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European Journal of Development Research 25 (2): 197-212.

‘Who seeks, finds’: How artisanal miners and traders benefit from gold in the eastern Democratic Republic of Congo

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Abstract

In a context of intensifying struggles to secure access to mineral resources, governments systematically endorse large-scale mining. In many regions, though, artisanal mining is a very important livelihood, from which different groups of people derive benefits. Understanding the micro-functioning of this sector, and thus understanding how people gain access to mineral resources, is a primary task for development actors. This article seeks to describe and analyse empirically how people benefit from artisanal mining and trade and which institutions and power relations shape their ability to benefit. Using the gold mines in the eastern Democratic Republic of Congo as a case study, the article demonstrates that artisanal miners and traders not only face constraints but also seize opportunities through forum shopping, personal relations, and ‘informal’ norms. It also shows how people use ‘access mechanisms’ to secure access to the gold and to mitigate the uncertainties created by the particular institutional context.

1. Introduction: studying artisanal mining

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All over the world, the struggle to secure mining rights has intensified since the liberalization and privatization of national mining sectors. In the course of the 1990s, over 90 countries rewrote their mining and investment codes under considerable pressure from the World Bank (Bebbington et al, 2008: 889; Campbell, 2009). These reforms, primarily aimed at attracting foreign capital, have to a large extent neglected broader issues of socio-economic and community development and environmental protection (Hilson and Yakovleva, 2007: 115; Campbell, 2009). As they were aimed at developing the industrial and large-scale mining sector (Hilson and Yakovleva, 2007: 99), they have also paid little attention to artisanal and small-scale mining (ASM)[2] (Andrew, 2003: 19), rendering illegal and criminalizing many ASM activities and offering substantial space for conflict, marginalization and disempowerment (Hilson, 2002; Ballard and Banks, 2003: 289). Whereas there have been consistent calls to 'formalize' and 'legalize' ASM activities, the technical and predominantly top-down approaches have mainly resulted in 'the dissemination of inappropriate processing and environmental technologies; the implementation of bureaucratic licensing schemes; and design of ineffective and/or incompatible regulations' (Hilson, 2009: 3). Thus, ASM remains a largely 'informal' activity which takes place outside the state's control and irrespective of formal property rights.[3]

Yet the importance of ASM in terms of employment creation, poverty alleviation and livelihoods cannot be underestimated (Barry, 1996; MMSD, 2002; Hentschel et al, 2003). In the debate as to why people engage in ASM activities, authors stress different 'push' and 'pull' factors (Hilson, 2009: 3). The 'demand-pull' school states that people subsist adequately from farming, but choose to go into mining in order to generate higher economic returns. This school is largely informed by accounts

[2] 'Artisanal' mining is a non-mechanized, manual mode of production, which is highly labour-intensive, but does require *relatively* little capital investment. The difference between artisanal and small-scale mining is that the former may involve only individuals and families and is purely manual, whereas the latter, to a certain extent, is mechanized and may involve small companies. 'Industrial' production on the other hand is both large-scale and mechanized. It does require a lot of capital, but needs a smaller labour force per unit of production. In the literature, 'artisanal' and 'small-scale' are sometimes used interchangeably. We will adhere in this article to 'artisanal' mining as this is more appropriate for labelling activities in the DRC, although the miners we have studied may make use of small machines like water pumps and compressors.

[3] For a discussion of formalization in the DRC, see Geenen (forthcoming).

of ‘rush-type’ activities, which have been influential in policy circles. The ‘distress-push’ school argues that people are ‘branching out’ to artisanal mining because they are desperate to escape poverty. A third view claims that artisanal mining has become a permanent activity in some places in Africa’s rural economy and that ‘despite being fuelled by poverty, artisanal mining is more than just a ‘rush activity’, that it is a deeply-rooted industry […] which offers a range of economic opportunities for people from all walks of life’ (Hilson, 2009: 3; see Banchirigah, 2008). Thus, a nuanced picture of ASM emerges, stressing both its poverty-relatedness and its embeddedness in local economies. The latter strand is most in line with the analysis we make in this article.

It has been argued that, despite serious negative social, health and environmental consequences (Hinton et al, 2003; Hilson, 2010b; Kitula, 2006), ASM does provide opportunities for development as it is flexible, mobile and requires relatively little capital. That being so, it allows for the mining of resources that would otherwise not be profitable. ASM also creates (rural) employment and offers opportunities for local entrepreneurs. When it is a seasonal activity, it is complementary to existing social structures (Andrew, 2003: 118; Hilson, 2011).[4] Finally it holds opportunities for poverty reduction. Some studies indicated that people working in mining are less likely to be in poverty than people with other occupations in these areas (Bryceson and Jonsson, 2009: 7; Fisher et al, 2009: 38).

2. Artisanal mining in the Democratic Republic of Congo (DRC)

In the literature, the DRC is presented as a casebook example of the resource curse, in the sense that mineral exploitation has impeded long-term economic development. The revenues generated by the country’s mining sector have not contributed to national development, nor have they bettered the livelihoods of the Congolese population. This is generally attributed to bad governance (World Bank, 2008). In the early 1970s, about 70 per cent of state revenues came from copper (state-owned

[4] The Journal of International Development (n.23) had a special issue on the linkages between subsistence farming and artisanal mining. Rachel Perks (2011) wrote a contribution on exit options out of artisanal mining in the DRC.

company Gécamines) extracted in the province of Katanga. Industrial production rapidly declined, however, as a result of bad economic policies (like Mobutu's Zairianization in 1973), deteriorating infrastructure and commodity price fluctuations at the world market. The financial and economic crisis in Zaire actually intensified in the 1980s. Artisanal exploitation of mineral resources, and attendant unofficial trade and smuggling of minerals, gradually exceeded industrial production, with a resulting decline in state revenues. By the mid-1990s industrial production had fallen close to zero. The 1996-97 and 1998-2003 conflicts, which especially touched the eastern part of the country, caused another explosion and intensification of artisanal mining and unofficial trading activities, and trade networks linked up with cross-border politico-military networks. Academics, advocacy groups, NGOs and the United Nations have done an enormous amount of research on these so-called 'conflict minerals' and their contribution to the ongoing violence.[5] Currently the overwhelming majority of mineral production in the DRC remains artisanal. Estimates of the number of artisanal miners in the country vary between one and two million (World Bank, 2008: 56). Since the end of the conflict, however, multinational mining companies have also shown a renewed interest in the region's minerals.[6]

This has created tensions between multinational mining companies and artisanal miners which are at least partly owed to a lack of clarity at the legal level and poor enforcement of the law. The current Mining Law (DRC, 2002) and Mining Regulations (DRC, 2003) were established under the guidance of the World Bank and the International Monetary Fund (IMF) (Mazalto, 2009) and give priority to private sector development and large-scale industrial projects. Companies may acquire large concessions for extensive time periods and work under quite liberal tax regimes. For artisanal miners, the law provides for the creation of 'artisanal exploitation zones' (AEZ) by ministerial decree

[5] For some of the more recent publications, see Enough (2009), Global Witness (2009), Human Rights Watch (2005), International Alert (2009), Pole Institute (2010), Prendergast and Lezhnev (2009), Spittaels and Hilgert (2008), Sullivan and Atama (2010) and the reports of the UN Group of Experts.

[6] In the east, this is a relatively recent process, whereas in the province of Katanga, with its large reserves in copper and cobalt, the industrial revival started earlier (Cuvelier, 2011).

and in areas where 'the technological and economic factors are not suited for the site to be industrially exploited' (DRC, 2002, T4, Ch1, Art110). But if circumstances change and a company finds the zone to be suited for industrial exploitation, it may transform the zone into an industrial concession. Of course this weakens the position and security of artisanal miners. In practice, very few AEZ have been created until now, and none of them is operational. The problem is that the majority of the territory in eastern DRC has already been allocated to industrial companies and is covered by exclusive mining titles (World Bank, 2008: 17).

As a result, artisanal exploitation and trade continue to flourish through actors and networks operating outside the state's regulatory framework. In this institutional context it is very difficult to speak about legality or illegality. As the state does not have the capacities to enforce its laws, to facilitate compliance and to control its territory, the population finds itself in a situation where it is almost impossible to work within the legal framework, a situation that has been characterized by Garrett and Mitchell (2009) as 'a-legality'. Therefore we need to go beyond the legal/illegal divide and look for another conceptualization to understand the artisanal mining sector.

3. Access, benefits and power

In this article we analyse the micro-functioning of artisanal gold-mining and trade in terms of access, which has been conceptualized by Ribot and Peluso (2003: 153) as 'the ability to benefit'. Access encompasses all the ways in which people benefit from things, in this case mineral resources. Consequently, it can be distinguished from property, which is an enforceable claim to use or benefit from something (Sikor and Lund, 2009: 4). Property implies that one has a right, a claim that is sanctioned by an institution. For traditional property rights theorists, the sanctioning body should be the state, but property theorists inspired by a legal pluralist approach argue that property can be based on any claim that is socially sanctioned, be it by conventions, customary law, or state law

(Meinzen-Dick and Pradhan, 2002). Yet people may benefit from natural resources without having property rights. In this context, the concept of access becomes useful, as it 'brings attention to a wider range of social relationships that can constrain or enable people to benefit from resources' (Ribot and Peluso, 2003: 153). In other words, the wider institutional context (political-economic circumstances, social relations, cultural norms) determines who can use law, custom and conventions to gain access to resources, and how. At this point power relations come into play. Who obtains access, and to what extent, is determined by an individual's or group's position and power (Ribot and Peluso, 2003: 158).

The institutional context in countries like the DRC is highly fluid and multifarious, consisting of different normative orders with multiple sources of legitimacy and authority, a situation often referred to as legal pluralism (Griffiths, 1986). Whereas this context may be constraining and increase insecurity for some, it may also be used by individual actors to gain access to the resources they need. Individuals navigate between institutional frameworks and they select the law, custom or convention that best serves their interests and objectives, a process often referred to as 'forum-shopping' (see von Benda-Beckmann, 1981; Meinzen-Dick and Pradhan, 2002). The processes through which people do this, or the so-called 'mechanisms of access', can be of various kinds, such as rights-based access or structural and relational mechanisms (access to technology, capital, labour and information). Ribot and Peluso conclude that access analysis involves the identification of the benefits, the mechanisms by which different actors control and maintain access, and the power relations underlying the mechanisms of access.

This article aims perform access analysis of artisanal gold-mining and trade, using empirical material from the gold-mining sites in the province of South-Kivu, eastern DRC. The sites of Kamituga, Lugushwa and Luhwindja have been selected because of their importance in terms of artisanal gold production and employment and their specific histories. In our analysis we limit ourselves to underground shaft-mining, leaving out the description of alluvial sites, which are organized differently, and which can also be found all over the province. We base our analysis on ethnographic fieldwork (individual and group interviews, observation, collection of primary data), between March and April 2008 (Kamituga), July and August 2009 (Kamituga), January and February 2011 (Lugushwa and Luhwindja) and October 2011 (Luhwindja).[7]

4. Access, benefits and power in artisanal gold-mining and trade

4.1. Institutional context

A short overview of the institutional context in our selected areas will demonstrate that access and property do not necessarily overlap, and that the institutional environment is highly uncertain and fluid. After the discovery of gold deposits in the Kamituga region in the 1920s, industrial exploitation started rapidly.[8] The towns of Kamituga, Lugushwa and Luhwindja emerged as typical colonial mining camps, where the company (Minière des Grands Lacs or MGL) provided housing, health care, education, food and leisure facilities. The towns and the surrounding concessions were only accessible for workers. Shortly after independence, however, many people from neighbouring villages came to settle in Kamituga and Lugushwa, hoping for job opportunities and access to social services. Industrial exploitation in Luhwindja had stopped in the course of the 1960s.

From the mid-1970s on, more and more people started digging in mine shafts abandoned by MGL (which was replaced by Sominki, Société Minière et Industrielle du Kivu, in 1976). Artisanal miners also infiltrated the main production shafts with the explicit aim of stealing ore from the company, to which the latter reacted with repressive policies (Bulambo Katambu, 2002). These miners were financed by local traders, who bought tools, clothes and food, and sold the gold to master traders in

[7] The names of all interviewees have been anonymized. For previous analyses of respectively gold exploitation and trade, see Geenen, 2011a and b.
[8] This section is based on archival work (archives of the Royal Museum for Central Africa and personal archives of a former Sominki director).

the provincial capital Bukavu. The latter sold the gold in the Burundian capital Bujumbura, which remained the most important trading hub until the early 1990s. Consequently, an unofficial and 'parallel' system of artisanal gold exploitation and trade emerged, with well-established links to neighbouring countries. In addition to the boom of artisanal mining, Sominki's industrial activities had already been put under pressure by the persistent economic crisis, falling commodity prices, and deteriorating infrastructure, but the first war in 1996 abruptly ended all industrial activities. During the second war (1998-2003) RCD (Rassemblement Congolais pour la Démocratie) established control over Kamituga's main mining shaft (in Mobale mine they confiscated half of the production; Vlassenroot and Raeymaekers, 2004: 220). The whole area saw frequent confrontations between RCD, the Congolese army and local May-Mayi groups.

Following Sominki's liquidation at the start of the first war, the Canada-based gold exploration company Banro purchased the mining titles for the different gold concessions in South-Kivu (Kamituga, Luhwindja, Lugushwa). But the changing power configurations during and immediately after the conflict, resulting in armed violence, political pressures and court cases, hindered their activities[9]. From 1996 onwards, no industrial mining company was present in these mines. Hence the population considered the sites as being 'abandoned' and exploited them in an artisanal way. In 2005 Banro started its exploration activities in Luhwindja, while in Kamituga and Lugushwa they only arrived in 2011.

4.2. 'This is our land': access to the gold mines

[9] Laurent Kabila handed the abovementioned concessions over to the state-owned company Somico in 1998. Banro took this matter to the USA Federal Court for Foreign Sovereign Immunities, disputing the loss of Sominki's concessions and demanding a compensation of US$ 1 billion. However, on 16 January President Laurent Kabila was murdered and succeeded by his son Joseph. During the new president's visit to the United States, Banro invited the Congolese government to negotiate a 'gentlemen's agreement', which was eventually signed on 18 April 2002. The agreement restored all titles and rights to Banro, but on the ground the context was still uncertain and violent.

The exploitation of a mining shaft is initiated by a so-called PDG (Président Directeur Général). The term itself (meaning 'CEO') is a nice illustration of how the artisanal miners mock the industrial companies. For the sake of simplicity, in this article we will call the PDG the shaft manager. They are mostly men (although there are some female shaft managers as well) and often former Sominki workers (or their parents were) with considerable experience in the gold sector. The shaft manager acts both as an investor and as an organizer. He provides the necessary tools (for example, shovels, chisels, torches and water pumps), engages a team of workers and caters for their food – and possibly other – needs until the shaft starts 'producing' (i.e. when the team reaches the gold vein).

As we have said, the institutional context is particular, as the gold concessions belong Banro, but this company was not present until very recently. The artisanal miners were tolerated. But as Banro is now moving forward with exploration and exploitation, the pressure on artisanal miners increases. Legally artisanal miners are required to pursue a 'carte d'exploitant artisanal' and work only in artisanal exploitation zones, but the latter are not operational yet. In practice, they continue their work in this legal pluralist context where state-sanctioned property rights are not being enforced, and where law and order are generated by institutions such as the customary chiefs, the military, trade unions and associations.

In order to secure their mining rights, miners thus use multiple mechanisms (used by Ribot and Peluso (2003:260) as a broad concept encompassing means, processes and relations). First of all miners refer to customary law. Almost all of them are paying a contribution to the customary chief, who traditionally distributes and levies taxes on the land. Following these customary procedures is often considered more relevant and more legitimate than adhering to some abstract state regulations. One shaft manager expressed it as follows:

> "I have acquired this title in a customary way, so it's not this 'very official' title, but it allows me to work" (interview, 9 January 2011).

Miners also legitimize their claims by referring to 'traditional' rights to the land their ancestors lived and worked on. As one miner told us:

> 'We only take what is ours; it's the land of the Congolese'.

Another miner said:

> 'We were born here, our parents worked in the company. Being their children, we have the right to work in these mines'.

Another argument used to legitimize their claims is to be found in the relative absence of the state performing its core functions. This is tangible in a statement made by a former MGL employee:

> 'Mobutu has chased away MGL and instructed all of us to use our own force, he chased the white people [i.e. the 1982 liberalization - SG]. And when they had left, we stayed here. When the president told us to fend for ourselves, we started this work of digging gold' (interview, 8 January 2011).

An important mechanism for maintaining access is forum-shopping, or the utilization of multiple legal orders, navigating between different institutional frameworks depending on personal interests and local power (von Benda-Beckmann, 1981). Shaft managers approach and are approached by state representatives, people from the mining administration, customary authorities, military leaders and different kinds of associations to pay unofficial 'taxes'. Clearly, not all of these interactions are voluntary, so an element of extortion is certainly involved, resulting from unequal power relations. On the other hand, miners use these payments as a means to maintain access to the mines. When asked about their property rights to a specific mine shaft, they explicitly refer to these payments to say that they have a legitimate access to this shaft. For example, local branches of the Mining Administration sell authorization cards for artisanal exploitation ('carte d'exploitant artisanal), while in principle they should not do so inside an industrial concession. The price varies between 25 and 50 USD and depends not so much on arbitrariness as on the individual's negotiating skills and power relations. Shaft managers negotiate all the time over the amounts they need to pay.

They are thus trying to manoeuvre themselves into a more favourable position vis-à-vis the different authorities. The endless negotiations and attempts to obtain the most favourable outcome in these unfavourable circumstances can be captured under the mechanism of forum-shopping (von Benda-Beckmann, 1981). Finally, artisanal miners also maintain access through structural and relational mechanisms of access such as access to technology, capital, labour, markets, information, and via the negotiation of social relations. This will become clear in the following sections.

4.3. 'It's teamwork': the organization of underground shaft-mining

One shaft may be exploited by between five and 150 miners, depending on the availability of manpower, the size of the shaft, the phase they are in and the expected production. The work is done manually and miners make use of shovels, chisels and other small tools. A few shaft managers have been able to invest in machines like water pumps and compressors. Some also use explosives in order to excavate the tunnel. A lack of modern technical equipment obviously imposes considerable constraints on exploitation. For example, many teams are stuck when ground water wells up. During the rainy season, this seriously hampers production. Second, the periodic lack of oxygen in the underground shafts is a cause of illness and death.

An underground shaft-mining project requires considerable investment in tools, as well as preparatory work and catering for the workers. In a survey we did in late 2011 in several mining sites in South-Kivu, we found that the shaft owners face average monthly costs of 1707 USD for their shaft, some having to pay up to 24,000 USD but most paying below 1000 USD a month. In some cases, teams have to work a year or more before they reach a gold vein. As a consequence, investments in shafts may run to tens of thousands and even more than 100,000 USD before the shaft eventually produces. In the local context, these are very high amounts. As we will see later, most of these investments are made by gold traders. One argument made by Banchirigah (2008: 35) is that the high investments in mines – even those which are strictu senso illegally operating – is one of the reasons why it is so difficult to eradicate illegal mining in Ghana, because people have been indebted and cannot simply abandon.

At the start of a project, the first task is to dig a tunnel, which is shored up with wooden trunks, a task carried out by specialized workers (i.e. the *boiseurs*). They are usually experienced, middle-aged ex-Sominki workers. After them, the *foreurs* set to work. This category of workers extracts the auriferous rocks, cuts them into smaller stones and then proceeds into the tunnel. The work of the *foreurs* is physically very demanding and is typically done by men aged between 20 and 40. They usually have a certain degree of experience in underground mining. Next come the *peleteurs*, who are mainly younger and/or less experienced men. They clear out the quartz for processing. The recruitment of workers is generally based on friendships and (extended) family relations. These social relations provide a useful means for the shaft manager to gain access to labour and for the miners to gain access to labour opportunities.

Whereas the relationship between shaft manager and miners may provide for a lot of flexibility, it is not unregulated. On the contrary, every underground mining project is governed by rules and regulations, which are usually sanctioned by oral convention. Many of these regulations can be found in other contexts as well, like in the gold mines of Tanzania (Jonsson and Fold, 2009) or West-Africa (Grätz, 2009). First, there are rules and regulations with respect to the sharing of output. In underground mining, auriferous quartz is excavated from shafts and tunnels. Generally, one-third of the extracted rocks is used to reimburse the investment costs (see above), one-third goes to the shaft manager, and one-third is distributed among the other miners (sometimes equally, sometimes according to their category; workers with specific tasks are typically paid a fixed quantity per shift). As remuneration comes in kind (i.e. bags filled with auriferous rocks), it is common practice to evacuate one metre of quartz to cover expenses, one metre for the shaft manager and one metre for the miners. The three metres thus constitute one 'cycle'.[10] Every miner is responsible for processing his own part of the production, and for selling it to the local traders. In other words, the quality of the rock determines whether a miner will make profit or not.

Generally miners prefer this arrangement because of their strong belief in personal luck, as we will argue later. But in some cases these arrangements may provoke conflicts, for example if a shaft manager suddenly claims a larger share for himself. Typically, he would justify this by saying he had investments to recoup beyond those provided for in the initial agreement. Yet the power relations are not so univocal. As shaft managers make greater investments, they also run greater risks and are more dependent upon their credit suppliers. On the other hand, miners also seek access and increase their agency through the negotiation of social relations with local traders so as to establish patron/client relationships, which may be completely independent from their relationship with the shaft manager.

Second, some rules and regulations apply to the underground mining project in general, for example to spatial divisions within a mining site, or to different teams working inside the same shaft. Alex, a shaft manager in Lugushwa (interview, 20 January 2011) explained that he shares a shaft with someone else. Alex, with his sixty workers, proceeds to the left-hand side, while the other shaft manager, employing more than 100 miners, proceeds to the right. In principle they work independently. They do not share the benefits, but they do share the expenses. As the other shaft manager is working seven metres below Alex, all the groundwater flows his way. Therefore they have agreed that Alex takes an equal share in the costs of the water pump (buying or hiring a pump, paying for the gasoline and paying for two guards to watch over the pump). It may also happen that

[10] The same distribution system is used in other contexts;, see Jonsson and Fold (2009: 217).

a team unexpectedly bumps into another underground team. As a general rule, if a team reaches a place where another team is working, it has to retreat.

4.4. 'Who seeks, finds': benefits of underground shaft-mining

It is almost impossible to estimate the average income for miners because first of all, they are reluctant to provide this information, and second, their revenues are extremely volatile. For instance, during the preparatory phase, when small gold particles may be found in excavated rocks and sand, daily production varies between a few *mishale* (measure equal to 0.126 grams) and a few *renge* (measure equal to 1.26 grams) per shaft. In the production phase, which may last for a few weeks or up to several months, productions of several *tola* (measure equal to 11.66 grams) per shaft may be recorded. Between 2008 and now, the local gold price varied between about 39 USD and 46 USD per gram. So in times of good production, shaft managers earn up to several hundreds of dollars a week (interviews in Kamituga, Lugushwa and Luhwindja 2008-2011). After all, the most defining feature of the earnings from artisanal mining is their high variability (see also Bryceson and Jonsson, 2009: 7).

The question may then be raised how miners spend their money. First of all, miners use their earnings to cover the daily needs of the family: food and drinks, school fees for the children, health care. A second pattern we observed, and which is in the popular literature often associated with artisanal mining, is immediate consumption (alcohol, parties, women and fashionable clothes). Yet we found that this behaviour is not just illustrative of moral decay and unlimited consumerism, as is often suggested. Other reasons underpin it, such as the constant need for cash in an environment where all services are to be paid for, and where food and basic goods are expensive, a general feeling of insecurity and the threat of state intervention and theft. The institutional environment does not encourage people to save or invest: there is for example no banking system in place. If they do make some larger investments, most miners opt for a plot for construction and/or a house (preferably in the provincial capital Bukavu), marriage (brides price) and investments in livestock or agricultural fields. Some miners have managed to invest in other economic activities, like trade (in gold or in other goods) or transportation (trucks mostly).

Research on artisanal mining in West Africa has demonstrated that people characterize money earned in mining as ‘bitter money’ that cannot be invested in ‘lasting goods or serious activities’ (Werthmann, 2009: 20), whereas money from farming is judged to be more sustainable. In other regions a distinction is made between money from gold panning (‘more sustainable’; done by women) and from diamond mining (‘more suitable for immediate consumption’; done by men; work is more risky) (Pijpers, 2010). In other words, it seems that the appreciation of the earnings from mining – and the consequent decisions on how to spend it - depends on the context and local perception of the livelihood. Where the mining activities are rather of a ‘rush-type’, miners tend to spend their money quicker on non-durable goods. In areas where mining activities are more deeply rooted and connected to other economic sectors, there is more sustainable investment.

In the three towns we visited gold-mining is primarily perceived as the only viable livelihood: ‘If you close the mines, you kill everyone in Kamituga’ (interview, 7 April 2008). Similar sentiments were expressed in almost every interview. Artisanal mining also nurtures all other economic activities, like petty trade and agriculture. This became painfully clear during the temporary ban on artisanal mining (September 2010 to March 2011) that was implemented by President Kabila and had a disastrous impact on the local and regional economy (Geenen, forthcoming). A second discourse heard among miners is the fact that their work generates quick and easy revenues:

> ‘For a digger like me, the money we find is easy money, whereas a farmer has to wait so long for the harvest’ (interview, 2 April 2008).

Third, miners are motivated by the possibility of striking it rich, as the following quote demonstrates:

> 'I love this work in the gold sector because you can go to bed as a poor man and wake up as a rich man' (interview, 6 April 2008).

The above demonstrates that many miners are driven by hope. They would for example say that their income depends on luck, or on God's will, and can never be predicted. This spirit of hope (as a driving force) is also markedly expressed in the name of one of the shafts we visited: 'Who seeks, finds'.

Although, at first glance, 'it all depends on luck', there are other critical factors that influence the outcome of a mining project. We found that most shaft managers have considerable experience in the mining sector. As (children of) former Sominki workers, they know the mining sites very well and they do not start a underground mining project 'blindly'. They know which shafts have been abandoned by MGL or Sominki and which veins are still worth exploiting. Moreover, they use their technical and geological knowledge, and indications about the 'behaviour' of the reefs, to direct their shafts towards the most productive gold veins. The case of Jean, a shaft manager, illustrates this.

> Jean is 45 years old and has six children. He was born in Kamituga and worked for Sominki in the eighties. Having lacked the opportunity to study at that time, he decided to start university studies at one of the four divisions of universities in Kamituga. In order to pay for his studies, he worked as a miner. In 2008 he constituted a team together with some fellow-students. Unfortunately, they had to abandon the shaft a few months after our visit owing to the mounting groundwater. In January 2009, Jean invested in a new shaft in Misagi, another mining area in Kamituga. Being an ex-Sominki worker, he knew that this area contained a particularly rich vein. He told us they based their prospecting plans on old geological maps, and in the abandoned MGL shaft he followed the geological indications to form his tunnel.

> At the time of our second visit in August 2009, they had dug a 60-metre long tunnel with a team of five diggers. Their work had to be temporarily stopped as Jean lacked the money to buy fresh batteries for their torches. In 2011, Jean's life took a different turn, as he was hired by Banro to be part of their exploration team.

This case illustrates how shaft managers have agency (university studies, investments) but also face constraints (technical limits, financial constraints, need for fresh batteries). It also shows how people apply and change strategies, depending on the changing institutional context, as Jean did when he applied for a job with Banro.

The motivations to engage in gold-mining in Kamituga, Lugushwa and Luhwindja are thus diverse. There is an element of hope that one will strike it rich and a conviction that it guarantees access to quick and relatively easy revenues, but above all there is the sense that mining is the main or even the only livelihood option in these areas. 'I realized it is the only work I am capable of, and I am good at it', one miner said (interview, 26 January 2011). Whereas one can argue that most activities in rural Africa are essentially poverty-driven, our research demonstrated that these miners not only mine out of poverty, but also because they see these activities as a viable livelihood, for them personally and for their communities, and because they can imagine making a career out of this activity. In this sense I agree with the argument posited by Bryceson and Jonsson (2010), who conclude from their work in Tanzania that miners are career-minded and make strategic choices about labour specialization, possibly with the eventual aim of becoming a shaft manager.

We argue that the institutional and historical context of a particular mine matters a lot. In Kamituga and Lugushwa (and to a lesser extent Luhwindja), we find an experienced and skilled workforce. They cannot imagine themselves doing anything other than mining. When asked about their future plans, most want to stay in the mining sector. For some, employment opportunities may arise in the industrial sector, as Banro has intensified its exploration activities in the region. These miners realize, however, that employment opportunities in the industrial sector are very limited, and experience (in Luhwindja) has taught them that the company mainly hires day labourers and pays them 4 USD per day. All interviewed miners stated that they used to earn much more money in artisanal mining (interviews 2011; see also Jonsson and Fold (2009: 219)).

4.5. 'Then the friendship goes on': personal relations between miners and traders

After processing the gold-containing rocks in places called l*outra* (where rocks are crushed into a fine powder, washed and burnt with acid to remove impurities), miners sell their production in local buying offices. These economic transactions, however, are inscribed in a broader web of social relationships, which define both the miner's and the trader's access to the gold. The relationships are rooted in a mutual dependency between miners and traders. In brief, miners and shaft managers need financial support, hammers and shovels, torches, clothes, food and drink, during the preparatory works. As shaft owners face technical limits, they also seek access to technology and to capital in order to buy small machines such as water and oxygen pumps, dynamite to excavate the stones and petrol. As there are no other credit facilities available, they turn to traders. Traders for their part need a constant supply of gold, so they have to establish certain strategies to secure their access to these supplies. They do this by sponsoring or financing miners and shaft owners.

This process is widely known as clientelization or the 'tendency for repetitive purchasers of particular goods and services to establish continuing relationships with particular purveyors of them' (Geertz, 1978: 30). In Kamituga, Lugushwa and Luhwindja, local traders and artisanal miners personalize their relationships in order to reduce uncertainty. The credit which traders provide to miners may take different forms. It either comes in the form of small sums of money, tools, food and water, batteries and torches granted to individual miners or in the form of larger investments, granted to shaft managers, which can run to 5000, 50,000 or more than 100,000 USD, depending on the size of the buying office and the needs in the shaft. Some debts are outstanding for a long time, and can be divided between different shafts (interview, 21 August 2009).

These debts need to be recovered when the team reaches the production phase. At that moment they are required to sell their production through the trader, who finds himself in a position to impose a price (see also Hart, 1988: 179; Lyon and Porter, 2007: 912). A miner in this scenario usually accepts the price, although he might be able to get a higher price in another buying office, or as a miner told us: 'We discuss, but they impose' (interview, 4 April 2008). If a miner has a larger quantity to sell, however, his bargaining position will increase accordingly, but a mining project may fail to generate an output, or the miner who took the credit may suddenly disappear. According to our respondents, this happens frequently, but traders take it as 'part of the job'. Sponsoring miners and shaft owners is a necessary investment, a risk one has to take. The following quote demonstrates how these credit and debt relationships are built and reinforced:

> 'In order to have customers first you need to sponsor them. You need to create a relationship. When they come here, they tell you: "We would like to go into the job, but we don't have money to buy this and this". So you give them. You take a risk by giving them, because they can run away. But when they get something [gold], they must come back to you. Then the friendship continues' (interview, 13 August 2009).

This friendship is partly based on affectivity. There is a strong social cohesion in the gold sector, a feeling of belonging together and sharing the same experiences (Grätz, 2009: 16). Miners and traders call each other 'friend' (*rafiki*): 'We are friends in the first place, after that I am also his client' (interview, 7 August 2009). Clearly, however, the instrumentalist dimension of this friendship cannot be underestimated: it serves a commercial aim, and is a strategy to gain and maintain access.

4.6. 'The gold passes through many hands': benefits and power in the local gold trade

In Kamituga there are about 17 large and 50 small buying offices (figures as from August 2009)[11]. About 20 to 25 of them were officially registered; the other ones operated illegally or under the cover of an officially registered office[12]. In Lugushwa (January 2011) there are about 25 official and 25 non-official buying offices (interview, 25 January 2011). The buying offices in Kamituga and Lugushwa are usually owned by master traders (*patrons* in French) who live and work in Bukavu. These traders often combine the gold trade with other business, such as clothing, transport or fuel. They also have access to international gold markets. This shapes their power position vis-à-vis their commission agents, who are tied to them in a patron/client relationship and have limited opportunities to sell to other master traders. Traders use the system of commission agents because it allows them to register officially and pay taxes for one office when, for example, they really operate three, possibly in three different mining sites. It is also a strategy to diversify the supply and thus guarantee a constant supply of gold and to minimize risk. The recruitment of commission agents is done on the basis of familiarity, friendship or (extended) family relations (kinship).

Buying offices are usually staffed by one or two commission agents, who are each entrusted with specific tasks. One of them is charged with 'heating' the gold in nitric acid so as to remove the impurities. This process is called 'heating,' 'burning' or 'cleaning' the gold and produces highly toxic fumes from the burnt acid. A second person does the weighing, negotiation, payment and accounting. To make the office operational, the *patron* places a sum, varying from 1000 to 20,000 USD, at the commission agent's disposal. To weigh the gold, commission agents use very simple

[11] We managed to identify at least 90 per cent of all operational buying offices. We did not identifythe local traders who are operating besides the buying offices and combining the purchase of gold with other economic activities, such as women who are selling food at the market, but who also buy and sell gold. The differentiation between 'big' and 'small' offices is made on the basis of different pieces of information obtained during fieldwork: over 60 interviews with local traders (asking people to mention the 'big traders' in town), a survey carried out among 20 buying offices, interviews with local state agents, observations. The 'size' of a buying office must be understood in terms of purchased volumes.

[12] Data from local division of the Mining Administration, August 2009.

balances. They hold the balance between thumb and forefinger and balance the amount of gold with suitable weights. These weights include a range of coins, matchsticks and toothpicks. In the process, cheating frequently occurs. In fact, commission agents depend for part of their profit on the manipulation of the weights. One of them explained to us that a coin of one *kanta* should normally weigh 0.7 grams. To make some profit, he would manipulate the *kanta* to 0.9 or 1 gram. The 0.7 is transferred to the *patron*, and the commission agent keeps 0.2 or 0.3. He concluded that 'a commission agent must be a bit of a thief'. This access strategy is actually widely known and considered legitimate by the actors involved. Apart from this, commission agents and master traders have some conventions with respect to the sharing of revenues. Usually, the master trader evaluates his profits at the end of the month and the commission agent receives a percentage. Thus, their salary is not fixed. It depends on the quality of the relationship and on the level of monthly profits.

The prices in Bukavu and in Kamituga keep up with the world market price, which has increased since 2009. Most traders now own a mobile phone and/or have access to the internet. They use it to obtain almost daily information about the world market price. In terms of power relations, access to price information has dramatically strengthened the position of the smaller traders. In the gold chain there are also a number of standard calculations and formulas.[13] Let us take an example from October 2011, when the London gold price was 1682 USD/ troy ounce or 54.08 USD/gram. On the Dubai market the price would be 51.19 USD/gram; in Bujumbura 49.67 USD/gram; in Bukavu 48.76 USD/gram. On the Kamituga market, commission agents would pay 46.86 USD/gram. In the gold chain, money is not made on high profit margins per unit. Although some money may be made by cheating, as we have demonstrated, the most important profits are made on large volume.

[13] Interviews with traders in Bukavu. The formulas are fixed and guide the price-setting, although not all individual traders use these formulas.

Therefore we find a large concentration of volumes at the level of the 'big' master traders who have good connections abroad.[14]

5. Conclusion

Whereas the potential of artisanal and small-scale mining for development has been recognized – at least in theory –, governments' and donors' legal initiatives and economic policies have paid little attention to ASM, endorsing large-scale and industrial mining instead. Most mining laws provide many regulations for industrial mining, and artisanal miners have limited opportunities to secure their access to the mines. Government policies often explicitly penalize artisanal miners, who are portrayed as 'criminal' and 'illegal invaders' (see Hilson, 2002; Geenen, forthcoming). The case of South-Kivu, however, demonstrates – as do cases for example in Ghana and Sierra Leone (Hilson, 2009 and 2010a) – that artisanal mining is not a mere survival strategy to which people turn in times of distress or conflict. In many regions it is a highly important and deeply rooted livelihood, from which different groups of people derive benefits, each at their own level. Understanding the micro-functioning of this sector, and thus understanding how people gain access and how they benefit, is a primary task for development actors .

With respect to the main research questions of how people benefit from artisanal mining and trade and which institutions and power relations shape their ability to benefit, a few general conclusions may be drawn. The article demonstrates that the artisanal miners, shaft managers and local traders in Kamituga not only face constraints but also see and take opportunities through forum shopping, gaining access through personal relations, and through conventions or the so-called 'informal' arrangements they make. There are many ways to benefit from gold exploitation and trade. Some benefit more than others, but these hierarchies may change. Power relations are not univocal, as

[14] As our article focuses on the local level, we will not provide more details. For more information see different reports of the UN Group of Experts on the DRC: http://www.un.org/sc/committees/1533/egroup.shtml.

creditors may turn into debtors, or vice versa, at any time. The article also shows how people use a number of strategies to reduce the uncertainties created by the particular institutional context. Far from being chaotic and unorganized, the artisanal exploitation and trade in gold follow their own logic of organization. Therefore, in a rapidly changing world, threatened by resource conflicts and an increasing scramble for mineral resources, new development narratives need to take into account the perspective of artisanal miners. In eastern DRC, there is a growing presence of large-scale mining companies, backed by the state, which are attempting to gain greater control over the sector and thereby neglect and criminalize artisanal miners. In this context questions about what artisanal miner's rights are, and what the future of this livelihood is, urgently need to be addressed.

Acknowledgements

I especially want to thank my research assistants Gabriel Kamundala, Francine Iragi, Alliance Mango, Elly Habibu, as well as all interviewees. I am grateful for the valuable comments and insights from two anonymous reviewers and from An Ansoms and Stefaan Marysse.

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