productivity industrial mining led by the supposed

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[1] The Organization for Economic Co-operation and Development (2016, p. 65) defines ASM as "mining operations with predominantly simplified forms of exploration, extraction, processing, and transportation…normally low capital-intensive and uses high labour-intensive technology".

[2] World Gold Council, www.gold.org/research/download-the-gold-price-since-1978, accessed 8 November 2019.

[3] In August 2017, for example, 70,000 ASGM miners in Mubende were forcibly displaced by Ugandan military and police, to make way for a Canadian-listed mining corporation. Speaking to media after the displacement, Edwards Katto, a Director at the Ministry of Energy and Mineral Development, said "those illegal artisanal miners still behaving like those in Mubende, they should pack and vacate the mines, otherwise, my police force will them help to pack". AllAfrica, allafrica.com/stories/201711040012.html, accessed 21 May 2021.

superior expertise and efficiency of experienced TNCs, compared to inefficient domestic groups involved in low productivity ASM (Radley, 2019).[4]

While an expansive social science literature has emerged around these African ASM growth and displacement dynamics, with some notable exceptions (cf. Chachage, 1995; Chigumira, 2018; Palliere et al., 2018), [5] it has received little attention from scholars of agrarian political economy.[6] The same can be said for the ASM literature outside of Africa, where the recent work of Lahiri-Dutt (2018) in Asia, Graulau (2019) on feudal Europe, and Verbrugge (2014) and Cortés-McPherson (2019) in South America, stand out as lone examples of ASM scholarship drawing on the intellectual lineage of agrarian political economy. This is somewhat surprising, as ASM's embeddedness in predominantly rural areas across Africa, its high level of labour absorption, and its interaction with foreign corporate interests, link it inextricably to the classic agrarian question that frames and motivates much of the work in this field. At its most fundamental, this question explores the processes that contribute to or constrain the emergence of agrarian capital and rural capitalism, and requires an understanding of how production and accumulation are being transformed by capitalism and the impact this has on social relations and class forces (Akram-Lodhi & Kay, 2009). How, then, does ASM contribute to or constrain the emergence of rural capitalism in the African countryside, and with what impact on social relations?

The present article is an attempt to answer these questions and bridge the gap between the African ASM social science literature and the conceptual scaffolding

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[4] For a discussion of how the use of artisanal in this context falls into a racial vernacular of development, see Pierre (2020).

[5] I am grateful to Dr Elisa Greco for pointing me towards the work of Chachage.

[6] Drs Bettina Engels and Kristina Dietz made the same observation in this blogpost, https://roape.net/2018/05/09/structural-transformation-in-the-countryside/, accessed 29 March 2021.

provided by agrarian political economy, based on an in-depth study of artisanal and small-scale gold mining (ASGM) in South Kivu Province of the Democratic Republic of the Congo (DRC). The main empirical argument is that the capital-labour social relation underpinning ASGM in South Kivu has facilitated the emergence of a capitalist managerial class of dynamic and prosperous rural Congolese, building on and accentuating pre-existing social differentiation. This class, in turn, has been driving increasing sectoral productivity via technological assimilation and capital formation towards a semi-mechanized form of gold production, while also making productive investments outside of mining.

Drawing on the findings, one of the recurring arguments and policy recommendations from the African mining literature is challenged; namely, that ASM miners and mining TNCs are not in competition for the same deposits, and so governments should work to generate the conditions for their peaceful coexistence. Conceptualizing ASM not as a low productivity, subsistence activity, but as a dynamic and mechanizing form of production, suggests these two distinct groups are in fact in more direct competition than is commonly perceived by African mining scholarship to date. This questions the belief that ASM stands to benefit from any successfully negotiated coexistence.

The article is structured in six sections. Section two develops the analytical framework, grounded in a critical review of the literature on ASM in Africa, and discusses methodology. Section three reviews the historical emergence and evolution of ASGM in South Kivu. The social relations associated with ASGM in South Kivu are considered in section four, drawing particular attention to the profit-wage relation within the capital-labour social relation that functions in the sector. Section five then charts how this social relation has stimulated broader processes of class formation and locally led capital accumulation. The sixth and final section concludes.

LOCATING AFRICAN ASM WITHIN ITS CAPITAL-LABOUR SOCIAL RELATION

Bryceson and Geenen (2016, pp. 297-300) have provided a comprehensive review of the evolution of the literature on African ASM. They note that little was produced in the 1980s and early 1990s, but that in the late 1990s the World Bank and development agencies began to publish reports documenting the growth of ASM and focusing in particular on its (mostly negative) social and environmental impacts. In the 2000s, there was a proliferation of academic social science scholarship, with a focus on poverty alleviation, livelihood diversification and good governance. Most recently, a policy-oriented literature has emerged that advocates for local miners' interests, based on a recognition of the importance of African ASM as an economic livelihood and the social disruption caused as a result of ASM displacement by and conflict with mining TNCs. There has also been a more recent focus on the relation of ASM to human and labour rights abuses and conflict financing, alongside an expanding anthropological literature primarily concerned with exploring social relations between miners, morality, and the lives of women.

Taken together, this rich body of work has generated much insight into the organization, functioning, and socio-economic dynamics of a previously understudied and poorly understood sector. Part of this insight has related to, as mentioned above, an emphasis on its economic importance to rural livelihoods. In Liberia, Mali, Malawi and Sierra Leone, research has documented how ASM has helped revive local agricultural production and agrarian institutions (Cartier & Bürge, 2011; Kamlongera, 2011; Maconachie, 2011; Maconachie & Binns, 2007; Panella, 2010; Pijpers, 2014). Bryceson and Jønsson (2010, p. 389) found retired ASGM miners in Tanzania to have “capitalized on their earnings by investing in various kinds of local service provisioning or trading businesses”. Similar findings have been reported from the DRC (Geenen et al., 2013; Stoop et al., 2016).

Yet to what extent and how ASM is transforming production, accumulation, and social relations across the African countryside, via increasing productivity and capital formation, tends to be obscured by the literature’s abstraction from the capital-labour social relation that underpins it, and the associated class dynamics. Following Campling et al. (2016, p. 1746-7), classes here are conceived “as arising out of the exploitative social relations of production of commodity-producing societies in a world dominated by capitalism”, where exploitation takes place through the capitalist extraction of surplus value from labour within the production process. Within the existing literature, however, the nature of the class and profit-wage relations that exist between ASM managers (who own mine shafts) and workers (who labour in and around them) is often concealed or confused. This occurs either by avoiding mention of profits and referring only to the ‘revenues’ or ‘income’ earned by miners (Hilson, 2011; Maclin et al., 2017; Okoh & Hilson, 2011; Pijpers, 2014; Yankson & Gough, 2019) or, when profits are acknowledged, by collapsing the distinction between workers and managers and referring to all ASM miners as making profits. Bryceson and Geenen (2016, p. 309), for example, discuss the “individual profits” of ASGM miners, and Perks (2011, p. 23) discusses how “artisanal miners quickly find their profits reduced” as a result of predatory taxation in the DRC.

This has some justification, given that ASM workers are usually paid in part in relation to how much they produce and not how long they work, and the division between wages and profits are rarely clear-cut in rural, informal settings. Yet the evidence that follows demonstrates that, in the case of South Kivu at least, a managerial class accrues profits from its role in the production process. These profits, in turn, are generated by the exploitation of disguised wage labour, with workers remunerated by piece rate payments and (in some instances) a share of total production. As Howard (2012, p. 322) has noted, drawing on the earlier work of Banaji (2010), “Different ‘configurations’ of capitalism have drawn on a wide variety of forms of exploitation of labour, including by incorporating and subsuming non-capitalist methods”. So, while disguised ASGM wages are distinct from proletarian waged labour in a factory-like setting, it is argued here that the nature of the profit-wage relation remains the same, and unmasking this social relation is central to understanding labour relations and processes of capital accumulation and class formation associated with this form of production.

The only two works to have conceptualized African ASM through this lens, that the author is aware of, come to strikingly different conclusions. In his extended essay, *The Meek Shall Inherit the Earth but Not the Mining Rights: The Mining Industry and Accumulation in Tanzania*, the late Tanzanian academic and novelist Seithy Loth Chachage (1995, pp. 104-05) argued that while the accumulation associated with large-scale mining in Tanzania largely disappeared overseas, “genuinely dynamic domestic accumulation” was taking place in ASM, through technological innovation and adoption as well as the stimulation of “local level capitalist growth in other sectors such as agriculture”. By contrast, in their more recent investigation of longue durée processes of labour commodification and differentiation of the peasantry in the chiefdom of Sella Limba in Sierra Leone, Palliere et al. (2018, p. 803) contended that ASM in the region was characterized by highly exploitative and precarious labour conditions, and the absence of an accumulation dynamic.

This paper, then, is an attempt to contribute to this so far marginal line of African ASM scholarship, through a case study of ASGM in South Kivu, DRC. For the study of class formation in this context, guidance was taken from the prior work of Schatzberg (1980, pp. 13-31) who, while persuasively demonstrating the value of class analysis in the DRC, warned against adopting an overly rigid prior conception of class. For Schatzberg, the great diversity of localized ways in which class identities intersected with other social markers of identity, such as ethnicity, meant that class positions and processes of class formation in the DRC could only usefully be determined through inductive reasoning made in a specific location, based on sustained and in-depth fieldwork.

Accordingly, fieldwork involved several prolonged visits to the government collectivity-chiefdom of Luhwindja and the larger mining town of Kamituga – two areas in South Kivu where ASGM has been interacting with foreign corporate interests over the last decade – between May 2016 and July 2017, each lasting between one and two months. Data was gathered from a wide range of sources, including direct observation, a labour survey in Luhwindja reaching 316 people (291 ASGM workers, 14 ASGM managers, and 11 ASGM traders), and conversations, interviews, or oral histories with at least 115 ASGM workers, managers, and traders. A combination of convenience and snowball sampling was used to identify respondents and interviewees, with a focus on ensuring adequate representation from across the ASGM labour and trade hierarchies. Outside of those working directly in South Kivu's ASGM sector, conversations or interviews with at least a further 103 people contributed to the study. These included farmers, herders, teachers, hospital workers, priests, police, military, civil servants, and government authorities. Respondent interactions were supplemented by archival and government data, particularly in tracing the historical evolution of

ASGM in South Kivu. Survey data were collated and interpreted using Microsoft Excel, and interview data was collated, coded, and interpreted with the assistance of ATLAS.ti software.

HISTORICIZING THE EMERGENCE OF ASGM IN SOUTH KIVU

This section provides a brief historical overview of the emergence and evolution of ASGM in South Kivu, with a focus on the research sites of Luhwindja and Kamituga. The role played by foreign financiers and both state and non-state armed groups in South Kivu's ASM production network has been well documented elsewhere (cf. Radley and Vogel, 2015 for a critique of this 'conflict minerals' paradigm). The focus here and in the sections that follow is instead and deliberately placed on the Congolese workers, managers, and traders operating locally, predominantly at and around the mines, and who, in the case of gold, capture around 90-95% of the total value generated by productive activity (Radley and Geenen 2021, p. 166).

Two defining outcomes of Leopold's Congo Free State, which lasted from 1885 to 1908, were its integration of rural regions into production for the international market on highly exploitative terms, and the disruption and suppression of precolonial trading networks (both foreign and indigenous) in favour of Belgian financial capital, solicited primarily to develop the mining and transport sectors (Peemans, 1975, p. 151; Bezy et al., 1981, p. 15). In South Kivu, this led in 1923 to the establishment of the colonial Belgian mining corporation *Société minière des Grands Lacs* (MGL) – Great Lakes Mining Company – responsible for all mineral exploration and exploitation in the eastern region of what had by then become the Belgian Congo.

By at least as early as the 1950s, a growing number of Congolese were beginning to engage in informal ASM, outside of the Belgian subsidiary's control and supervision. This was no doubt aided by the relative ease with which the predominantly artisanal methods of gold extraction used by MGL could be assimilated and replicated independently by local workers. Internal MGL correspondence shortly after Congolese Independence in 1960 details an established network of illegal gold production and trade in South Kivu, from Luhwindja and Kamituga to the provincial capital city of Bukavu and onwards to Uganda.[7]

By 1963, MGL felt compelled to write to the Provincial State Procurer to request government action against what the Belgian subsidiary viewed as illegal theft of its gold deposits amounting to "30% to 40% of our production".[8] More than a decade later, in 1974, MGL correspondence to the government noted the infiltration of informal miners at Luhwindja, forcing the guards to flee, and denounced the lack of local government response to the problem.[9] The following year, and citing insecurity as the determining factor, MGL suspended production in Luhwindja following 37 years of continuous exploitation, leading to an expansion of ASGM in the area (Geenen, 2014, p. 128).[10]

Local government was not, however, standing idly by as ASGM spread across Luhwindja. On the contrary, local political elites were directly involved in supporting its growth, and reaped the economic gains. In the 1970s, the customary leader *Mwami* – King – Mukubwa was also the government head of Luhwindja, and had retained his independence from central government following a series of failed reforms to undermine the power base of Bushi customary authority (Young and Turner 1985, p. 239). In an extension of the precolonial land tenure practice of *kalinzi* – an indefinite loan in return for tribute and loyalty – *Mwami* Mukubwa continued to control access to

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[7] Internal MGL correspondence, Bukavu, 7 August 1960; MGL letter to State Procurer, Bukavu, 30 August 1960. Author translation.
[8] MGL memorandum to the Provincial State Procurer, 4 September 1963. Author translation.
[9] MGL letter to local government authorities, 2 July 1974.
[10] Internal Report on Concession Number 90, SAKIMA, 1995.

informal mine sites by distributing mineral-bearing land in return for around 10 percent of production (Geenen and Claessens 2013, p. 96-8).

Further boosting the growth of ASGM both in Luhwindja and across South Kivu, in November 1982, the government liberalized the gold sector to allow all Congolese to engage in production, with the sale of gold legalized at authorized locations in major towns (MacGaffey, 1986, p. 147; World Bank, 1984, p. 46).[11] The concurrently rising gold price – from US$30 to US$40 per troy ounce throughout the 20th century up until 1970, to US$615 per troy ounce by 1980 (Carisch, 2014, p. 15) – alongside general contraction in the Congolese economy and the beginning of structural adjustment, provided further impetus to ASGM growth in the province.

By 1995, around 200 Congolese gold traders were buying and selling an estimated four tons of annual production in Bukavu, of which an estimated 98% was being smuggled out of the country (Bishakabalya, 1995, pp. 18-38; Observatoire Gouvernance et Paix, 2010, p. 116). The foreign exchange earnt from this activity was used to import vehicles, fuel, consumer goods, medical products, and construction materials into eastern Congo. In Butembo in North Kivu Province, for example, four to five truckloads of consumer goods, entirely paid for in gold, were being imported monthly (MacGaffey, 1992, p. 252). Gold trade also gave rise to a domestic and regional jewellery industry, both in Bukavu and neighbouring Burundi (Geenen, 2014, p. 236).

During the 2000s, ASGM in South Kivu continued to grow, due to the collapse of Belgian-led industrial mining in the 1990s, a rising gold price – from US$279 per troy ounce in 2000 to US$1,669 per troy ounce in 2012 – and the demise of agriculture

[11] Prior to this liberalization, the 1967 Mining Code required Congolese engaging in ASM to own an exploitation permit (Owenga Odinga, 2014, p. 200).

as a viable livelihood due to the cumulative result of institutional change in land tenure, rising population density, and the Congo Wars (Cox, 2012; Kelly, 2014; Van Acker, 2005). Estimates from 2007 and 2010 for the total number of ASM miners working in North Kivu and South Kivu put the figure at between 200,000 and 350,000, with between 9% and 17% of the total population directly (as workers) or indirectly (as family members) dependent on the sector (Geenen and Radley, 2014, p. 59), and with four out of five of these workers estimated to be mining gold (Weyns et al., 2016, p. 4).

ASGM miners in South Kivu have been observed to capture between 87% (Geenen, 2014, p. 232) and 95% (Radley, 2019, p. 84) of the value generated by their production. Based on ethnographic observation, Geenen (2014, p. 232) estimates that one-third of production was reinvested or went to local taxes, one-third went to shaft managers, and one-third to workers. From the approximately two-thirds going to managers and workers, investments have been observed in agriculture, livestock, education, dowry, property, vehicles, motorcycles, commerce, and transport (Geenen, 2014, p. 179; Geenen et al., 2013, p. 24; Rothenberg, 2014, p. 14). In Kamituga, ASGM miners used their proceeds from production to acquire consumer goods, property, and land, becoming socially differentiated from the surrounding peasantry (Bulambo, 2002).

Over the last decade, foreign mining corporations have begun to return to the province, following the collapse of industrial mining in the late 1990s. The Australian explorer Vector Resources, Canadian TNC Monument Mining, US-listed Panex Resources and United Kingdom-listed ARC Minerals have together invested tens of millions of dollars in advanced gold exploration programmes across South Kivu in recent years (Radley, 2019, p. 103). In 2012, the Canadian corporation Banro became the first to enter commercial production through the launch of its flagship Twangiza gold mine in Luhwindja. Banro also owns gold deposits in two other areas of the province, Kamituga and Lugushwa, but at the time of writing had yet to advance to the production phase in these regions. At the onset of the 2020s, then, South Kivu's gold sector was in a state of flux, as TNCs began to make their return following a period of generally informalized ASM autonomy.

The next section aims to build on these insights, homing in on ASGM in Luhwindja to draw out the nature of the hitherto concealed profit-wage relation within the capital-labour social relation that exists between ASGM managers and workers in South Kivu. It is demonstrated that in Luhwindja, this social relation was structured around ethno-territorial, kinship, and gender identities, and was built on a pre-existing degree of social stratification.

ASGM SOCIAL RELATIONS IN A MINING REGION OF SOUTH KIVU

Labour at an ASGM mine in South Kivu can be placed into three broad categories: site workers, shaft workers, and shaft managers. Shaft workers labour underground and usually fulfil specific roles such as timber specialists, drillers, or supervisors, but can also work as generalists. Site workers are comprised of *mamans bidons* (female water carriers), *motards* (ore carriers), *mamans twangaises* (female ore crushers), *loutriers* (ore washers), and *mamans bizalu* (female waste washers).

At Luhwindja, shaft managers were sometimes directly involved with workers in the labour process yet were nonetheless distinct from them, as they invested the finances required to construct and maintain the shafts, mobilized and organized labour in production, and managed the distribution of payment to workers, through a combination of piece rates for each quantity of ore produced alongside (in most instances) a share of total production. Some also operated as local traders, compelling their workers to sell any gold from their in-kind payment directly to them while also buying from other workers, and then travelling to sell this on to master traders in

Bukavu. In this sense, while they were not conducting formal bookkeeping, they were nonetheless accruing profits from their role as financiers, owners of capital and land, employers of disguised wage labour, and traders.

The capital-labour social relation between trader-managers and workers in Luhwindja functioned through ethno-territorial, kinship, and gender identities. Hoffman (2021, p. 254) has traced how Belgian colonial rule in South Kivu ushered in "the construction of a new ethno-territorial order, and the privileges, rights and benefits that would accrue to it", and how in the present this ethno-territorial order is "appropriated, reactualized and deployed by 'ethnic subjects' themselves". This can be seen in Luhwindja where, as mentioned in the previous section, up until the 1970s proximity to the *Mwami* – the local customary ruler and most senior government authority – was required to receive mineral-bearing land and become a shaft manager. This continued through to the 2000s, with mineral-bearing land sold to shaft managers by *baganda* – members of the *Mwami*'s inner circle – in return for a share of production which went to the *Mwami*, outside of official local state revenue. As a result, nearly all shaft managers and traders at the time were Bashi – the majority ethnic group in the area – from Luhwindja, with either close ties to the local political elite, or part of this elite themselves. This echoes the close relationship that emerged between local political and economic elites in Beni and Lubero in North Kivu, during the same period (Raeymaekers 2014). By the 2010s, however, mineral-bearing land no longer belonged directly to the *Mwami*, and *baganda* were no longer involved in its distribution. Former customary leaders had distributed it via *kalinzi* and the *Mwami* at the time had not exercized his right to claim it back (in part, some believed, due to public knowledge of the payments he was receiving from the recently installed Canadian corporation Banro).[12]

Nevertheless, while proximity to local political elites was no longer as important in Luhwindja as it once was, ethno-territorial identity remained a critical determinant in assuming one's place within the local ASGM trader-manager class. Only Bashi from Luhwindja were permitted to become shaft managers. This criterion was applied by landlords (themselves all Bashi and natives of Luhwindja) when selling use rights to their land, often in favour of family or clan members. As one shaft manager recalled, "…my father and [one of the landlords] are cousins. That is why I got a shaft there easily, because they're cousins".[13] During the course of the research, all 24 profiled shaft managers were Bashi from Luhwindja,[14] and the ethno-territorial and kinship logics associated with their place in production were commonly acknowledged and generally uncontested, by both locals and non-locals alike.

All encountered traders – either locally or in Bukavu – were also Bashi from Luhwindja or (to a much lesser extent) the neighbouring collectivity of Burinhyi. The three most important master traders in Bukavu, in terms of their share of the Luhwindja gold trade, had a common history, and many noted it would be difficult to enter this market without their approval. Two of the three were from the same local area of Luhwindja, and while the third was from Burinhyi, they all went to the same Luhwindja-based primary school together. There were also some familial connections between the Luhwindja network of traders and the Bukavu-based refinery to whom they sold most of their gold.

[12] Conversations with local government tax collectors (who were also *baganda*), Luhwindja, February and March 2017.
[13] Interview with shaft manager, Luhwindja, 10 February 2017.
[14] Sixteen were profiled through a combination of the labour survey, extended conversations, interviews, and life histories, and an additional eight through the labour survey only.

The ethno-territorial and kinship structures shaping the social composition of the trader-manager class flowed down to the mobilization and organization of labour, which as mentioned above was overseen by shaft managers. Many of the shafts were known as *puits familiaux* (family pits), composed exclusively of family or clan members, while others (but not all) were strongly oriented along similar kinship logics. Those with a family or clan connection to a shaft manager could more easily gain access to shaft work.[15] Those without were asked by shaft managers to pay up to US$100 or an equivalent livestock contribution to join the team, which many could not afford.

Gender also had a strong and clear influence on labour processes of inclusion and exclusion, functioning to exclude women from occupying any position other than that of water carrier, the most poorly remunerated form of labour available. All water carriers were female, and most were widowers or divorcees. As one of the women recounted: "When I was 20 years old, I got married. I had three children with my husband, who died shortly after. I left his family and came here to carry water for people, as I have sole responsibility for looking after my children now".[16] All women reported in conversation that they were not allowed to perform any other work at the site, and as a result they held little hope of ever moving off the bottom of Luhwindja's labour hierarchy.[17]

For Bashi men from the local area, however, there were no such restrictions on social mobility. Many of those in the trader-manager class had begun years and

[15] While Babofa is the clan of Luhwindja's royal family, and nearly all local political positions are held by Babofa, ASGM in Luhwindja contained a mix of clans with no single clan dominant.

[16] Life history with water carrier, Luhwindja, 31 May 2017.

[17] While it is common for women not to be allowed near or in the shafts, often due to beliefs that their presence in these areas will chase away the ore, at other ASGM sites across South Kivu women are usually mobilized as *mamans twangaises*, breaking down rocks. This was not the case in Luhwindja, where the extracted ore was fine and soft, containing few large rocks.

sometimes decades ago as ASGM workers, gradually accumulating the financial capital required to own shafts or start out as traders. Yet many were also helped by family wealth and status. Most of Luhwindja's shaft managers heralded from farming or cattle-raising families, around half of which combined agriculture and livestock raising with ASM. The parents of surveyed shaft managers owned on average five times more livestock and nearly three times more land than the parents of site workers, and twice as much livestock and around one-third more land than the parents of shaft workers (Table 1).

Table 1. Assets held by the parents of ASGM workers, managers, and traders in Luhwindja

Group	Livestock		Land (Ha)	
	Mean	Median	Mean	Median
Site Worker Parents	2	2	1.0	0.6
Shaft Worker Parents	5	3	1.9	1.0
Shaft Manager Parents	10	9	2.9	2.5
Local Trader Parents	6	6	4.8	5.0
Bukavu Trader Parents	24	15	4.8	4.5

Source: Author labour survey.

Shaft managers came, in other words, from wealthier rural families than site and shaft workers. The following summary of a shaft manager's upbringing is illustrative:

> I'm from the village of Cishali in Luhwindja. My father raised and sold cattle and my mother worked on the farm at home. It was a good childhood. I didn't lack anything, because my parents were rich. They had a lot of cows. At that time, there was a lot of free pastureland. You could take your herd anywhere. We produced a lot of milk and sweet potatoes. I studied without any problem.[18]

[18] Life history with shaft manager, Luhwindja, 9 April 2017.

For most shaft managers, their relatively wealthier origins played a decisive role in assuming their position within the production process, as they sold family assets to raise the required finance for shaft construction. One manager, for example, sold three cows inherited from his father to raise US$1,000, with which he bought land at a mine site in 2005 to begin shaft construction.[19] Another was the son of the most senior local civil servant, whose father provided the US$3,600 needed to buy land at a site (US$600) and construct a shaft (US$3,000).[20]

As can be seen in Table 1 above, the family wealth of traders also compared favourably with workers, and this relative family wealth – as with shaft managers – was critical in enabling the financial investments required to get started in trading. The father of one local trader, for example, owned several hectares of land and a few dozen cows. To help his son start out as a local trader, he sold part of his herd for a few thousand dollars.[21]

As well as representing a 'class in itself' through their shared position in relation to the production process, there was some indication that trader-managers represented a 'class for itself' with a degree of consciousness, "aware of their collective strength, pursuing joint interests in an organised manner to achieve common goals" (Melber 2016: 7), at least at the local level. Trader-managers comprised most of the board members presiding over the *Comité des creuseurs artisanaux de Luhwindja* (CCALU) – the Luhwindja Artisanal Miners Committee – an elected committee representing the interests of ASGM in Luhwindja through advocacy and organising with political elites

[19] Interview with shaft manager, Luhwindja, 21 September 2016.
[20] Interview with shaft manager, Luhwindja, 23 September 2016.
[21] Interview with local trader, Luhwindja, 31 May 2017.

at the local and provincial levels. Through this committee, for example, the trader-manager class played a central role in successfully mobilizing local resistance to the closure of Kadumwa, the largest ASM mine remaining in Luhwindja after the construction in 2010 of Banro's industrial Twangiza mine.

CCALU also functioned to discipline and control workers. In the first instance, in the case of serious infractions, such as the stealing of gold, workers were sent to the local state police, who often imprisoned them for a few days and released them upon the payment of a fine. As a last resort, as was the case in March 2017 with several shaft workers who were repeatedly stealing gold at night-time from unguarded wash basins, workers were forcibly excluded from the site. A group of informal *police minière* – mining police – were employed by the committee to enforce such decisions, all of whom were former militia members. CCALU also used its authority and exclusionary power to suppress labour militancy, such as when it refused the creation of a site workers' committee following a (successful) three-day strike led by ore carriers in February 2017, to protest a reduction in their piece rate pay for each bag they transported. Thus, while labour control was legitimized in part by the ethno-territorial and kinship logics underpinning labour mobilization and organization, the trader-manager class – acting out of its own collective interest – would enforce this control when needed with more coercive methods, such as the deployment of both formal and informal mining police.

To summarize, a profit-wage relation operates within the capital-labour social relation between trader-managers and workers in Luhwindja's ASGM economy, with trader-managers accruing profits and mobilizing, organizing, and controlling workers in various forms of disguised wage labour. This social relation was grounded in ethno-territorial, kinship, and gender identities, and was founded upon pre-existing social differentiation, with the trader-manager class heralding from relatively wealthier family backgrounds than the workers they mobilize in production. Building off this initial analysis, the next section shows how ASGM in South Kivu has accentuated pre-existing stratification through a generational process of class formation. It also highlights how this has, in turn, stimulated broader processes of locally led capital accumulation.

SOCIAL STRATIFICATON AND CAPITAL ACCUMULATION

Supporting the findings of Bulambo (2002) cited earlier, there was evidence that Luhwindja's ASGM economy had contributed to a degree of social differentiation between workers and the surrounding peasantry, primarily through increased consumption. Dozens of stalls and shops located on mine sites sold a range of consumer goods to miners, such as DVD players, radios, mobile phones, and solar-powered lamps. Cinemas screened American action or Asian martial arts films, and bars screened European football matches through a satellite dish, charging a small fee to miners for attendance. Through these consumption habits, ASGM workers gained some access to goods and services that remained beyond the reach of many families in Luhwindja.

Yet most of Luhwindja's ASGM workers reported little left over from their wages to save or invest once subsistence needs had been met. The minority that had made investments reported doing so primarily in small livestock, constructing wooden or clay housing locally, or (far less frequently) buying small parcels of land. With just a few exceptions, workers remained in the rural class position from which they came; *les villageois* (the villagers), as they are often labelled by urban Congolese.

Shaft managers and traders, on the other hand, had made significant investments from their relatively sizeable profits. Data suggested Luhwindja's shaft managers to accrue estimated average monthly profits of US$1,674, propelling them into the local economic elite. While not as sizeable, estimated average monthly profits recorded by

Luhwindja's local traders of US$395 were still significantly greater than the wages earned by workers.[22] The master traders buying Luhwindja's gold from Bukavu moved anything from one to several kilograms of gold each month, making up to several thousand dollars of profit (and even beyond, depending on price fluctuations). In addition, most Bukavu-based traders owned and managed up to several shafts in Luhwindja or the surrounding area, providing them with an additional source of profit.

The two-way trade engaged in by some of the traders, using their access to US dollars to import modern consumer and other goods through Bukavu, provided them with a further source of profit outside of mining. The largest local trader at Luhwindja, who ran a small gold trading house,[23] invested his profits in rice, beer, and clothing, which he distributed locally to buyers.[24] Similarly, one of the Bukavu-based traders regularly brought clothes, cosmetics, and other consumer goods back from Dubai.[25] Another two of the Bukavu traders owned small supermarkets, one in the suburb of Essence (where most gold trade in Bukavu takes place) and another closer to the city centre. The supermarkets were full of imported goods, from chocolates and liquor to electronics and household appliances. Some from Luhwindja's trader-manager class had also positioned themselves to gain additional financial benefit from Banro's recent arrival in Luhwindja, most commonly by drawing on their connections to local political elites – who held influence over the local mobilization of labour for the Canadian corporation – to get family or extended family members employed at the industrial mine.

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[22] See Radley (2019, pp. 187-92) for further detail on how these averages were calculated.
[23] Unlike the other traders, who spent their days on-site roaming from worker to worker.
[24] Interview with local trader, Luhwindja, 13 April 2017.
[25] Interview with Bukavu trader, Bukavu, 21 February 2017.

Recalling the findings of Raeymaekers (2014, p. 20) on the investment patterns of Nande traders in North Kivu, most local traders in Luhwindja reported using their profits to buy land and construct houses for their families in Panzi, a rapidly expanding suburb on the outskirts of Bukavu and a popular destination for Bashi families migrating to the city from Luhwindja. They also reported constructing homes and investing in land and large livestock locally in or around Luhwindja, and employing wage labourers to work the land. The master traders living in Bukavu were generally situated closer to the city centre, owning more expensive land on which they had built multi-storey houses. Their homes were equipped with flat screen televisions, satellite dishes, solar panels, fridge-freezers, and other high-end consumer goods, and most of the traders owned at least one vehicle. All of them had children or family in university in Bukavu, elsewhere in the DRC, or in neighbouring Burundi and Uganda.

Shaft managers generally follow a similar path. Nearly all had purchased land and constructed houses in the Bukavu suburb of Panzi at a cost of several to 15 thousand dollars. Many had also built several houses locally in Luhwindja, renting them out to tenants, commenting that real estate was the most secure investment given the climate of insecurity that had historically characterized the surrounding area, especially during the 1990s and early 2000s. Most had also bought land locally, with some using it as a long-term investment for commercial tree planting and others as agricultural land on which (and as seen for traders) they often employed daily wage labourers. Most had accumulated several cows along with smaller livestock. Those reporting having reinvested in commerce had done so primarily in petty trade and local stores, including one manager who had opened a clothes store at a cost of US$1,800 in the neighbouring collectivity of Kaziba. One reported engaging in productive activity outside of mining and agriculture, moving into brick production locally in Luhwindja.

Most shaft managers had their children in school or university in Bukavu, having migrated their families to the city, and having supported the education of other children or siblings either locally or in Bukavu. A typical story from the older generation of shaft managers was of one manager who, having obtained his shaft in 1985, put all five of his children through university in Bukavu. In 2017, one of his children was a university professor, one an engineer, and one a senior provincial government official. In two generations, his family had moved from rural farming to the urban professional and bureaucratic classes.

The following investment summary of one shaft manager provides some more detailed insight into these patterns:

> I've built four houses with the money I've made, three in Luhwindja and one in Bukavu. Once I completed the house in Bukavu, my family left Luhwindja to live there. My children are also in school in Bukavu, and I hope one day they will go to university. I rent the houses in Luhwindja to tenants, which earns me an extra hundred dollars or so each month. I also used my money from mining to invest in flour and beer. My wife manages the flour depot in Bukavu, and I distribute beer locally here in Luhwindja.[26]

Alongside these investments, a significant share of shaft manager profits was reinvested in production. In 2017, an estimated total of around US$200,000 was reinvested in capital inputs at Kadumwa, Luhwindja's largest ASM mine at the time. The main inputs were timber to construct, maintain, and extend the shafts, sourced locally, and the use of

[26] Conversation with shaft manager, Luhwindja, 8 October 2016.

generator-powered machines (manufactured in China and Japan) to circulate oxygen through the shafts and evacuate water.

Critically, there was also evidence that productive reinvestment was stimulating increasing sectoral productivity, through a locally led process of mechanization. Kamituga lies just south of Luhwindja in the same territory of Mwenga, and was the main colonial mining town during the era of MGL. Following the collapse of Belgian-led industrial mining in the late 1990s, ASGM miners gained full access to the town's most productive deposits. During this period, dynamite was used in some areas to blast through rock, and as a result a group of female workers – known as *mamans twangaises* – emerged, to crush the extracted rock manually using mortars and a wooden pounder.

Around a decade later, miners in Kamituga began to notice a decrease in the quality of the extracted ore. Many sites, no longer profitable to exploit, emptied out. In 2007, a German trader wanted to access the Kamituga gold market. To do so, he sent six ball mills to Kamituga. Initially, shaft managers were distrustful of the mills, suspecting they would lose some of their gold in the machines.

Around four years later, in November 2011, a Congolese entrepreneur brought three ball mills to Kamituga from Misisi, a large ASGM site in South Kivu further south once again, and where the mills had been in use since around 2009. He had imported the mills from Tanzania at a cost of around US$7,000 each, and set them up at the Calvaire site.[27] Shortly after, a Congolese entrepreneur set up a ball mill repair workshop in Kamituga, and soon after again, the mills began to be manufactured locally. The locally manufactured mills were first tried out in Lugushwa, another ASGM area nearby.[28] About the size of a cement mixer, the mills were powered by generators to grind large

[27] Interview with shaft worker, Kamituga, 23 April 2017.
[28] Interview with shaft manager, Kamituga, 22 April 2017.

rocks into a fine powder, at a faster rate than the *mamans twangaises*. They could also grind what was previously considered *déchets* (waste). While a *maman twangaise* could break down around 15 to 25 kilograms of rock per day, a single ball mill could process 300 kilograms in around half an hour.

By the end of 2012 there were around 70 ball mills active across the three main ASGM sites in Kamituga.[29] Around ten of the mills were owned by shaft managers, with the remaining 60 owned by local gold traders or entrepreneurs. Those wanting to use the mills paid the owners 10,000 Congolese Francs (around six dollars) for every 100 kilograms of treated ore.

Around the same time as the ball mills were being introduced at Kamituga, shaft managers in the area also attempted to respond to decreasing production by connecting sites to the local electricity grid (run by a hydroelectric power station). The aim was to facilitate the use of the same water and oxygen machines described above as in use in Luhwindja and which, by circulating oxygen and extracting water, allowed for production to continue at deeper levels underground. In many cases, explosives were used alongside these machines, to blast through the hard rock encountered at these deeper levels of shaft construction. Through the increased use of machinery, explosives, and ball mills, then, a semi-mechanized and locally led form of production was beginning to organically emerge in the area, with origins in extractive techniques previously adopted at other sites in South Kivu. As a result, sites that had previously been exhausted by more purely artisanal techniques once again became productive.

Yet, recalling the state-TNC suppression of ASM in South Kivu during the 20th century described in the third section, these locally led mechanization efforts have been

[29] Interview with Kamituga civil society representative by telephone, 9 February 2018.

suppressed by the Canadian corporation Banro, disrupting the growth and trajectory of the trader-manager class. The Public Relations Manager of one of Banro's Congolese subsidiaries, Kamituga Mining, succinctly articulated the crux of the problem for the corporation: "For us, it is about the mechanization of mining exploitation… we continue to tolerate the presence of miners up to now, but under the condition that they remain in artisanal mining only" (cited in Buraye et al., 2017, pp. 361-2). As documented by Radley and Geenen (2021), by deploying the Congolese state's judicial and security apparatus to protect its deposits, Banro has acted to repress and undermine ASGM mechanization efforts, including by cutting down electricity pylons and having the mining authorities appropriate many of the ball mills in operation in Kamituga and ban their use in the corporation's most strategically valuable deposits. This recalls one of the major findings from MacGaffey's (1987, p. 213) earlier ethnography of local class formation and struggle in Kisangani and North Kivu of the DRC, that "so far the state has certainly not played a crucial role in assisting the formation of the local capitalist class and mediating its relationship with foreign capital". On the contrary, in the case of ASGM in South Kivu more than thirty years later, the state has functioned to actively undermine and repress the aspirations and trajectory of this local capitalist class.

To summarize, ASGM in Luhwindja has accentuated pre-existing social differentiation locally by providing an opportunity for those from relatively wealthier rural backgrounds to accrue significant profits from gold trade and production, and for upward social mobility. This group of trader-managers might be considered a capitalist class, making the initial investment to finance shaft construction, mobilizing and organizing labour in production, owning the means of production, and productively reinvesting profits, including in mechanization. This trader-manager class also makes additional commercial investments in other, non-mining sectors that, in agriculture for example, include the use of wage labour, and which might be linked to a more diversified process of capital accumulation and increasing productivity.

CONCLUSION

Through a case study of ASGM in South Kivu Province of the eastern DRC, this paper has set out to provide an answer to so far neglected questions within the African ASM literature, namely how does ASM contribute to or constrain the emergence of rural capitalism in the African periphery, and with what impact on social relations? As noted in the introduction, the two examples known to the author of previous research engaging with these questions came to markedly different conclusions. While Chachage (1995) contended that Tanzanian ASM stimulated domestic accumulation via technological innovation and local level capitalist growth in other sectors, Palliere et al. (2018) argued that ASM in the chiefdom of Sella Limba, Sierra Leone was embodied by the absence of an accumulation dynamic.

The findings presented from South Kivu align more closely with those of Chachage, where ASGM has been shown to be embedded in a capital-labour social relation that was associated with increasing sectoral productivity via technological assimilation and capital formation, led by a capitalist class of dynamic and prosperous rural Congolese, which also makes commercial and productive investments in other, non-mining sectors. While certain elements of the social relation, such as disguised wage labour, might diverge from other forms of capitalism, following Fine and Saad-Filho (2010, p. 23), 'We must start with a clear understanding of the social relations underpinning capitalist production, rather than fetishize its effects'. Or, as the British Marxist historian Victor Kiernan (1961, p. 65) once wrote, "…history shows that there are at least as many roads to capitalism as to socialism, and as many variant forms". In

Luhwindja, it was shown how this particular form of capitalist development was structured by ethno-territorial, kinship, and gender identities, and how it both feeds into and accentuates pre-existing rural social differentiation.

Further research is needed to determine if similar findings are replicated elsewhere and, as a result, to what extent they speak to a more generalisable development and accumulation dynamic centred around African ASM (and how this interacts with and is affected by the presence of large-scale and generally TNC-led industrial mining). To the extent that similar ASM mechanization processes are taking place – as recent research from across the global South appears to suggest is the case (Lanzano, 2020; Libassi, 2020; Verbrugge, 2020) – the altered distributional patterns associated with ASM mechanization will also merit greater attention. Supporting and nurturing the development of a domestically led ASM sector to eventually access deeper and more technologically complex deposits will be wrought with its own tensions and contradictions, inevitably creating winners and losers in the uneven and contingent process of (capitalist) economic development. Initial research from South Kivu (Mulonda et al., 2019) and Guinea-Conakry and Burkina Faso (Lanzano, 2020) has suggested that women and unskilled workers at the bottom of the ASM labour hierarchy have been the most negatively affected by mechanization and the introduction of new technologies.

Lastly, by analytically centring the profit-wage relation within the capital-labour social relation underpinning ASGM in South Kivu, so often concealed in the existing ASM literature, the findings presented in this paper challenge one of the recurring arguments and policy recommendations from African mining scholarship, namely that ASM can or should ‘coexist’ with TNC-led industrial mining. This line of thinking can be seen in both the DRC scholarship (Geenen, 2011; Kamundala, 2012) and the broader

African literature (Hilson, 2002a, 2002b; Hilson & Yakovleva, 2007; Nyame & Blocher, 2010).[30] It has also been "promoted by influential actors like the World Bank, for whom 'mining together' is a key solution for conflicts between ASM and large-scale mining" (Verbrugge and Thiers, forthcoming). This perspective is based on the perception that industrial and ASM miners are usually not in competition for the same deposits, as industrial mining targets deeper veins while ASM targets more easily accessible surface deposits.

Yet if ASM is conceptualized not as a low-productivity, pre-capitalist or non-capitalist subsistence activity, but as a capitalist and mechanizing form of production, it can be understood that ASM and industrial mining corporations are in fact in direct competition for the same deposits. What a mining TNC exploits industrially today is nothing but the riches that, over a longer time frame, a mechanizing ASM sector could exploit tomorrow (or, more prosaically, many decades from now). This invites a reconsideration of the merits and consequences of the 'coexistence' argument, which might serve to further reinforce the marginalization of ASM, by cementing its existence on the same terms as Banro in South Kivu (to recall from earlier): that TNCs continue to tolerate the presence of ASM miners, but under the condition that they remain in artisanal mining only.

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[30] Ali (2018) provides a more recent example, although from outside of the continent.

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