

## Review article

## From 'conflict minerals' to peace? Reviewing mining reforms, gender, and state performance in eastern Democratic Republic of Congo

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## ABSTRACT

For the last two decades, the Congolese Artisanal and small-scale mining (ASM) sector has been undergoing reforms of its governing structures. A recurrent argument supporting the reforms — predominantly in the 3T ASM sector (i.e. tin, tantalum and tungsten) — is that artisanal mining feeds violence (including sexual violence), conflicts, underdevelopment, and poverty. The reforms have been extensively studied, and academic research in turn has triggered empirical policy and advocacy researches. Researchers have found different outcomes and interpretations of the effectiveness of the reforms. This study consists of a systematic review of the findings gathered from the literature on the changing role of the state in governing 3T mining. It argues that in the study areas (i.e. North-Kivu, South-Kivu and Tanganyika), the challenges faced by the state in governing artisanal mining tend to be similar, complex, and rooted in the mining history of eastern DRC. Recent armed conflicts have only added new layers to existing challenges. In addressing these challenges and given their complexity, the state has succeeded in some areas but has failed in putting in place a coherent 'model' for governing the 3T ASM sector.

## 1. Introduction

Artisanal and small-scale mining (ASM) in the eastern Congo, especially the 3T<sup>1</sup> sector, is undergoing profound reforms. A recurrent argument of the members of the international community supporting the reforms is that artisanal mining feeds violent conflict, underdevelopment and appalling poverty (Global Witness, 2009). This argument has given birth to the 'conflict mineral'<sup>2</sup> narrative, which needs to be reversed for a better image of the sector. Many researchers engaged in empirical policy and advocacy research have extensively studied the reforms. In the three provinces concerned by this literature review (Tanganyika, North-Kivu and South-Kivu), mining reforms have led to different outcomes and interpretations regarding their effectiveness (Bashwira, 2017; Cuvelier et al., 2014; Diemel and Cuvelier, 2015; Diemel and Hilhorst, 2018; Geenen, 2012; Wakenge, 2017). This study provides a systematic review of the literature on what have been the

effects of the reforms in the 3T mining sector on the perceived governance capacity of the Congolese government. This study also includes a review of the evidence regarding the effects of formalization reforms on the position of women in the mines, i.e. how mining administration has addressed gender issues, especially regarding the inclusion or exclusion of women in ASM. In a sector where state-society power relations dominate daily life, it is necessary to understand the way state actors have been dealing differently with men and women when it comes to accountability. The lack of education is arguably a hindrance for many women because they are rarely aware (or made aware) of new laws or measures put in place. This makes women more disadvantaged than men when it comes to dealing with state officials in the ASM sector.

Overall, mining reforms in the DRC had two major components: on the one hand, they involved a liberalization of the mining sector under the impetus of the World Bank, while, on the other hand, they also entailed a quest for greater transparency in mineral supply chains

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through traceability schemes. Although, in this paper, we will mostly focus on the second component, it is important to note that – to a certain extent – the two components have been intertwined and driven by the same underlying rationale. From the early 2000s onwards, the dominant conviction among international policymakers was that the legislative framework governing the Congolese mining sector was in need of a thorough overhaul so as to bring it into closer alignment with the norms and standards of the (neoliberal) globalized mining economy (Vogel and Raeymaekers 2016; Mazalto 2005).

After the official end of the Congolese war in 2003, the World Bank considered mining as a vital instrument for the country's economic recovery, and it expected the private sector to play a leading role in this. Therefore, in order to attract new investors and to create a more stable business environment, the Bank pushed for the restructuring of Congolese mining parastatals, the preparation of a new mining registry, and – perhaps most importantly – the introduction of a new mining code in 2002 (Mazalto 2005: 7–31; World Bank 2008), which was revised again in 2018. The new mining code, unlike the old one, incorporates a wide range of transparency measures in mining permits. It also contains measures to help prevent abuse along the mineral supply chains, if it can be properly implemented. It could also help provide and improve basic social services to communities living in and around mining areas and beyond. This new code also has the merit of addressing gender issues, though it only clarifies the limitation on work by pregnant women, which had already been criticized by authors such as Bashwira et al. (2014).

With regard to the efforts to ensure greater transparency, the international community has taken many different initiatives that together aim to ensure a responsible mineral supply chain, including among others the due diligence schemes of the Organization for Economic Co-operation and Development (OECD), a certification mechanism of the International Conference of the Great Lakes Region (ICGLR), and the Tin Supply Chain Initiative (iTSCi) traceability system of the International Tin Research Institute (ITRI), now called ITA (International Tin Association) from 1st February 2018, which is the most significant initiative when it comes to certifying minerals as conflict-free.<sup>3</sup> Monitored by ITA employees, iTSCi is implemented by Congolese state agents at 3T mining sites. In 2010, the US Congress passed the Dodd Frank Act of which section 1502 requires stock-listed companies in the US to provide specific assurances that any products that they have manufactured or contracted to manufacture do not contain minerals that directly or indirectly finance or benefit armed groups in the DRC or its neighbors (see Seay 2012).

It is important to bear in mind that, following efforts to formalize mining, the state is only one actor among others. International actors and private corporations play a key role in technically and/or financially supporting the reforms. This observation suggests that the changes resulting from the reforms need to be understood as the outcome of the efforts of different state and non-state stakeholders.

Extending from South-Kivu to Tanganyika and North-Kivu, mining reforms implemented at the 3T mines rely on two interdependent components. Before a mine is declared 'yellow', 'red' or 'green' (which means it becomes eligible for certification), a multi-stakeholder validation process is necessary. Validation of mining sites requires visits of a joint team composed by representatives of state agencies like *Service d'Assistance et d'Encadrement des Mines Artisanales et à Petite Echelle* (SAEMAPE),<sup>4</sup> iTSCi (through an NGO called PACT), bilateral cooperation, UN agencies, and civil society organizations. These teams assess the security situation at the mine and its surroundings, as well as socio-

economic risks such as child labor, depth of pits, presence of pregnant women, and environmental issues. They classify sites as yellow, red or green depending on their observations, to decide whether a mine can be decreed 'conflict-free' (De Haan and Geenen, 2016: 823). Across the studied areas, two traceability mechanisms can be found, namely the iTSCi and Beta Sourcing Program (BSP). Designed by the International Tin Research Institute in 2009, iTSCi provides a means of determining the origin of 3T and documenting the trading chain for these minerals by 'tagging and bagging'<sup>5</sup> the loads of 3T near miners' shafts (where *postes d'achat*, selling points or buying stations are set up), at counting offices (*comptoirs*) and in mineral depots, before the minerals are exported and traded on the international market. In December 2019, the iTSCi was operational at 235 mining sites in Tanganyika, North-Kivu and South-Kivu. BSP provides artisanal and small-scale mining supply chain specific digital risk and impact data packages on a subscription basis to downstream companies and consumer brands. It is implemented only in North-Kivu where it is in force at five 3T mines (Luholo, Rubaya, Kakembe, Bibatama and Ngoy).

Based on an extensive desk-based literature review, this study aims to generate a detailed understanding of the relationships between mining reforms and the promotion of accountable, inclusive and effective governance institutions. The study specifically explores — focusing on the period between 2008 and 2019 — if and to what extent those mining reforms that were aimed at making mineral supply chains more transparent have increased the state's capacity in governing the 3T mining sector. While we acknowledge that different types of non-state actors have also been involved in the implementation of the aforementioned reforms and are thus jointly responsible for their success or failure, we believe that a focus on the performance of Congolese state agents is justified. The incapacity of Congolese state institutions to maintain the rule of law and carry out their administrative duties has long been seen as one of the chief culprits for what has been going wrong in the Congolese mining sector for several decades (Reyntjens 2005; Kennes 2000; de Failly et al. 2013). It is therefore interesting to see whether the reforms have changed anything in this regard.

We would like to emphasize that our decision to evaluate the impact of the mining reforms on state performance in the mining sector should not be considered as an indication of a normative approach to issues of state and governance. Our aim here is not to repeat the now trite chorus that Congo is a 'failed state', which does not correspond to the Weberian ideal-type of how a modern state should function. We agree with the critical and growing body of scholarship on the everyday functioning of African states (Engleburt and Tull 2013; Solhjell 2020; Mulugeta 2020; Blundo et al. 2006), which has shown that, despite various forms of state malfunctioning and recurring cycles of popular discontent, resistance and armed violence, the state and its institutions continue to operate one way or another, and governance is being negotiated between a wide range of state and non-state actors on a daily basis. In this article, based on an extensive literature review, we assess the evidence on whether initiatives are reaching their stated objectives, i.e. whether the practices of state representatives in charge of regulating the mining sector contribute to transparency, accountability, and a greater inclusion of women. This does not mean that we subscribe to the technocratic view of governance inherent in the 'good governance' paradigm.

The year 2008 was chosen as a cut-off year because, from then onwards, most reform initiatives were launched. Based on the review of the literature, we identified a series of seven challenges, which seemed to come up regularly and demonstrate the lack of effective state performance in the mining industry, at least until recently. These challenges are:

<sup>3</sup> Such traceability and certification systems have been proposed and piloted by the German government through the Federal Bureau of Geo-Sciences and Natural Resources BGR and its Certified Trading Chains (CTC) initiative.

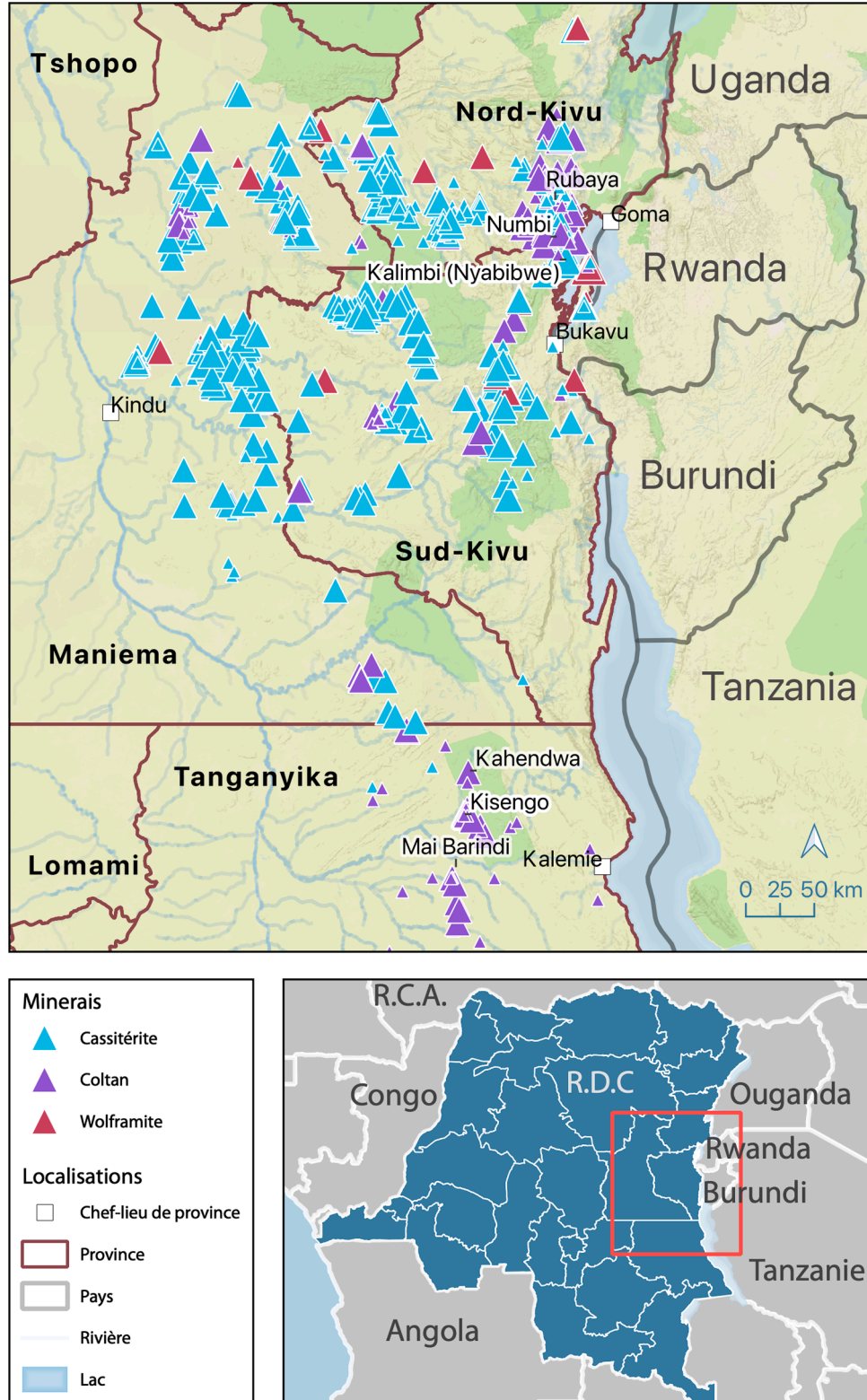
<sup>4</sup> Until April 2017, this was called *Service d'Assistance et d'Encadrement du Small-Scale Mining* (SAESSCAM).

<sup>5</sup> Tags and bags system allow mineral exports from Congo's violent places to flow legally knowing that they are coming from conflict-free mining sites. The tag certifies the mineral as conflict-free.

- i) Restricted access to and militarization of mining sites
- ii) Poor demarcation of mining sites
- iii) Disorganization of diggers
- iv) Lack of transparency in the minerals' trade
- v) Taxation issues
- vi) Lack of state accountability towards mining communities

- vii) Precarious inclusion or exclusion of women from mining activities

We argue that these challenges are not new, but have their roots in Congo's long and complex mining history (MacGaffey, 1991; Omasombo, 2001). Recent armed conflicts have only added new layers to



Map 1. Map of 3T mining sites in Tanganyika, South and North-Kivu. Source: International Peace Information Service (IPIS), Antwerp.



existing challenges. While in some areas, the state succeeded in addressing some of the challenges but failed to put in place a coherent 'model' for mining governance, in other areas, it has failed to address any of the challenges. Consequently, the effects of the aforementioned reform initiatives on the state's performance in the domain of mineral resource governance can be described as ambiguous and mixed.

This paper is organized as follows. Having introduced the topic and research question, the next section outlines the methodology used for the systematic review of the literature. [Section 3](#) then provides a brief history of mining in the study areas prior to the reforms. [Section 4](#) examines the changes brought about by the reforms regarding the state's performance in addressing each of the seven challenges, and [Section 5](#) concludes the study.

## 2. Methodology

The selection of the reviewed publications mainly relies on qualitative methods and the application of several criteria. As the first two authors of this working paper conducted long-term PhD fieldwork in two of three study areas (namely Tanganyika and South-Kivu), they have extensive knowledge, experience and networks in the 3T mining sector. Thus, the search strategy aimed at identifying relevant documents in terms of both peer-reviewed publications and influential research reports by well-known independent think tanks and NGOs like International Peace Information Service (IPIS) or Pole Institute, and academic researchers. While we acknowledge that the sources of funding for some of this research undertaken by these organizations might raise concerns about the objectivity of the findings, we are confident that by discussing them alongside high quality academic studies, we have minimized potential bias as much as possible. We selected publications in both French and English based on research conducted in the three Congolese provinces of North-Kivu, South-Kivu and Tanganyika. The provinces were selected on the basis of (1) the most significant presence of 3T mining, (2) the recognition that these minerals have been a driving force in fueling local conflict, and (3) the fact that the reforms targeting the 3T sector have been in force in these areas for about a decade. See [Map 1](#) below for an overview of the mining sites.

Given the multiple similarities between provinces, we decided to focus the literature review, and consequently structure the analysis, around the seven challenges identified earlier. However, our literature search methodology faced one major difficulty, as were unable to identify publications which exclusively focused on the performance of the Congolese state in governing 3T mining in terms of changes and obstacles. Many academic studies as well as 'gray literature' (i.e. research reports and advocacy documents) dealt at the same time with various other aspects of mining governance. We thus adopted a 'snowball search' through bibliographies of influential studies (such as [Cuvelier et al., 2014](#)). It was important to constantly evaluate and adapt our search terms, starting with terms derived from the research questions. Then from these, we were able to access other articles through the list of literatures consulted, but also by analyzing the frequency with which an article was cited by other authors, which helped us to identify more recent publications on the same subject. This allowed us to build up a database of a total of 99 sources, including books, book chapters, journal articles, PhD theses, policy briefs, international and national NGO's reports, and working papers, which we reviewed for this study.

An initial review of the available literature allowed us to better understand the challenges faced by the state in governing 3T mining. We then identified specific challenges that were repeated and discussed by different sources, and considered them as analytical themes for our research. Thus, for consistency and given that much has been written on Congo's mining sector, we decided to incorporate these challenges into a broader picture, highlighting the ways in which they preceded current reforms. For this reason, rather than framing these challenges as emerging from the two last decades of wars and continuing conflict, this study puts them into a longer-term perspective. On the basis of changes

in the state's performance identified by the literature review, we selected the seven major challenges or themes related to this performance. We then examined to what extent the reforms affect the state's performance in each of the three provinces concerned by the literature review.

## 3. The 3T mining sector before the reforms

### 3.1. General situation

A lot has been written about the mining sector in eastern Congo. Much of the literature focusing on the study areas (Tanganyika, South and North-Kivu) shows that the state's performance in governing mining has been weak, in particular with regard to the seven challenges mentioned earlier. [Table 1](#) below provides some examples for each challenge from the provinces studied here. Without being too repetitive and detailed about the historical evolution of the extractive industry, a succinct contextual overview of this evolution and related challenges helps to set the stage for an assessment of the state's current performance in governing the mining sector. It is worth mentioning that these challenges are not new, as the Congolese state has been confronted with and struggling to address them for decades ([MacGaffey, 1991](#)).

A major cross-cutting challenge is the existence of 'hybrid' forms of resource governance. This suggests that, besides the state, many non-state actors are also involved in mining governance. 'Hybrid' governance arrangements especially affect access to the mines, the organization of diggers and the mineral trade, as well as taxation, given the predatory opportunities offered by the sector. 'Hybrid' forms of governance also influence the gender dimension in that exclusion of women from mining is either based on local culture or the civil servants' negative attitude towards women ([Bashwira, 2017](#); [Bashwira and Hilhorst, forthcoming](#)). In addition, a range of other actors (including armed actors) are involved in the mineral sector's governance given the context of armed rebellion and informality inherent to artisanal mining in eastern DRC ([Vogel et al., 2018](#)). In many cases, the coexistence of all these actors and institutions has given people room to negotiate access to resource, while also triggering conflicts ([Geenen and Claessens, 2013](#); [Hilhorst, 2013](#)).

**Table 1**  
The state's major challenges in governing 3T mining.

Challenges	Manifestations
1. Restricted access to and militarization of mining sites	In many areas of abundant availability of minerals, the state has been struggling to get a firm footing. Armed groups are involved in mineral extraction, taxation, trade, and human rights abuse.
2. Poor demarcation of mining sites	The state has not delineated exclusive areas for artisanal mining.
3. Disorganization of diggers	The state struggles to register the diggers and fails to control their activities. Artisanal miners are not organised in recognized structures.
4. Lack of transparency in the minerals' trade	Mining activities are subject to corruption, fraudulent practices and smuggling patterns. State services are unable to collect reliable statistics on production and mineral exports.
5. Taxation issues	The state is not able to structurally enforce applicable taxation rates on the 3T mining sector.
6. Lack of state accountability towards mining communities	Revenues from mining activities do not flow back to local communities nor are they used to serve the public interest.
7. Precarious inclusion or exclusion of women from mining activities	Women are excluded from digging operations. Alternative livelihoods activities for women outside the mining sector are practically inexistent.

Source: authors, based on literature review.

### 3.2. The situation in Tanganyika province

In Tanganyika, extractive activities started during the Belgian colonial era. In 1932, several deposits of tin were discovered in Manono territory and were exploited through artisanal and semi-industrial methods by the private company Géomines. In 1967, Géomines was replaced by the *Société Géologique et Minière du Congo*, which became Congo-Etain in 1968, then Zaire-Etain in 1971. Zaire-Etain was in operation until 1996, when it ceased operations because of the outbreak of the first Congolese war (De Koning, 2010). After Zaire-Etain had stopped working in the region, many artisanal diggers (*creuseurs*) began to extract tin in the company's abandoned concessions. In 2007, Tanganyika (Kalemie and Nyunzu territories) gained an increased economic importance because of the initiation of artisanal coltan mining (De Koning, 2011; Spittaels, 2010; Wakenge, 2017). Coltan is an abbreviation of columbite–tantalite commonly found in the eastern Democratic Republic of Congo. This is a mixture of two mineral ores, namely niobium and tantalum, used for industrial applications in high-tech industries.<sup>6</sup>

Before the reforms, which started at the beginning of the 2000s, 3T extraction and trade were largely informal, escaping government control. Artisanal Exploitation Zones (AEZs)<sup>7</sup> did not exist and no mining cooperatives were found in the area. Instead, miners were members of local miners' structures (*comités de creuseurs*) established by themselves or by local power holders such as customary chiefs (*mwami*) who also provided land to them. The trade of minerals was not under an efficient control of state institutions (e.g. *Division des mines* or SAEMAPE). State agents of these agencies were often unpaid, and visiting mining sites on an irregular basis (IPIS, 2015). As a result, the capacity of state institutions to fulfil their tasks of assisting, monitoring, and recording statistics of minerals and regulating the natural resource sector remained very limited.

The trade of 3T from the mining sites to urban-based trading houses (*comptoirs* or *maisons d'achat*) was performed by independent 'négociants' operating through North-Kivu and South-Kivu until late 2009. Around the same period, Mining Mineral Resources (MMR)<sup>8</sup> signed a five-year contract (N<sup>o</sup> 06/1331/CABMIN/MAF/KAT/2009) with the provincial Katangese government, through which the company obtained the exclusive buying rights for minerals extracted in four mining sites of northern Katanga, namely Katonge (coltan), Lunga (gold), Kisengo (coltan) and Mai-Baridi (coltan). In addition, the provincial government instituted a \$5/kg tax on exporting Katangese minerals to other provinces. In response, many traders smuggled minerals to the Kivus (Spittaels, 2010: 17) by concealing minerals in commercial trucks in complicity with state agents (Wakenge et al., 2018). While the purchasing price of 3T varied from one mining site to another and between provinces due to limited oversight of the extractive industry by the state, minerals were often transported by road or airplane to South and North-Kivu provinces. In addition, elements of the Congolese army and of non-state armed groups were also present in or around the mining areas where they often conducted mass pillaging. These groups were involved in 3T extraction and informal taxation (De Koning, 2010; IPIS, 2007). Representatives of these groups as well as the customary chiefs (*Mwami* or *Bami*) levied various kinds of taxes over the *creuseurs*, *négociants* (mineral buyers) and local traders (De Koning, 2011; IPIS, 2007; Spittaels, 2010; Wakenge, 2017). As observed elsewhere, state weaknesses in controlling mining activities minimises the

developmental potential of the extractive sector and facilitates the involvement of predatory actors, making the miners vulnerable to exploitation and human rights abuses (Garrett, 2008: 8).

### 3.3. The situation in South-Kivu province

Like in Tanganyika, the history of 3T mining in South-Kivu province can be traced back to the colonial era (De Faily, 2001). Particularly important to this region was the introduction of industrial production and massive exploitation of 3T (and gold) by diggers under extractive companies' supervision. This situation has had an impact on the political economy of 3T extraction and trade. The Belgian colonisers discovered alluvial gold deposits in the 1920s. At the time, Baron Empain who possessed an enormous territory granted to him by King Leopold II was the principal economic actor in this region. He created the *Compagnie Minière des Grands Lacs Africains* (MGL) in 1923. In 1942, coltan was produced by MGL (De Faily, 2001: 9). Until the Congolese independence in 1960, MGL was the main extractive company established in South-Kivu, before the *Société Minière et Industrielle du Kivu* (Sominki) was established in 1976 (Geenen, 2016).<sup>9</sup> As long as Sominki retained effective control over its concessions, artisanal miners operated in a controlled environment. However, from 1982 onwards when president Mobutu liberalized the mining sector, informal mining and the smuggling of minerals proliferated widely, as MacGaffey (1991) demonstrates in her seminal work about Zaire's informal economy. Following this liberalization, more and more people started to be attracted to the opportunities of the extractive sector. The series of Congo wars (1996–97 and 1998–2003) led to a great expansion of artisanal 3T (and gold) mining like elsewhere in South-Kivu (De Faily, 2001; Vlassenroot and Raemaekers, 2004). In May 2019, the International Peace Information Service (IPIS), estimated the number of people involved in 3T and gold mining in South-Kivu at about 54,425 (Matthysen et al., 2019: 4).

Rather than acting as an instrument for an efficient governance of mining, the state has been playing a weak and parasitic role. Instead of regulating artisanal mining, state agents have been levying both legal and illegal taxes (De Faily, 2001: 26) and have done little to rid mining sites from armed actors' control. Thus, the state failed in improving the living conditions of mining communities. Cuvelier (2010: 8) for instance argues that 'While the Kivus contain significant deposits of coltan, cassiterite, wolframite (tungsten) and gold, both the ordinary population and people working in the mines suffer various types of abuse and harassment from armed groups.' According to the literature consulted, 3T mining was controlled by informal and even criminal networks (Cuvelier, 2004; Jackson, 2002; Taylor, 2003; UN, 2001). In 2009, Global Witness documented the militarization of mining in the conflict-affected areas of eastern DRC, the trading networks within the mining sector, and their links to military, economic and political actors. Before the reforms, militarization of artisanal mines was a major and recurrent challenge that hampered state capacity to access and regulate mining. The state's administration (in the form of SAEMAPE and the *Division des Mines*) has been present at mining areas for predatory activities, levying all kinds of under-recorded taxes (Vlassenroot and Raemaekers, 2004). Several sources also provide information on the ways in which armed groups as well as the Congolese army benefited from the mineral trade, in particular through an efficient system of informal and extra-legal taxation (Global Witness, 2009; Spittaels, 2010). The benefits generated from these taxes served to personally enrich armed commanders and private businessmen, and did not accrue

<sup>6</sup> For more details, see Nest (2011: 3–30).

<sup>7</sup> According to the Congolese Mining Law (Title 4, Ch. 1, Art. 109), the AEZs are areas where 'the technological and economic factors are not suited for the site to be industrially exploited.' AEZs are therefore reserved exclusively for artisanal mining.

<sup>8</sup> MMR had its head office in Lubumbashi (capital city of former Katanga) and was a subsidiary of the *Société Minière du Katanga*.

<sup>9</sup> Sominki was a joint-venture of nine mining companies, including *Kivumines*, *Minière des Grands Lacs* (MGL, which had its concessions in Kamituga), *Mines Zairoises d'Or et d'Etain de Kindu* (Kinoretain), *Compagnie Zairoise d'Entreprises Minières* (Cobelmin) and *Symetain*. It controlled 72 per cent of the local resource concessions, with the remaining 28 per cent held by the Government of Zaire.

to the state treasury. Indeed, the DRC is widely seen by many state agents as a predatory state to be plundered rather than to be built. As Englebert (2003: 6) argues, 'the very weakness of the state is a resource to many Congolese'. In spite of efforts aimed at formalizing 3T (and gold) mining, the militarization of mining areas is still a recurrent concern mentioned in the literature consulted. In her recent work, Verweijen (2017) for instance analyses the interplay between industrial mining, resistance and armed mobilization in the Fizi-Kambambare region.<sup>10</sup>

### 3.4. The situation in North-Kivu province

In North Kivu, 3T minerals are an important source of income for many artisanal miners. Weyns et al. (2016: 4) note that 32 per cent of miners work in 3T mines, whereas 69 per cent work in gold mines. In May 2019, 3T and gold sector accounted for about 21,597 miners in total (Matthysen et al., 2019: 4). The structural characteristics of the 3T extraction and trade in North Kivu cannot be understood without an understanding of the history of mining in this area. This history is dominated by the mining operation and decline of the firm Sominki (see previous section) combined with the policy that liberalized artisanal mining activities in 1982.

The 3T mines are scattered across North-Kivu province, with the most productive mines located in Walikale territory (Garrett and Mitchel, 2009). Following the two Congolese wars (1996–97 and 1998–2003), artisanal 3T mining developed in a complex context of armed conflict and the incapacity of state institutions to monitor and regulate the natural resource sector. Many artisanal mining sites were controlled by armed actors, including Congolese army officials (Global Witness, 2009; Garrett et al., 2010). Like elsewhere, scholars observed 'hybrid' forms of resource governance characterized by the involvement of non-state actors in (land) mining extraction, trade and economic regulations (Raeymaekers 2009; Vlassenroot et al., 2016; Vogel, 2018). As Garrett (2008: 8), observes, a complex mix of martial, statutory and customary law ruled North Kivu's artisanal 3T mining sector. This sector provided an easy source of revenue to armed actors, a situation particularly observed in Bisie (Walikale), the biggest 3T mine producer of North-Kivu.<sup>11</sup>

Militarization of mining sites has been a recurrent problem in North Kivu. In the 2000s, many mines were under control of either the *Forces Armées de la République Démocratique du Congo* (FARDC) or different rebel groups, namely the *Forces Démocratiques pour la Libération du Rwanda* (FDLR) in Walikale and Kahuzi-Biéga National Park (neighboring South Kivu) and the *Congrès National pour la Défense du Peuple* (CNDP) in Masisi. Matthysen and Montejano (2013: 13) note that 'Rubaya's mining sector was well-known for being under CNDP control in the past. From 2006 onwards, the area was located within CNDP territory whose commander (Bosco Ntaganda) gained large revenues through taxation.' This had an impact on the security situation as mining provided opportunities for illicit enrichment and sustained war activities in the area. In September 2009, President Kabila suspended all mining activities in Walikale before the decision was expanded to South Kivu and Maniema provinces. Geenen (2012) notes that the ban was a radical decision which only partially addressed the issues of militarization of mining and contributed little to the formalization of mineral extraction.

At many mining sites, customary chiefs regulated extractive activities, thus complicating the state's control over the mining sector. For instance, customary authorities allocated land to miners and levied taxes

on them. In this governance system, state and non-state actors operated and colluded for profit to the detriment of miners, the local communities and the central government. Illegal taxation of the 3T sector by all these actors was ubiquitous in the mines and along the trading routes (Garrett and Mitchel, 2009; Pole Institute, 2002). As Cuvelier (2010: 28) notes, 'the exploitation and trade of minerals are subject to a whole array of taxes with varying degrees of legality'. As a result, the mining trade infrastructure was left in a dire condition, which complicates access and transportation and facilitates the activities of predation by armed actors (Hoffmann et al., 2016).

Before the mining reforms, smuggling patterns and illegal taxation characterized the trade of 3T in North Kivu as well. According to Garrett (2008), this situation resulted from the high cost of exporting minerals, comprising both disproportionate export charges and bribes in which state officials were involved. This author also reports that, at the end of the 2000s, around 43 per cent of 3T minerals extracted from North Kivu were unrecorded by the *comptoirs*. Smuggling also happened by way of under-declaring or wrongly declaring the exported shipments of minerals by many *comptoirs*, in complicity with state agents. Either way, the revenues generated were not directed to the public treasury.

### 3.5. Women and mining: an overview

This section addresses the situation of women in the mines of eastern Congo, who are both excluded from the sector, as well as marginalized within the sector. We note that this topic is less documented for the period before 2010, compared to the period since then. Very few academic papers and reports from the pre-2010 period refer to women and if they do, it is usually done in a fragmented or superficial manner. This is not because women were not present in the mining sector at that time, or because their presence was not allowed. Indeed, under DRC law and the 2006 Constitution, women have equal right to work in mining under DRC law and the country's constitution. The latter stipulates that 'all Congolese have the right to benefit from national wealth. The state has the duty to redistribute this wealth equitably and guarantee the right to development.'<sup>12</sup> However, as we will see below, women are marginalized in the sector, and also in the legal framework. For instance, the 2018 mining code only mentions women in connection with the fact that it prohibits pregnant women from accessing mining activities (Art. 5 on p. 17). In addition to being marginalized in the sector, as mentioned by Pact (2010), there exist various provincial and local level instruments and norms which limit the equal access of women to the sector (see also Bashwira and Cuvelier 2016; Bashwira and Hilhorst, forthcoming). This is due mostly to cultural perceptions about whether it is acceptable or not for a woman to work in mining. Artisanal and Small scale mining (ASM) is commonly considered to be a male-dominated industry, with this "masculine" image continuing to have a strong effect on excluding women from working in the mining deemed to be men's work, and physically demanding (Lahiri-Dutt, 2012: 193).

Nevertheless, a large number of women are present and participate in a variety of mining activities (Bashwira, 2017; Buss et al., 2017; Hayes and Perks, 2012; Kelly et al., 2014; Pact, 2010), although they perform manual tasks that are generally not well paid, including digging in opencast mines, gridding, pounding and sifting the minerals, crushing, milling, and sorting minerals, panning dust minerals, etc. (Bashwira 2017; Bashwira 2019). While not focusing only on the DRC case, Buss et al. (2017) have found similarities across their research locations in DRC, Rwanda and Uganda. Women also own shops, restaurants, and perform other small activities. As highlighted by several authors, mining contributes directly and indirectly to the livelihood of many households (Bashwira et al., 2014; Buss et al., 2017; Kamundala and Mukasa, 2017; Kelly et al., 2014). However, the sector is also characterized by great gender inequality where women make up only 20% of the ASM labor

<sup>10</sup> For a holistic analysis of the large variety of factors shaping social mobilization around industrial mining in South Kivu, see Geenen and Verweijen 2017.

<sup>11</sup> In 2011, Alphamin acquired a research permit that allowed the company to exploit Bisie tin deposit under its subsidiary Alphamin Bisie Mining SA. For details, see Fahey and Mutumayi, 2019.

<sup>12</sup> Article 58 of the DRC Constitution, 2006.



force and around 50% of the community living in mining areas but they hardly occupy decision-making positions (Kamundala, 2020: 420).

One of the great challenges for women lies in gaining access to the inside of the pit. It is the only place where women are not supposed to be present, though there are a few exceptions here and there. According to many local customs in the DRC, this is an area exclusively reserved to men (Rutherford and Buss, 2019). In fact, as Buss et al. (2017: 38) note, for individual artisanal miners, working, owning or controlling the mine pit is one of the more lucrative aspects of ASM, and these tend to be kept almost exclusively in the hands of men. Thus, women are mainly assigned to low-paid and low-valued jobs in the artisanal mining sector, and they generally earn less than men. Buss et al. (2017: 33) note that even when women and men perform the same tasks such as washing or crushing, women earn around 40 per cent less than men. Kamundala (2020: 423) found that women may earn between 40USD to 120USD per month depending on their activities in the sector, while men earn up to 337USD in the gold mining and 187USD in the 3Ts sector. In the same vein, Huggins et al. (2017) attribute the women's poor positions in formal and informal mining to this limitation on women's access to the most profitable mining activities. For the majority of these women, exclusion from the mining activity itself confines them to the least qualified and least profitable jobs, and it deprives them of the power to negotiate their remuneration and working conditions.

Besides the harsh working conditions, women also face various economic challenges as a result of the lack of access to, use of and control over resourceful productive activities. They include the difficulty to manage and sell their production (and as consequence they have to hire male miners to work for them), and problems with obtaining mining licenses and mining property rights in their own names. Many women, particularly those working in the mining sector in artisanal mining towns in Eastern DRC, are also (voluntarily or not) involved in the sex industry to earn an income (Bashwira, 2017; Buss, 2018; Formson and Hilhorst, 2016; Kelly et al., 2014; Rustad et al., 2016).

In addition, women may also experience family problems related to their presence in the mining industry. In fact, women do not generally perform mining roles as part of a team: they may be members of an association but working in ways that allow them to balance mining with household obligations. Some women have reported difficulties in feeding their children after their husbands died or abandoned them (either because they wanted to go to another mine or because they ended the relationship). Working in mining often seems to be the only option available to women. To start working in mines, some have to "buy" an entry fee from the site owner or administrative manager by selling their bodies (Bashwira 2017). Although members of mining communities acknowledge the existence of acts of sexual and gender-based violence perpetrated at mining sites, they are also reluctant to refer them to the police. This is partly because rape is not considered as a serious crime (when it is between two adults) and for those victims who are under age, most parents consider that traditional leaders can better deal with sexual assault than state institutions (Bashwira and Hintjens, 2019). The works by Buss (2018) and Rustad et al. (2016) are part of a growing body of studies on the relation between mining and gender-based violence.

In the provinces of Tanganyika, North-Kivu and South-Kivu, the situation of women in the mining sector has changed over the years, due to significant changes in social practices. Hayes and Perks (2012: 531) note that, according to Congolese women themselves, pre-war social practices were less favorable for gender equality and gave less respect to women, while on the other hand, traditional structures had a more positive influence and provided a certain degree of security for women. In the post-war period, it is possible to observe the evolving role of the state and the challenges it is facing, and how various actors (including capitalist corporations,) are trying to include women into mining governance at the national and local levels, while at the same time on the ground other actors (such as armed groups, traditional authorities, minerals' smugglers and cooperatives) perpetuate the predatory

practices shaping mining governance at the expense of lower-income actors like women (Bashwira and Cuvelier, 2019; Bashwira and Hilhorst, forthcoming).

Indeed, when evaluating the role of the (modern) state in mineral resource governance with regard to gender, a distinction can be made between three major periods:

First, the colonial era was characterized by the development of large-scale mining.<sup>13</sup> At that time, as extractive companies retained control over their concessions, only a few women were involved in the mining industry. The idea was that if miners' conditions were improved, this would automatically lead to an improvement in their wives' conditions and the development of the entire community.

The liberalization of the mining sector in 1982 marked the beginning of the second period. It opened up the sector to thousands of artisanal miners (men and women) and allowed new power holders, such as customary chiefs, land owners, and *négociants* (middlemen) to be embedded in the political economy of extraction. While there was (and still is) a widespread belief that women are unclean and therefore not allowed to touch the mineral, or that it is too dangerous for them given the frequent occurrence of landslides, this period saw a major shift from a central role of the state in the minerals' sector governance to the introduction of new actors who have influenced patterns on women's inclusion/exclusion in the mining industry.

The third period covers the series of wars (1996–97 and 1998–2003) which caused a shift of power among different actors involved in the mining industry, including armed actors.<sup>14</sup> The emergence of the 'conflict mineral' label or narrative led to a great concern about women's marginalization and sexual exploitation, as many analysts established a straight line of cause and effect between armed conflicts - artisanal mining - sexual violence, especially in the mining areas (Autesserre, 2012).

Having reviewed the situation of women (vis-à-vis men) in the mining sector, we now turn to the analysis of the seven governance challenges in the mining sector and the state's performance in addressing them in the post-reform period. As mentioned above, these challenges were identified based on their frequent mention in the literature reviewed for this paper.

#### 4. Addressing the governance challenges in the mining sector: post-reform changes and limitations in state performance

This section shows that there is quite some variation between the three provinces when it comes to the state's performance in governing the mining sector. Indeed, many of the initiatives have contributed to improving this performance and have had significant influence on how the state governs the mines today. Yet, there are also a number of obstacles and limitations in addressing the challenges presented in Table 1.

##### 4.1. Access and militarization of mining sites

Ribot and Peluso (2003: 160) define access as all 'means, processes and relations by which actors are enabled to gain, control and maintain access to resources'. Following the reforms, the presence of the state administration increased at some mining sites. A report by Jorns and Chishugi (2015) notes for the case of Tanganyika that, following the implementation of iTSCi in 2011, the state increased its presence at mining sites, even though it does not manifest itself as a unified body (see also Diemel (2018)). State agents of SAEMAPE and the *Division des Mines* 'tag and bag' minerals, record statistics of production on a permanent basis, and are technically and financially supported by the iTSCi

<sup>13</sup> There was also a pre-colonial tradition of artisanal mining and metallurgy before colonization, see De Hemptinne (1926).

<sup>14</sup> For an analysis of the transformative effects of the two Congo wars, see Vlassenroot and Raeymaekers (2004).

program. In the case of Tanganyika, until mid-2019, the Mining Mineral Resources (MMR) company provided a financial incentive, such as a monthly allowance of about 100 USD for each policeman. At artisanal mines where iTSCi is in force, state agencies have their representatives in close proximity to many of these mines. The literature review also reveals that through local representatives, the mining administration monitors the 3T supply chain, records statistics of minerals, and mediates conflicts between local mining stakeholders, for instance regarding thefts of minerals (Bashizi and Geenen, 2015; Buraye, 2018). SAEMAPE employees closely watch the working conditions of diggers, and tag minerals in collaboration with iTSCi employees.

The mining sites where iTSCi is in force are under the control of the mining police,<sup>15</sup> which is a government body working directly with the national ministry of mines (Jorns and Chishugi, 2015; Mthembu-Salter, 2011; ). However, the presence of state agents at mining sites is contingent upon iTSCi's operations. At the sites where iTSCi is not operational or has been suspended, the presence of state agents is limited and the involvement of armed actors in mining activities has not fully been stopped. At these sites, state agents are left with little material capacity to ensure a smooth functioning of traceability (Jorn and Chishugi, 2015; Wakenge, 2017). In addition, an increased presence of state agents does not mean that all the artisanal mines are under state control. In Shabunda, Kalehe and Fizi territories for instance, some mines are under the control of armed groups, or are regularly looted by these groups (Matthysen et al., 2019: 7). In addition, often 'underpaid or unpaid, the state agents who are in the field find themselves needing to resort to alternative strategies to survive, through extortion or theft' (Vogel et al., 2018: 78). In Nyabibwe, for instance, Vogel et al. (2018: 78) were told by people that SAEMAPE agents on some occasions collect taxes from *chefs de puits* (pit owners) or 'sell tags to miners for money'<sup>16</sup> (Vogel et al. 2018: 78). This finding suggests that extended state involvement does not necessarily mean that governance practices have improved. At a number of mining sites, public authority may function in a fragmented fashion, meaning that many actors claim prerogatives in governing the mines (Diemel, 2018; Vogel, 2018). The same situation was observed in North Kivu. In many mining areas, state agents are not present on a permanent basis but only visit the mines once a month or even less. The main reason for this seems to be the limited number of state agents, the remoteness of certain mines, the presence of armed actors, and the lack of financial incentives (Jaillon et al., 2019). Cuvelier et al. (2014) however argue that certain state security agents have developed strategies to circumvent the restrictions on their direct interference in the mineral sector, e.g. through pit ownership via intermediaries.

In theory, there are no armed actors at mining sites which are labeled as "green".<sup>17</sup> This means that, in areas where reforms are being implemented, the security situation is relatively safe. In an earlier report, Matthysen and Montejano (2013: 11) note that 'local stakeholders explained how Rubaya's mining sector (where iTSCi is operational) has revived over the last year. Miners witnessed a relatively increased level of security, opening up the area for the influx of thousands of miners.' Yet, despite an improvement in the security situation at some mines,

<sup>15</sup> The mining police or *Police des mines et hydrocarbures* (PMH) is a unit of the PNC (*Police Nationale Congolaise*, Congolese national police) in charge of providing collective security in the mines. For details, see Hönke (2010).

<sup>16</sup> The iTSCi chain of custody system includes bar-coded tags that are to be added to each bag of minerals at the first two steps of the supply chain: extraction and processing. The tagging is completed by detailed data collection through specifically designed log books for each actor in the supply chain: mine worker; *négociant* and processor; comptoirs and exporter.

<sup>17</sup> The Ministry Decree of 29 February 2012 fixing the procedure for qualification and validation of mining sites in gold and tin trading in the provinces of Katanga, Maniema, North and South Kivu and Orientale Provinces states that mining sites are receiving green, yellow or red labels depending on the degree to which the social and security conditions in and around the mines are met.

pockets of insecurity still persist in most areas, like in Masisi territory where Nyatura rebels are present and interfere in mining through taxation (Matthysen and Montejano, 2013). Over time, Weyns et al. (2016: 27) observed an increase in the role of non-state armed actors with regards to interference in mining and mineral trade, becoming relatively bigger in North-Kivu than in the rest of eastern DRC in general. FARDC, fighters of the armed groups such as the *Forces Démocratiques de Libération du Rwanda* (FDLR) and Nduma defense of Congo (NDC) are notorious for the income they generate from North Kivu's mining sector.

A similar situation was observed in South-Kivu. In 2019, about 250 sites (of 3T and gold) were validated as "green", out of about 700 identified sites. However, as Radley and Vogel (2015: 409) note: 'the fluidity of armed movements in the Kivus makes the validation of "clean sites" both difficult and unreliable over time', because the delay between when a mine site is visited, validated, and included into a traceability scheme can be long and offers opportunities for non-state armed actors to benefit from mining or levy taxes over it. Even in areas where iTSCi is operational, for example in Kalimbi, the literature shows that the diggers do not work safely. They suffer from human rights abuses such as arbitrary arrest and imprisonment at the hands of the police or FARDC (Vogel et al., 2018: 77). In a recent report, Matthysen et al. (2019) point out that compared to other eastern provinces, South-Kivu has recently the highest record of armed interference in mining, with 28 per cent of all cases. In more remote areas, especially in Shabunda where, due to insecurity, the traceability scheme is experiencing a difficult implementation, armed interference in mining by both FARDC soldiers and non-state armed groups seems to continue undisturbed (Matthysen et al. 2019:4)

Mining sites in Tanganyika province have suffered less from armed group interference in the last few years (Diemel and Cuvelier, 2015; Matthysen and Montejano, 2013).<sup>18</sup> In 2015, before the outbreak of conflict between the Luba and the Pygmies in Nyunzu, Kabalo and Kalemie,<sup>19</sup> it was reported that many stakeholders (from government and iTSCi agents to MMR, *Coopérative des artisans miniers du Congo* - CDMC, miners and local communities), agreed that the security situation in and around the mines in Tanganyika had improved greatly since the implementation of the traceability and due diligence measures (IPIS, 2015; Mthembu-Salter, 2011). One manifestation of this improvement is the absence of armed groups and FARDC soldiers directly or indirectly benefiting from minerals at the mining sites or along transportation routes.

#### 4.2. Demarcation of mining sites

A provision from the 2018 Mining Law (Mining Law, T. 4, Ch. 1, Art. 109) stipulates that the Ministry of Mines may demarcate the Artisanal Exploitation Zones (AEZs) in areas where 'the technological and economic factors are not suited for the site to be industrially exploited'. The AEZs are to be determined and proclaimed by Ministerial Decree upon advice of the provincial mining administration. In addition, the law stipulates that the sites covered by industrial mining titles cannot be transformed into AEZs. In turn, companies cannot acquire research permits inside the AEZ boundaries without the support from artisanal

<sup>18</sup> According to Matthysen et al. (2019: 23), IPIS developed the concept of interference in mining activities, which is defined as the presence of an armed group or the presence of undisciplined FARDC elements (*militaires indisciplinés*).

<sup>19</sup> This conflict originates in the marginalization of the Twa minority group due to a combination of limited access to resources, exclusion from local decision-making and systematic discrimination by the Bantou. The conflict has resulted in large-scale violence and displacement. For more details, see Groleau 2017.



miners' cooperatives (*groupements des creuseurs*). However, in some cases, the mining titles attributed by the *Cadastre minier*<sup>20</sup> are located on sites covered by either exploration or exploitation permits of industrial companies. For example, in South Kivu, this is the case of Banro and the *Société Aurifère du Kivu-Maniema* (SAKIMA). This case indicates a disconnect between the situation on the ground and the decision-making processes. As [IPIS \(2015\)](#) reports, requests to demarcate AEZs are rarely based on a thorough assessment of mining activity or the potential of the mining site. Some AEZs are proclaimed and demarcated by the *Cadastre minier* far away in Kinshasa, without any baseline study conducted on the ground. On the other hand, some artisanal mining sites may be located in areas free of any mining title (i.e. they are not recognized by the law), which positions the miners as engaging in informal practices.

Indeed, as is also observed in South-Kivu, requests to demarcate AEZs are rarely based on the results of geological studies at mining sites. [IPIS \(2015: 22\)](#) notes that, when superimposing the mining titles attributed by the *Cadastre minier* to the AEZs locations, it becomes apparent that about 62 per cent of the mining sites are located in areas covered by either exploration or exploitation permits of industrial companies. This shows that the implementation of additional AEZs could greatly contribute to the strengthening of the artisanal miners' legal status and thus improve the formalization of the sector.<sup>21</sup> The revised 2002 mining law explicitly mandates SAEMAPE to initiate these proceedings. Recent efforts by the national Ministry of Mines, which in March 2016 proclaimed a string of new AEZs in Walikale in North Kivu, constitute a positive development in this respect.

As for Tanganyika province, in 2017 eight AEZs of coltan were demarcated and proclaimed in Kalemie and Nyunzu territories, with approximately 2500 *creuseurs* in total ([Wakenge, 2017: 63](#)). However, in some cases, for instance in the mine of Kahendwa, this demarcation was a source of conflicts over property rights between mining cooperatives ([Matthysen and Montejano, 2013; Wakenge 2018](#)). In 2019, 74 AEZs were identified in South-Kivu among which 27 are still under review for demarcation. Mining activities take place on most of the AEZs, even those labeled as 'red'.

#### 4.3. Organizing diggers

The need for organizing the diggers follows from the creation of AEZs and the fact that a committee of diggers should manage the area by constituting a 'mining cooperative', a formal institution recognized by the state. In other words, diggers create their own mining cooperatives, which must represent their interests. After the lifting of Kabila's ban in March 2011 (for North, South Kivu and Maniema), miners were again allowed to work, but according to a ministerial decree (2010),<sup>22</sup> they can only do so in legal AEZs and when they organize themselves in cooperatives ([Geenen, 2012](#)). The literature search found that until the end of 2019, only a total of three mining cooperatives existed in Tanganyika.<sup>23</sup> While all three cooperatives seemed to have a need for more technical and managerial capacity, the cooperative with the most members is CDMC ([Jorns and Chishugi, 2015; Wakenge and Hilhorst, 2017](#)). Indeed, the creation and functioning of mining cooperatives in South-Kivu are critically assessed in several studies ([Bashizi and](#)

[Geenen, 2015; Cuvelier, 2013; De Haan and Geenen, 2016](#)).

[Matthysen et al. \(2019: 46\)](#) note that at 87 percent of all validated mines where iTSCi was in force, mining cooperatives were present, compared to 66 per cent at non-iTSCi mines, and 69 per cent at mines that have not been validated. However, this promising trend does not necessarily result in better functioning cooperatives, mainly due to widespread elite capture (see below). First, the actual practices of the cooperatives in North-Kivu (like elsewhere in eastern DRC) do not reflect the idea of a cooperative as described under international standards and Congolese Law (Ministerial decree No. 004/2001 of 20 July 2001), which would include among other requirements; voluntary and open membership, democratic control, and economic participation by the members ([Bahalaokwibuye 2017](#)). Second, there is very little involvement of artisanal miners in the creation of cooperatives and decision-making procedures ([Matthysen et al., 2019: 21; Wakenge and Hilhorst, 2017](#)). Third, cooperatives rarely provide technical assistance or improved tools to miners.

Indeed, most cooperatives have been subject to elite capture and serve the interests of their most prominent members, including customary chiefs and mineral traders, rather than advancing those of miners ([De Haan and Geenen, 2016](#)). In North-Kivu, mining cooperatives have regularly established a monopoly on mineral trade and miners claim that the cooperatives set bad prices ([Matthysen et al., 2019: 33](#)). In addition, a significant number of cooperatives are established along ethnic lines as vehicles for different communities to protect their interests. This could potentially increase community tensions over access to resources. For instance, in Kalay Boeing, a mine located in Walikale territory, local people claimed that the *Cooperative des Creuseurs Artisanaux de Mpama Bisie* (COCABI) was not representative for their community. At Rubaya (Masisi territory), tensions have developed along the community fault lines that surface via the conflict between the mining *Coopérative des Artisanaux Miniers de Masisi* (COOPERAMMA) and the *Société Minière de Bisunzu* (SMB) who is Rubaya's concession holder ([Matthysen et al., 2019: 34](#)).

The same problem of elite capture is being seen in Tanganyika where CDMC is established. This cooperative was created in the city of Lubumbashi by elites, including state officials, and not by the diggers themselves. Until 2017, CDMC was the only partner of MMR in the mineral trade ([Bashwira, 2017; Freudenthal, 2017; Wakenge, 2017](#)). While this partnership made it easier to implement and manage the iTSCi closed supply chain, the sale of minerals to a single entity like MMR/CDMC created a monopsony situation to the detriment of the miners ([Matthysen and Montejano, 2013; Johnson, 2013](#)). Thus, the bargaining capacity of artisanal diggers over mineral price setting was dramatically reduced. As a result, diggers often violently opposed the MMR/CDMC's price-setting policies ([Wakenge, 2017](#)). While the state has tried to support the working of mining cooperatives, it has been unable to curtail the MMR/CDMC's monopsony position.

Furthermore, the state's requirement to organise artisanal miners in formal institutions has yielded unintended consequences. Studying the examples of the *Coopérative du Bien-être de Kalehe* (COOMBECKA) and the *Coopérative Minière de Kalimbi* (COMIKA), [Cuvelier \(2013\)](#) and [Bashizi and Geenen \(2015\)](#) show that, by taking advantage of the weaknesses of state institutions, the functioning of these cooperatives is shaped by the influence of 'big men' who run the show and are able to install their own exploitative working arrangements in the mines. In the same vein, [Vogel et al. \(2018: 75\)](#) observe that, in some cases, mining cooperatives found themselves opposed to each other over access to the mines shafts. In addition, there are reports of 'pseudo mining cooperatives' who are in fact acting as branch of bigger private companies, rather than representing the local miners' interests. In short, given the fact that many cooperatives do not represent the interests of miners who 'have little knowledge of how cooperatives are managed and how minerals are sold' ([De Haan and Geenen, 2016: 827](#)), scholars have asked whether these structures have become 'saviors' or rather 'exploiters' of the diggers. Overall, the functioning of mining cooperatives

<sup>20</sup> The Mining Cadastre (or *Cadastre Minier*) is the Congolese authority in charge of granting exploration and exploitation permits, as well as demarcating AEZs.

<sup>21</sup> There is an intense debate about the pro and cons of formalizing artisanal and small-scale mining. For more details, see [Geenen \(2012\)](#) and [Maconachie and Hilson \(2011\)](#).

<sup>22</sup> Arrêté ministériel n° 0706/CAB.MIN/MINES/01/2010 du 20 septembre 2010 portant mesures urgentes d'encadrement de la décision de suspension des activités minières dans les provinces du Maniema, Nord-Kivu et Sud-Kivu

<sup>23</sup> CDMC, VIMATED (Vijana Maendeleo, Tanganyika) and CMMA (Coopérative Minière Maendeleo).

has escaped effective state control.

#### 4.4. Transparency in trading minerals

Transparency refers to the fact that the mineral supply chain should be clean from tainted minerals, i.e. minerals originating from conflict regions. Some studies note that, in Tanganyika, transparency in mineral trading has improved as government representatives are able to collect and analyse statistics on production and legal exports, and they know the actors involved in the mineral supply chains (Jorns and Chishugi 2015). Yet, other studies reveal that the smuggling of minerals from Tanganyika to South-Kivu persists, albeit to a smaller extent than before (Wakenge et al., 2018). An earlier study by Mthembu-Salter (2011) on the due diligence application by MMR stated that the company estimated that 5–10 per cent of minerals extracted within its concessions was stolen and sold to other traders. In the same vein, Freudenthal (2017), a freelance investigative reporter, has noted that, at the time of his research in the area, minerals were still being smuggled out of MMR's concessions with the complicity of state agents. This author adds that the mines validated as conflict-free were sometimes just a few hills away from places where violent conflict was still going on. These findings raise doubt on the full transparency of the closed-pipe supply chain and on the capacity of the state to control this chain even in a region with a relatively well-established minerals' trade structure (Matthysen et al., 2019; Vogel, 2018).

In other areas, the mineral supply chain has become more transparent than before. While the armed groups may still interfere occasionally, no interference has been directly noticed at the mines (Vogel, 2018). However, as noted above, in some mining areas (e.g. in Itebero, Walikale) state agents - for whom the tags provide an additional source of income - are involved in the (illicit) commercialization of tags. Matthysen et al. (2019: 51) point out that because of this practice of selling tags, there is a high risk of contamination of responsible supply chains, as the origin of minerals tagged by the *négociants* themselves is not known or recorded. Like in Tanganyika, the mines where iTSCi is in force are only 'enclaves of regulations' (Wakenge, 2017: 36), where the system performs within the confines of a given mining area. In short, risks of contamination are higher in areas under the control of armed groups. In their 2019 report, Matthysen et al. (p. 51) provide an example: 'In Masisi territory, the validated coltan mines Katovu and Rwandanda are located in an area controlled by the Nyatura rebels. In September 2018, the mines employ about 50 miners, who allegedly have to work one day per week for the rebels. The minerals are reportedly transported to the village Kibabi, to be tagged over there.' Such an example raises doubt on the transparency of the 3T supply chain in some areas.

Transparency is also negatively affected by the fact that, according to the literature (Matthysen and Montejano, 2013; Vogel et al., 2018; Weyns et al., 2016), state agents have difficulty in accessing mining sites in conflict-prone areas where militias are still active. This opens a window of opportunity for armed actors and other business entrepreneurs to operate in the shadow and (illicitly) benefit from the mining activities (Vogel, 2018). Most state agents perform their activities at more secured and accessible mining areas where the traceability scheme (especially iTSCi) is developed. However, it is not yet clear - even in such areas - to what extent miners and minerals' traders comply with the new proposed transparency standards (Radley and Vogel, 2015).

#### 4.5. Taxation on mining

As shown in the case of other African artisanal mining contexts, moves towards 'formalization have tended to centre on monitoring, regulating and tracking mining activities, in the hope of channeling more revenue to a central government authority' (Maconachie and Hilson, 2011: 301). Indeed, as the ASM sector is taxed at both the provincial and central levels, both provincial and central government

administrations have an interest in maximizing revenues from taxation. However, Müller-Koné (2015) has shown that such an interest may not necessarily lead to a coordinated top-down approach. On the contrary, efforts at revenue maximization can be much more decentralized and messier, and in fact serve to satisfy personal or patronage networks. For example, Matthysen et al. (2019: 46) noted that 'fighting illegal taxation is an important challenge for responsible sourcing efforts, in order to convince people of the added value of working within the formal sector.' The literature consulted reveals that as a result of formalization, the tax burden on participants in ASM has increased, because, on the one hand, the payment of official taxes is now being monitored more strictly than before, while, on the other hand, there are still a number of illegal taxes that have continued to exist. Vogel (2018) notes that, at both validated and non-iTSCi sites, a higher number of state services and non-state actors have been reported to levy taxes (Vogel 2018). IPIS (2015) data shows that, to some extent, responsible sourcing efforts have managed to address this issue.

Even though armed actors are reported to no longer operate at the mines (Weyns et al., 2016), it is hard to claim that the collection of unofficial taxes by state actors has been reduced. According to some scholars, enforcing official taxation is the most significant achievement of the implementation of the traceability chain. For example, Jorns and Chishugi (2015: 67) note that in Tanganyika, thanks to the 'due diligence system and the increased transparency in the supply chain, the government has been able to collect statistics on the amount of minerals produced and exported, and hence collect tax revenues.' These authors note that, in the fiscal year 2012, MMR declared to have paid a total of 2824,601 USD in taxes on the production and exportation of minerals. However, informal taxation persists in other forms, such as the monthly allowance paid by MMR to several customary chiefs (Wakenge, 2017), and other illegal taxes levied over artisanal miners by these chiefs (Ngoy Luhaka, 2017).

The case of South-Kivu provides credence to this observation. Even if formalization has greatly contributed to raising taxes collected by the state, Vogel et al. (2018: 77) note that with the advent of mineral traceability, new forms of taxation have emerged (Max Impact, 2016; Vogel, 2018). Also, in some mines where iTSCi is in force, SAEMAPE employees seek alternative revenues to compensate for their vulnerable positions due to the chronic non-payment by the state. In North-Kivu and South-Kivu, the provincial governments instituted a 'Basket Fund' in 2012, with fixed contributions (between 25 and 75 USD per ton of 3Ts exportation) from cooperatives, *négociants*, transporters, entités de traitement (processing entities) and trading houses (*comptoirs*) to fund a provincial development plan. The management of this fund was opaque to such an extent that it did little to respond to the needs of the mining communities (Wakenge and Kitungano, 2021). On 1 February 2019, the national Ministry of Mines banned the collection of taxes by the Basket Fund (Letter N° CAB.MIN/MINES/01/0051/2019) as these taxes overlap with the ones which extractive companies have to pay towards the development of mining communities, as stipulated in the 2018 mining law (T. X, Chap. II, Article 258 bis).

Indeed, as of 2019, at non-iTSCi mines in the Kivus (including Maniema), there were 19 different authorities (besides the *Division des Mines* and SAEMAPE) which were levying taxes, compared to seven different authorities at iTSCi sites (Matthysen et al., 2019; see also Max Impact 2016). This fragmentation of taxation suggest that efforts to coordinate tax collection by the state have not been successful at sites where iTSCi is not operational. Although formalization has increased revenues from mineral exports, Vogel (2018) provides similar evidence arguing that informal taxes arise in the shadow of iTSCi. It is also reported that state services often do not fulfill their responsibilities and even conduct illegal activities, for instance levying taxes over mining in the Kahuzi national parc (Itebero/Walikale), an area where artisanal mining is forbidden. Another issue (mentioned in the previous section) that has surfaced regularly and which has been reported for instance in Itebero (Walikale), is that SAEMAPE agents have developed a practice of

selling tags to *négociants*, or sometimes to cooperatives, for 500 FC or 1000 FC per piece (Jaillon et al., 2019: 50). Such a practice illustrates that it is quite ironic and painful that a mechanism such as iTSCi, which was introduced with the aim of fighting illegal practices in the sales of minerals has been used to levy illegal taxes. This illustrates how new regulation allows state agents to abuse their positions and use their power to instrumentalize technical interventions for their own purposes.

#### 4.6. Accountability towards mining communities

Accountability refers to the extent to which power holders or a governing entity (such as Congolese state agents) inform the population of their actions, development interventions and response to local needs, policies, decisions; justify them, and are sanctioned/punished in case of violations (Kyamusugulwa and Hilhorst, 2015). The introduction of the conflict mineral policy has certainly left its mark on the state's performance. Yet, in North-Kivu as elsewhere, this does not mean that the state is more responsive to local needs than before. The literature shows that in general, following formalization, the state has done little to improve the living conditions of miners (Johnson, 2013; Murairi and Kubuya, 2012; Vogel et al., 2018). In many cases, the analysis of the situation on the ground in places such as Walikale, Masisi (which are among the richest in mineral resources of North-Kivu) and in many mining areas of South-Kivu, shows that the development of the local mining communities has never been taken into due account (Murairi and Kubuya, 2012; Wakenge and Kitungano, 2021).

Studies and policy reports note that even if the collection of tax revenues from mining has been an important achievement in itself, the economic and social impacts of these revenues and the reforms initiatives in general remain unclear (Diemel and Hilhorst, 2019; Jorns and Chishugi, 2015; Matthysen and Montejano, 2013). In the case of Tanganyika, apart from MMR paying state agents a monthly allowance (so-called *motivation*) and building some social facilities such as health centres, schools and road rehabilitation (Wakenge, 2018), revenues do not flow back to the villages, territories or even the district of Tanganyika, and do not benefit the local population.

As has been documented elsewhere, the rise of neoliberal discourses of transparency, accountability, and good governance and the concomitant bureaucratic demands can multiply rather than diminish opportunities for corruption and fraud (Tidey 2013). The situation in North-Kivu and South-Kivu illustrates this trend. In 2012–13, the Basket Fund (mentioned earlier) was introduced in both provinces. However, the mining communities concerned often lamented that none of the promised development projects were successfully implemented, though 'there is evidence of a few success stories' (Vogel et al., 2018: 78). In a recent study, Wakenge and Kitungano (2021) demonstrate that due to their political influence and through twisted and predatory budgetary practices of embezzlement, the provincial state authorities involved in managing the Basket Fund were found to derive personal benefits, including political positioning from it, while stifling the development of the mining communities concerned. In short, while reforms are initiated with the stated aim of boosting the Congolese economy for development, reality on the ground seems to disprove this assumption.

#### 4.7. Has women's situation changed?

This section intends to give a fairly succinct account of the effects of formalization reforms on the position of women in the mines. While interest is growing around the formalization of the artisanal mining sector, little is said about the complex role of national, provincial and even local state actors in the changes taking place in this sector (Buss et al., 2019). For instance, Bashwira and Cuvelier (2019: 4) note the discrepancy between the official mandate of SAEMAPE and the practices of its employees in the field. In fact, all the departments and technical services of the Ministry of Mines in eastern DRC are facing the same structural challenges.

As we have seen, the re-organization of mining governance includes the formalization process of artisanal mining, and the certification schemes (Bashizi and Geenen, 2015; De Haan and Geenen, 2016; Vogel et al., 2018; Wakenge, 2017). Approaching formalization through a gender lens presents a formidable challenge. Koch and Kinsbergen (2018) and Bashwira and Hilhorst (forthcoming) have signalled the change in narrative about the involvement of women in ASM in eastern DRC. They describe the way narratives can shift over time from overly protective and prohibitive to less restrictive, while recognizing that actors who are emphasizing particular narratives may have personal interests in keeping women out of the mines.

Based on the literature review, it seems that the gendered effects of efforts to formalize the DRC's ASM sector have received limited attention (but see Bashwira et al., 2014; Bashwira 2017; Buss et al., 2017). There is no clear evidence of changes that may have occurred and transformed the situation of women in mining. In the places in which the reforms were implemented, women are still as excluded and marginalized as before. Taking iTSCi as an example, Buss (2018: 561) argues that this marginalization is mainly due to the policy makers' lack of interest in women's issues: 'formalization efforts tend to exclude evidence of sexual violence and find irrelevant the considerations of gender issues in supply chain certification.' Indeed, as mentioned in Section 3.5. above, the 2018 mining code does not refer to women in particular at all, except in one provision that mentions the exclusion of pregnant women: 'any adult of Congolese nationality, *except pregnant women*, who wishes to engage in artisanal mining exploitation throughout the national territory, can do so only within the framework of an approved mining cooperative [emphasis added].'<sup>24</sup> More specific attention to women's positions in the legal framework regulating the sector is thus badly needed.

Today, women's issues are still very poorly included in initiatives that aim at addressing conflict minerals. Neither the DRC 2018 mining code, the International Conference of Great Lakes Regions (ICGLR) regional certification mechanism, nor the "Dodd-Frank law" and other reforms initiatives explicitly address the participation of women in the mineral supply chain, though they also do not forbid it either (Masika 2017). In reality, women actively participate in most mining activities. The Congolese government has always lobbied for cooperatives to be a "grassroots", bottom-up form of organization. However, as we observed earlier, cooperatives are often dominated by a mix of customary and political elites, extending rather than diminishing rent-seeking practices (Geenen and Radley, 2014). Authors such as Buss et al. (2019) also note that the inability of many women's groups to function well and to build a solid agenda that includes women's causes often results in their absence from decision-making bodies and their lack of influence on policies and mining practices. This reduces their access to networks but also to learning about mining laws, policies, training opportunities, and technical improvements. In addition to their under-representation in miners' cooperatives, women are also largely absent from other miners' committees.

However, this finding should be nuanced by referring to more recent and promising reform initiatives. These include a growing number of provincial and national associations of women miners which have a more general objective, such as the *Réseau National des Femmes dans les Mines* (or National Network of Women in Mines, RENAFEM; Bashwira et al., 2014; Buss et al., 2019). The aim of RENAFEM is to mobilize the grassroots women's organizations by creating a vast network to improve women's status and help them to gain more sustainable benefits. RENAFEM also promotes access to credit and small-scale savings schemes, as well as training and sharing information on rights and responsibilities of women in the mines (Perks 2015). While RENAFEM is not yet working efficiently and its objectives are not yet met, the very

<sup>24</sup> Journal officiel de la République Démocratique de Congo, Code minier. 59e année ; 28 mars 2018. Titre 1, Art. 5.



idea of a structure which could mobilize all women in the sector and be recognized in high-level meetings is a great motivation for many women at the grassroots level. A case study conducted in Nyabibwe (South Kivu) reports that women perceive the benefits they get from being members of saving associations as having a united voice, more opportunities, as well as protection against financial shocks (Kelly et al., 2014; for the results of a community-led savings and credit project in artisanal gold mining communities in Ituri Province, see Reichel, 2020).

While women's issues have thus not been addressed explicitly by the formalization initiatives, it is nevertheless possible to observe some positive effects on women miners as part of the reforms' limited number of positive impacts. For example, thanks to the traceability systems, mining sites such as Rubaya in North Kivu were demilitarized and relative stability has favored the development of local trade in which women are actively involved (Masika, 2017). Koch and Kinsbergen (2018) quoting reports from IPIS, note an improvement in the interference by armed groups around mining sites of tin, tungsten and tantalum: while in 2009–2010, 56 percent of the mining sites were under the influence of armed actors, this percentage decreased to 21 per cent for the period 2013–2014.

However, women miners still suffer from multiple challenges in the ASM sector which the formalization reforms have not been able to change due to lack of interest and/or resources. For example, the local state structures and, if present, customary authorities are male dominated in most mining sites. This situation is rationalized as resulting from the lower access of women to education, which in turn limits their access to public sector employment, but also results from prevalent gender norms (Buss et al., 2017). While women are sometimes employed in state offices, they are expected to do administrative jobs in the background, and to only undertake duties which support their male colleagues. In the offices of the *chefferie* (chiefdom administrative level), women are hired as cleaners, clerks, and secretaries. Most of the time, women working in the *chefferie* are part of the family of the *mwami* (traditional leader) or of the chief himself (Bashwira and Cuvelier, 2019).

Furthermore, women are not considered as "real miners" as they often do not appear on official lists given to civil servants (Buss et al., 2019). Although on the one hand, this means that women are exempt from paying certain state taxes, on the other hand, it makes them even more vulnerable because they have to renegotiate their access to the mine (Bashwira and Hilhorst, forthcoming). In contrast, Rothenberg and Radley (2014: 42) also reported special fees (taxes) which local authorities impose on all women working in the mining site (in Nzibira, South Kivu), 'simply because they are said to be women.' Men are not asked to pay such taxes. Women who refuse to pay these fees are brought to traditional authorities and sometimes even to the military for punishment. In addition, while men are working in officially recognized activities which provide them with legal status as workers (and ID cards to access the mines), women's activities are not part of these, and hence, women need to negotiate their access in informal ways. It is thus no surprise that many women consider the impact of ASM formalization on their lives as negative. For example, Masika (2017) observed women's negative assessment of the tagging system, as they consider it to be causing the drop in the mineral price, which in turn affects their livelihoods negatively. However, this assessment is probably based on a serious lack of information on certification systems among women, as they do not know the mechanisms that determine mineral prices.

In many mining places, women are only recognized as "helpers" to male miners by both administrative agencies and miners. Bashwira and Hilhorst (forthcoming) point out that local civil servants' exercise discretion in granting women access to the mines. The fact that local actors sometimes misinterpret the requirements of the Dodd-Frank Act and the OECD's Duty of Due Diligence means that they may prohibit the presence of women in mines altogether (Bashwira et al., 2014). Indeed, access to mining is not just granted by local government officials, but also requires fulfilling formal requirements (e.g. permits) and informal

demands by other actors such as militias and mining committees (Buss et al., 2017). The basis for the exclusion of women from formal mining operations arguably lies in the traditional legal frameworks which govern the ownership, access, and inheritance of land and mineral rights (Bashwira and Cuvelier, 2019; Bashwira and Hilhorst, forthcoming; Buss et al., 2017).

In short, even though they are economically important actors in the sector, women miners still have limited access to the mines. They are mostly working without formal licenses and must navigate an environment of complex coexistence between state and non-state actors and regulation (Bashwira and Cuvelier, 2019; Geenen, 2011). In their quest for licenses along the minerals supply chain, women are sometimes subject to various forms of extortion (Bashwira et al., 2014; Bashwira and Cuvelier, 2019). To conclude, there are important (unintended) negative effects of the formalization process in terms of both women's access to the sector, as well as their socio-economic marginalization within it.

## 5. Concluding remarks

The aim of this study was to generate a detailed understanding of the relationships between mining reforms and the Congolese state's performance in governing the extractive industry. Based on an extensive literature review, the study explored how mining reforms have increased or decreased the state's capacity in dealing with seven (partly overlapping) challenges, namely: i) restricted access to and militarization of mining sites; ii) poor demarcation of mining sites; iii) disorganization of diggers; iv) lack of transparency in the minerals' trade; v) taxation issues; vi) lack of state accountability towards mining communities and vii) the precarious inclusion or exclusion of women from mining activities. These challenges were thoroughly examined for both the pre- and post-reform periods.

The major finding of this study is that the reforms had mixed results in the seven areas of intervention identified by the authors. For instance, although the reforms have contributed to demarcate artisanal mining zones; have increased state's revenues or encouraged new institutional framework through the creation of mining cooperatives, state accountability and the social impacts of these measures remain limited. By reporting the findings for each of the three selected provinces, the study shows that mining reform initiatives create a mix of different patterns of governance depending on the geographical area (Diemel and Cuvelier, 2015; Vogel, 2018). For instance in Tanganyika where only a few armed groups were reported during the study period, the reforms succeeded in this province because there was relative peace. In addition, given the exclusive monopoly of MMR/CDMC in trading minerals, transparency of the 3T supply-chain has relatively improved there, compared to North and South-Kivu where armed groups interfere in the mining business.

The literature review highlights some issues of concern that need to be addressed. First, even though the implementation of the conflict mineral policy has left its mark on 3T mining governance and has redefined the state's role therein, the mining reforms have not brought peace. Second, the literature review shows that the mining reforms have had limited effects on the state's performance in governing the sector. For instance, the state has increased its capacity in generating revenues from mining activities. The redistribution of these revenues to state agents and to the mining communities remains a huge challenge, however. Third, although a significant number of mining cooperatives have been established, these structures are less inclusive of ordinary miners. The state has done little to financially and technically support these structures, putting them at risk of being captured by powerful elites. In short, it seems that the reforms were not fully implemented but stopped half-way. They address some issues and leave others lagging behind.

Another crucial issue of concern is the strengthening of state presence at artisanal mines. In this regard, the literature review found some variation between the provinces. Compared to the war-torn provinces of North-Kivu and South-Kivu, state agents are present at many artisanal

mines of Tanganyika where mining reform is operational. The major reason explaining this variation is the relatively more peaceful character of Tanganyika, with less armed groups than the Kivus (Congo Research Group, 2019; Diemel and Cuvelier, 2015: 155). In the Kivus, the presence of armed actors renders the full control of mining activities by state agents difficult. In many areas, the absence of state agents provides opportunities to non-state actors (especially armed groups) to benefit from mining activities. However, the literature review also demonstrates that extending the state's involvement does not necessarily mean that governance practices have improved. In some areas, under-paid state officials or FARDC soldiers are confronting artisanal miners with new forms of taxation and extortion practices. In short, the precise impact of mining formalization on the everyday lives of people, i.e. miners and their families, traders, state agents and women in particular, is not yet known.

We believe that this study provides a useful starting point for further research on the challenges it reviewed. In addition, we hope that it will serve as a source of inspiration for policymakers seeking to improve the governance and transparency of the Congolese mining sector, which could ultimately help to promote a more equitable redistribution of its revenues for the benefit of the Congolese population as a whole.

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### Declaration of Competing Interest

none

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