

Analysis of the interactive map of artisanal mining areas in eastern Democratic Republic of Congo

2022 update



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Analysis of the interactive map of artisanal mining areas in eastern Democratic Republic of Congo, 2022 update

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Front cover image: Miners processing the tailings of a semi-industrial exploitation, Watsa, Haut-Uele

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DISCLAIMER

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ABBREVIATIONS

3T	Tin, Tantalum and Tungsten
ANR	Agence Nationale de Renseignements
ASM	Artisanal and Small-scale Mining
DRC	Democratic Republic of Congo
CODECO	Coopérative pour le Développement Économique du Congo
CNPSC	Coalition nationale du peuple pour la souveraineté du Congo
CNRD	National Council for Renewal and Democracy
FARDC	Forces Armées de la République Démocratique du Congo (national army)
FC	Franc Congolais (Congolese Franc)
FDLR	Forces Démocratiques de Libération du Rwanda
FPP/AP	Front Patriotique pour la Paix–Armée du Peuple
ILRG	Integrated Land and Resource Governance
IPIS	International Peace Information Service
NDC-R	Nduma Défense du Congo – Rénové
PMH	Police des Mines et Hydrocarbures (Mining Police)
PNC	Police Nationale Congolaise
SAEMAPE	Service d’Assistance et d’Encadrement de l’Exploitation Minière Artisanale et à Petite Echelle
UPCP	Union des Patriotes Congolais pour la Paix
UPLD	Union des Patriotes pour la Libération et le Développement (Mai Mai Luc)

EXECUTIVE SUMMARY

In eastern Democratic Republic of Congo (DRC), the artisanal and small-scale mining (ASM) sector employs hundreds of thousands of people and plays an important role in the local economy. While large-scale armed conflict over DRC's mineral wealth has decreased significantly over the past twenty years,¹ armed actors continuously interfere in the mining sector, and conflicts over resources at the local level are still common. The International Peace Information Service (IPIS) has mapped around 2,720 ASM sites in eastern DRC since 2009, collecting primary data about the interference of armed groups, types of minerals, mineral pricing, worker demographics, trade routes, environmental issues, etc.

As ASM sites continuously change, IPIS regularly updates its database and map of mine sites as new information is gathered during each visit. Within the framework of its latest mines mapping project, supported by the United States Agency for International Development (USAID)-funded Integrated Land and Resource Governance (ILRG) project, IPIS visited 450 artisanal mining sites in eastern DRC between September 2021 and March 2022. In total, 354 were active sites, spread over different provinces, namely Haut-Uele, Tshopo, North Kivu, South Kivu, Maniema, and Tanganyika.² IPIS selects study areas based on a few criteria, including interesting new developments, time since the area was last visited, and whether other ASM stakeholders or (international) partners express an interest in a particular zone. In each area, teams visit as many sites as possible within the time of their research trip, giving priority to the most productive sites.

Figure 1 (see section 3.1) shows the map with the geographic location of the mines that have been visited. These locations can also be found on IPIS' interactive webmap³, and the IPIS Open Data Dashboard on artisanal mining in DRC.⁴

Table A: Artisanal mining sites per province, September 2021 - March 2022

Province	Number of visited mines	Number of workers
Haut Uele	25	3,745
Maniema	62	9,315
North Kivu	126	24,209
South Kivu	98	14,522
Tanganyika	28	2,733
Tshopo	15	1,080

This report presents a summary of the information collected and interim findings. Further site visits and data collection will continue until early 2023.

IPIS visited 354 active mining sites, which employ an estimated 55,604 miners (Table A). Gold mines accounted for 86% of mines visited, followed by tin, tantalum, and tungsten (3T) mines, which accounted for 20% of mines (Table B). These proportions are consistent with the larger IPIS database on ASM sites in eastern DRC.⁵

1 IPIS, *Armed conflict, insecurity, and mining in eastern DRC: Literature review report*, commissioned by USAID, May 2022, to be published in December 2022.

2 Teams did not yet visit mines in Ituri Province, mainly due to insecurity.

3 <https://ipisresearch.be/mapping/webmapping/drcongo/v6>

4 https://ipisresearch-dashboard.shinyapps.io/open_data_app/

5 From the 2,480 mines (with an estimated 330k miners) visited by IPIS over the past decade (since January 2013), 71% are gold mines (78% of miners), 23% are cassiterite mines (employing 19% of miners) and 9% coltan (with 5% of miners).

Table B: Type of minerals in dataset

Mineral	Number of mines	% of mines	Number of miners	% of miners
Gold	304	86%	48,677	88%
Cassiterite	48	14%	4,537	8%
Coltan	19	5%	4,188	8%
Diamonds	6	2%	511	1%
Tourmaline	3	1%	660	1%
Tungsten	3	1%	24	0%
Copper	2	1%	91	0%

Note: The sum of the number of mines and miners is more than their respective totals, i.e., 354 mines and 55,604 miners, because a mine can hold different minerals.

While ASM provides an important source of livelihood opportunities for young people in DRC, these opportunities are not accessible to all. **Women** represent just 3% of mine workers at sites visited (1,730 female mine workers, out of a total of 55,604). Social norms and security risks act as a barrier to further participation. Yet women still play an important role in the ASM sector, mainly through auxiliary service provision. This includes food preparation, transportation, and shopkeeping in mining communities. Women were present at 53% of sites visited, and had greater representation at larger mining sites.

Likewise, IPIS estimates that **children** under fifteen represent 3% of workers at sites visited (1,614 under-age miners). They predominantly work in open-pit mines, as opposed to underground, and are often employed to wash or treat mineral ores. It is also worrying that at 17 gold mines, children use mercury to treat gold ores.

1.1. ASM AND INTERFERENCE OF ARMED MEN

Mining and mineral trade are important elements in the perpetuation of conflict and insecurity in eastern DRC. State and non-state armed actors prey on the mining sector to generate income, which fuels human rights abuses: the so-called 'conflict minerals' problem (see text box on the history of 'conflict minerals' in section 3.2). While large-scale armed conflict over DRC's mineral wealth has decreased significantly over the past twenty years, this report illustrates that armed actors continuously interfere in the mining sector, and that local level conflicts over resources are still common.

IPIS assesses the level of security at mining sites against different criteria, including visits by armed groups, the behavior of state security forces, violence, and conflicts.

Economic, social and political tensions often appear within the ASM sector. Consequently, IPIS teams reported **conflicts** at 29% of sites visited (103 out of 354), involving tensions over the geographic limits between different exploitations, theft of minerals, disputes between landowners and miners, and disputes over revenue distribution between stakeholders. Incidents of **violence** were reported at 14% of sites (51 out of 354) over the past six months.

Armed actor interference occurred at 41% of mining sites (146 of 354 mining sites), including both state and non-state actors. The most common armed actors at ASM sites were state security forces, which include the Congolese national army (FARDC) (present at 36% of mines) and the Congolese Police (PNC) (15% of mines). Armed non-state actors were also present at ASM sites, including the Mai Mai groups (present at 20% of sites) and NDC-R (5%) and Nyatura (1%) (Table C).

Table C: Presence of armed actors at mining sites

Armed actor	Number of mines	% of mines	Number of miners	% of miners
FARDC (national army)	126	36%	22,931	41%
PNC (Police)	54	15%	11,311	20%
Mai Mai groups	70	20%	19,353	35%
NDC-R	17	5%	12,571	23%
Other	4	1%	355	1%

FARDC is the main armed actor present in the mines, and it is noteworthy that FARDC units interfere in the mining sector in nearly all territories (Figure A). FARDC units can regularly be observed in the mines in areas where they are deployed to provide security against armed group activities. In those cases, they often use illegal taxation to generate revenue, called “effort de guerre” (‘war effort’). There were however instances where FARDC and Mai Mai groups had informal agreements over the distribution of revenues at gold mines to protect their respective economic interests. (For example, Mai Mai Malaika and FARDC in Kabambare territory, Maniema Province, see section 3.2.1.6).

Nevertheless, FARDC is also present in relatively calm areas, such as Kasongo territory in Maniema. While they do not always directly extort miners in these areas, army commanders have developed interests in the mining business, which is illegal. Some FARDC members own mining pits or crushing machines, and they organize fraud, for example, by facilitating tax exemptions.

Hotspots for armed actor interference include: Bafwasende territory in Tshopo (Mai Mai Luc); Lubero and Walikale territories in North Kivu (Simba rebels, Mai Mai, FPP-AP, NDC-R and Nyatura); Bunyakiri-Nyawarongo in Kalehe territory and Shabunda territory in South Kivu (Mai Mai and Nyatura); Kabambare territory in Maniema (Mai Mai); and Kalemie and Moba territories in Tanganyika (Mai Mai). The most difficult security situation was observed in the border area between south Lubero and north Walikale, in North Kivu Province. These different areas, as well as the armed actors interfering in the ASM sector, are discussed in detail in section 3.2.1. A brief overview of these armed groups interfering in mining can be found in a text box at the beginning of section 3.2.1.

When carefully analyzing the data, some **trends and correlations** arise with regards to armed interference and insecurity around mining sites. IPIS uses several analytical tools for this analysis,

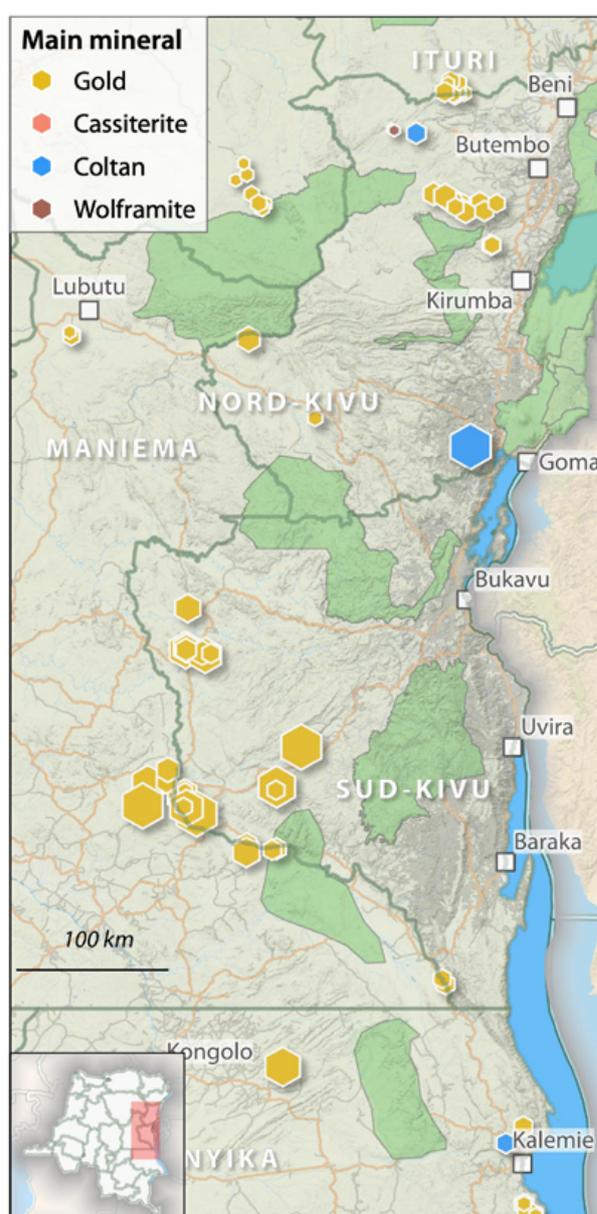


Figure A: Map of mining sites visited with illegal interference by FARDC units, 2021-2022

including the interactive webmap⁶ and the IPIS ‘Responsible Mining Scorecard’ (RMS). The latter calculates scores for key indicators, including ‘accessibility,’ ‘security’ and ‘state presence.’ The calculation of scores draws upon the data collected in the field, which are compared against predetermined criteria (see section 2 on ‘Methodology’).⁷

IPIS’ findings suggests that **armed actors tend to prey more on the most productive mines**, as the dataset reveals a negative correlation between ‘Production’ and ‘Security.’ This observation is confirmed by the numbers of armed actors at mining sites. IPIS observed the interference of armed men at 41% of mining sites visited (146 of 354 mining sites) and these mines employ 65% of the miners in our dataset (36,276 of a total of 55,604 miners).⁸

Furthermore, IPIS data clearly shows that **gold mines struggle considerably more with insecurity** than other mines. The security indicator of IPIS’ ‘Responsible Mining Scorecard’ is based on visits by armed groups, the behavior of state security forces, violence, and conflicts. It has an average score of -2.1 for gold mines (standard deviation: 4.8), which is considerably lower than 3T mines (average: 1.3, standard deviation: 2.6) (see boxplots in Figure B).

Gold is traditionally much more prone to issues of smuggling and conflict financing than other minerals. Since gold has a high value/volume grade, it is more easily hidden, transported and smuggled. Gold is also regularly used as a mode of payment in some isolated areas with limited cash flow, which undermines official supply chain traceability and monitoring efforts.

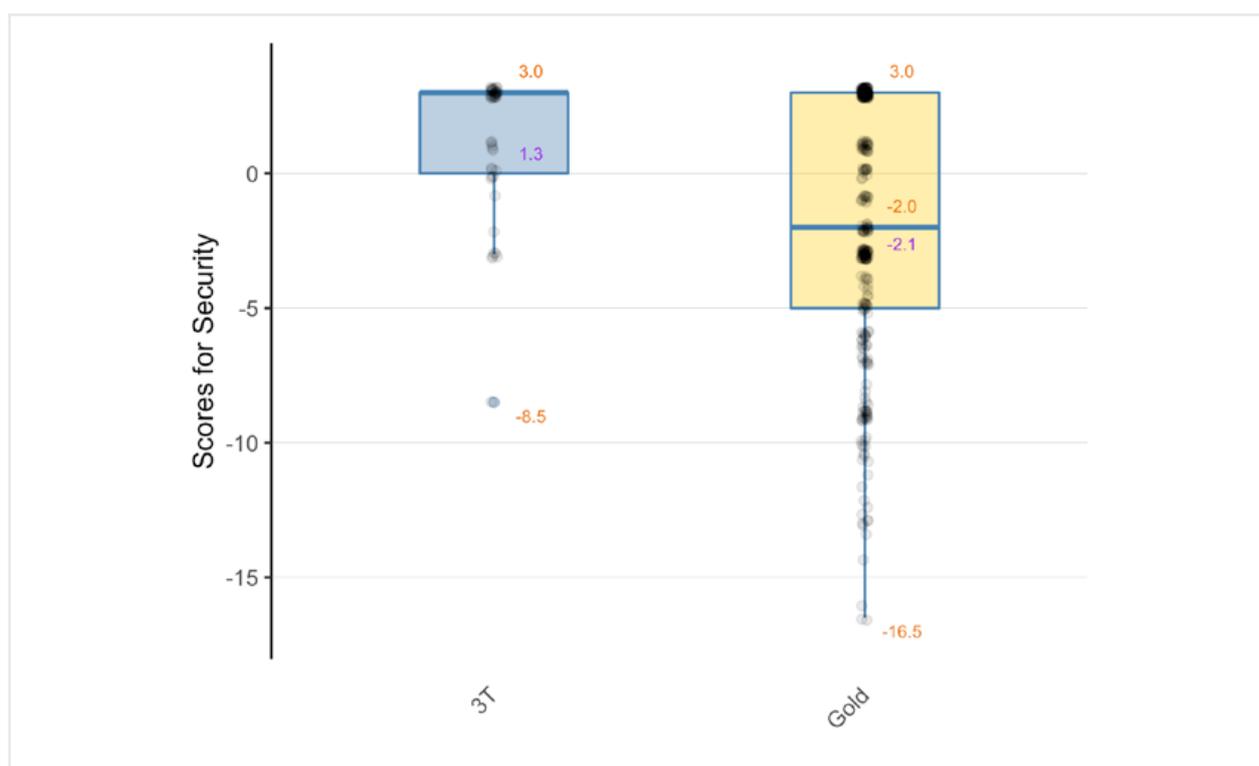


Figure B: Boxplots of the scores for the RMS indicator ‘Security,’ 3T vs Gold, with indications on minimum, maximum and median values (text in brown), and average (purple).

6 <https://ipisresearch.be/mapping/webmapping/drcongo/v6>

7 The RMS is discussed in detail in an introductory report that can be consulted on IPIS’ website: IPIS, *Responsible mining scorecard in eastern DRC*, August 2022 (<https://ipisresearch.be/publication/responsible-mining-scorecard-in-eastern-drc/>); Additionally, an online dashboard gives access to mining sites scores for the different indicators: https://ipisresearch-dashboard.shinyapps.io/mining_scorecard_easterndrc_app/

8 These tendencies are largely confirmed based on the mining sites visited by IPIS over the past three years (since April 2019): 321 mines, out of 785 mines (i.e., 41%) are affected by armed interference, which represents 54 thousand workers out of a total of 94 thousand workers (57%).

Finally, we also observe a positive correlation between ‘accessibility’ and ‘security’. These results suggest that **more accessible sites have a lower likelihood of suffering from the interference of armed men.**

IPIS also flagged the importance of analyzing the link between insecurity and mining beyond the traditional definition of ‘conflict financing,’ i.e. beyond the direct interference of armed groups at mining sites. While for some areas the number of mines affected by armed groups appears limited, several security issues closely linked to mining may remain. Tensions and local conflicts persist around access to mines and minerals with a risk that the different parties turn to armed groups to protect their claims. Additionally, the last paragraphs of the executive summary discuss the increasing presence of semi-industrial exploitations in eastern DRC’s ASM sector, which represents another source of tension over access to resources. Finally, many former – but non-demobilized – Mai Mai elements are working in the mines, which seriously affects the capability of state agents to monitor the sector.

1.2. STATE CONTROL

Even though the majority of mining activities are informal in eastern DRC, state services monitor most mining sites to some degree. IPIS teams reported on visits by state services at 83% of mining sites (293 sites). The main services present at the visited mining sites are SAEMAPE and the Mining Division, which are both services of the Ministry of Mines. The Mining Police (PMH, Police des Mines et Hydrocarbures) are police forces specifically responsible for guard security in and around mining sites. ‘Chieftdom/sector’ and ‘Groupement’ are local (often customary) authorities.

Table D: State services present at mining sites (over last six months prior to visit)

Service	Number of mines	% of mines
SAEMAPE	269	76%
Mining Division	256	72%
Mining Police (PMH)	154	44%
Chieftdom/sector	77	22%
Groupement	28	8%

Despite reasonably high levels of reported presence by state services (Table D), actual state control over ASM is rather limited. Firstly, despite that state services visit many sites, the frequency of visits can be very low. Secondly, in many cases, people consider state agents as ‘exploitive’ rather than ‘supportive.’ **While state agents are present at 83% of sites, complaints occurred at 74% of these sites.** Complaints most often include illegal taxation, as well as issues around state agents developing their own stakes in mining, or threatening miners. ‘Taxation without a receipt’ was for example reported in 182 sites, ‘over-taxation’ (asking more than foreseen by legislation) in 127 sites and ‘pit ownership’ by state agents (which is illegal) in 63 sites.

Once again, there is a remarkable difference between 3T sites (40%) and gold sites (82%) with regards to complaints on state agents’ behavior. Higher levels of fraud and smuggling in the gold sector seem to stimulate some state agents’ predatory behavior.

Greediness of individual state agents should not be considered as the main driver for these illegal practices. Structural governance issues persist, including the non-payment of state agents, the lack of control over ASM in general and well-established informal governance practices. Furthermore, the ASM sector is characterized by 'legal pluralism,' which is the coexistence of different normative systems and authorities, including state services, customary authorities, economic actors, and increasingly from responsible sourcing initiatives. To be able to access mines and minerals, people must deal with various authorities, including state representatives, military leaders, local leaders, associations and cooperatives. All of them levy official and non-official taxes.

As tax collection is very challenging in the **largely informal ASM sector**, and particularly in gold mines, state agents apply alternative, often informal strategies, a common example being the '**flat-rate charges**' (*taxation forfaitaire*) applied by many state agents.

While most ASM actors work informally, efforts have been made to formalize the sector, including the 2010 government requirement for artisanal miners to organize themselves into **mining cooperatives**. This requirement has been established to improve regulation of the mining sector in order to tackle illegal mining and mineral trade, and its link to armed groups and insecurity in eastern DRC. Mining cooperatives have mushroomed all over the eastern part of the country. Fifty-six percent of mining sites visited by IPIS (197 sites) had at least one cooperative in place. This percentage is considerably higher for 3T sites (76% of the total number of 3T sites, compared to 52% for gold sites), as the 3T sector is more regulated than the gold sector.

Unfortunately, in practice, mining cooperatives in eastern DRC have often become vehicles of exploitation, affected by elite capture imposing trade monopolies without any support to miners, and at times organized along ethnic lines. IPIS teams collected data on miners' perceptions of the cooperatives. At 44% of the mining sites with a cooperative (86 sites of 197 sites), people complained that cooperatives exploited them or did not provide any support. However, these perceptions may not represent an accurate assessment of cooperatives actual performance, as most people are not sufficiently informed on cooperatives' responsibilities and duties.

1.3. SEMI-INDUSTRIAL EXPLOITATIONS

Another key trend in the ASM sector is the increasing number of enterprises, often with foreign capital, doing semi-industrial gold exploitation. Chinese semi-industrial companies were observed at several mines. The arrival of these foreign companies is often associated with a number of recurring issues: they often pay for their sites to be guarded by the FARDC and PNC; they push out local artisanal miners; state representatives are unable to monitor their activities and production; they illegally work on permits of artisanal mining cooperatives, using a level of mechanization otherwise not allowed at those sites; and local communities complain of environmental impact and lack of contributions to local development.

The lack of clarity on permits and limited oversight by state services raise serious concerns on the potential risks around semi-industrial exploitations, for example concerning their environmental and social impact. The risks become more tangible when analyzing the scale of some of these exploitations through satellite imagery. Figure C shows how the mining site of 'Dieu Merci' has expanded over the past two years, through an additional number of pits and basins. More examples are covered in section 3.4 to show why clear governance and close monitoring of these exploitations seem to be direly needed to manage potential risks.

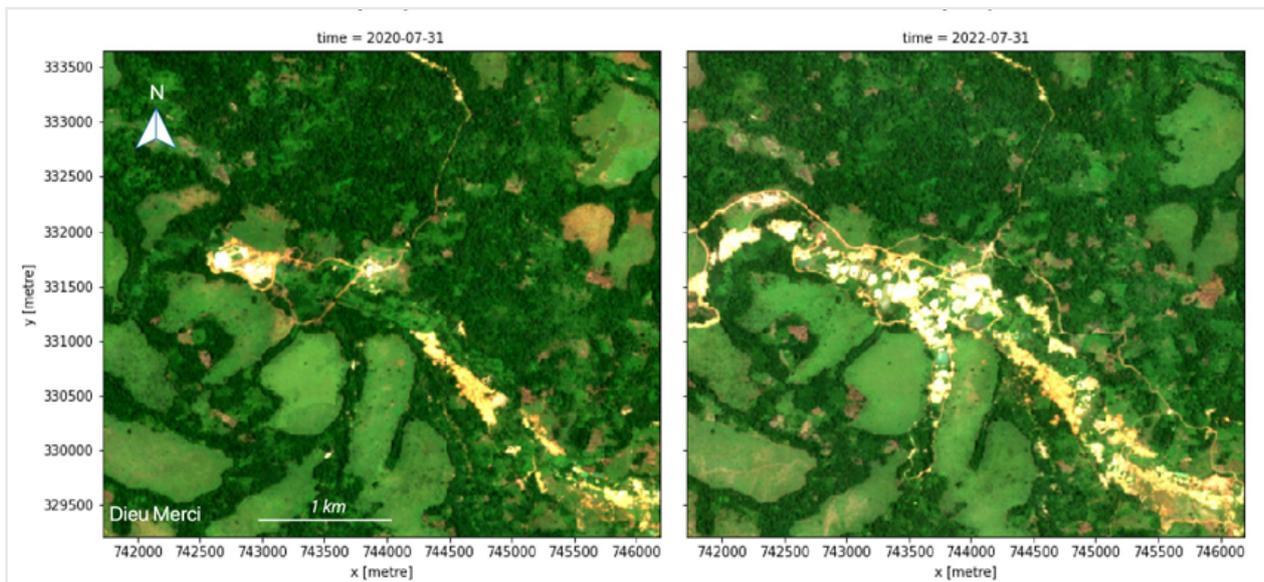


Figure C: Satellite images of the site 'Dieu Merci', where semi-industrial gold mining took place over the last two years. Six months cloud-free composite of images compiled over the first semester of the years 2020 (left) and 2022 (right)
 Source: Sentinel-2. Composite images computes via Digital Earth Africa Sandbox⁹

9 <https://www.digitalearthafrika.org/>

1. INTRODUCTION

Responsible artisanal and small-scale mining (ASM) supply chains can promote peace and stability while providing livelihoods and contributing to rural development. In eastern Democratic Republic of Congo (DRC), the ASM sector employs hundreds of thousands of people and plays an important role in the local economy. Yet, up to date, DRC struggles to realize sustainable local development, as well as peace in its eastern provinces.

While ASM is a vital source of income for many rural communities in eastern DRC, it has also acquired a negative reputation over the past twenty years. The DRC government has difficulties in tackling the issues of corruption, criminal activity, conflict financing, fraud and smuggling in the ASM sector. It is for example estimated that 98% of artisanal gold is smuggled out of the country; numerous armed groups still prey on ASM production; state (security) agents persistently skim off profits from the mining business; and several (small and large) mining companies continue to struggle with the local security context, while other companies abuse governance issues to smuggle minerals out of the country without any attention to local development.

Since 2009, the International Peace Information Service (IPIS) has mapped around 2,720 ASM sites in eastern DRC, and collected primary data about the interference of armed groups, types of minerals, mineral pricing, worker demographics, trade routes, environmental issues, etc. IPIS' unique dataset provides an important tool for policy makers (DRC and international), civil society organizations (CSOs) and (international) observers to obtain up-to-date and accurate information related to conflict financing, due diligence, and socio-economic dynamics along artisanal mining supply chains in eastern DRC.

In 2021, USAID renewed its partnership with IPIS through the Integrated Land and Resource Governance (ILRG) project to organize new monitoring missions, from 2021 to 2023, in the provinces of Ituri, Tshopo, Haut-Uele, North and South Kivu, Maniema, and Tanganyika. The results will help guide the development of strategies of the Government of DRC and Congolese civil society in their partnership with USAID to address the many challenges in the country's natural resources sectors.

Within the framework of this project, the IPIS teams collected information on **450 artisanal mining sites** in eastern DRC between September 2021 and March 2022. While site visits will continue until early 2023, this **report** provides an **interim analysis of the data** collected so far.

IPIS teams collect data on a wide range of variables for each of these mining sites. While this report provides a brief analysis and focuses on the main observations, there is much more detailed information behind the figures and examples that are discussed. The following tools allow readers to access up-to-date information from the IPIS database:

- IPIS **interactive webmap**: <https://ipisresearch.be/mapping/webmapping/drcongo/v6> ;
- IPIS **Open Data Dashboard** on artisanal mining in DR Congo: https://ipisresearch-dashboard.shinyapps.io/open_data_app/
- A downloadable IPIS 'Open Data' table: <https://ipisresearch.be/home/maps-data/open-data/>;
- IPIS' **Responsible Mining Scorecard** in Eastern DR Congo (https://ipisresearch-dashboard.shinyapps.io/mining_scorecard_easterndrc_app/)

Within the framework of this partnership with USAID, IPIS will also carry out qualitative research into illustrative case studies that explore the dynamics surrounding conflict financing in eastern DRC for publication end of 2022.

Chapter 2 discusses the methodology of data collection, as well as some of the main challenges encountered by IPIS' research teams in the field, and the analytical tools that have been used for data analysis (section 2.1). Chapter 3 analyzes the data collected by IPIS on **450 artisanal mining sites** in eastern DRC, providing a general overview of the mining sites' main characteristics, as well as the presence of female

workers and the use of mercury (section 3.1). This is followed by an analysis of the results of the survey across a few selected themes, including security (section 3.2), state control (section 3.3) and challenges around mechanization (section 3.4). The last chapter (4) shares some concluding remarks and insights based on the data analysis.



Artisanal mining site, Mwenga, South Kivu

2. METHODOLOGY AND CHALLENGES

IPIS has developed and implemented a unique methodology aimed at assessing an array of parameters related to responsible sourcing of minerals, based on:

- The Annex II of Organisation for Economic Co-operation and Development (OECD) Due Diligence Guidance for Responsible Supply Chains;
- The London Bullion Market Association (LBMA) Responsible Sourcing Initiative;
- International Conference on the Great Lakes Region's (ICGLR's) Certification Mechanism;
- SALT criteria (Security, Accessibility, Legality and Traceability), used by the Joint Validation Teams, for the qualification of mines in Eastern DRC; and
- Ministerial Decree « 0919/CAB.MIN/Mines/01/2015 du 29 octobre 2015 fixant les procédures d'inspection, de qualification et de validation des sites miniers des filières aurifère et stannifère en République Démocratique du Congo »

IPIS research teams collect quantitative and qualitative data through a combination of observations and interviews with a selection of stakeholders at and around ASM sites, support villages, and trading hubs. Data collection methods and verification rely extensively on triangulation of sources, and interviewees include artisanal miners, representatives of cooperatives, heads of miner camps, state agents and CSO representatives. The questionnaire includes questions on accessibility, productivity, environmental issues, health and safety, security, pricing, and government oversight.

IPIS uses open-source mobile data collection tools, including Open Data Kit questionnaires and Kobo Toolbox. After field data collection, the data are carefully cleaned, harmonized, and uploaded into a PostgreSQL database where they are managed and curated to be processed for the development of IPIS' webmap, data dashboards, and analysis.

Research teams are assigned to visit sites in a selected mining area. IPIS selects study areas based on a few criteria, including interesting new developments, time since the area was last visited, and whether other ASM stakeholders or (international) partners express an interest in a particular zone. In each area, teams visit as many sites as possible within the time of their research trip, giving priority to the most productive sites.

Research into conflict dynamics in remote rural areas inevitably entails risks with regards to security, and health and safety. Nevertheless, some risks are quite unpredictable, or beyond what can be reasonably considered as manageable. Consequently, some mining zones could not be visited by IPIS teams. For example, because of **insecurity** in Ituri Province¹⁰, IPIS decided to send out the Bunia-based team (Ituri Province) to neighboring Tshopo and Haut-Uele Provinces. Intense fighting between two factions of the NDC-R rebel group hindered the IPIS team from visiting mines north of Mpopi, Walikale territory in North Kivu. Similar examples exist in other provinces of eastern DRC. IPIS teams at times must **negotiate access** to mining sites prior to the start of their interviews. This is often a formality, but it may occasionally hinder teams from visiting some mines, for example in some mines in Dungu territory (Haut Uele) and Masisi (North Kivu), as well as at one site that is covered by a traceability program.

For the data analysis, IPIS uses different analytical tools. Firstly, for each mining site, the IPIS '**Responsible Mining Scorecard**' (RMS) calculates scores of key indicators, including 'accessibility,' 'security' and 'state presence.' The calculation of scores draws upon the data collected in the field, which are compared against predetermined criteria. The RMS is discussed in detail in an introductory report that can be

10 Since December 2017, local communities in Ituri Province have been devastated by brutal killings, sexual violence, large-scale and systematic destruction of houses, schools and medical facilities, and massive displacements. The main armed actor in the current conflict is the Lendu militia *Coopérative pour le Développement Économique du Congo* (CODECO). This group refers to inter-ethnic tensions and socio-economic inequalities to legitimize its armed struggle against the Hema community.

consulted on IPIS' website.¹¹ Using descriptive statistics, the scoring data are broken down by province or minerals to allow for comparisons between geographic areas and to assess working conditions according to minerals produced.

Secondly, **LISA maps** (Local Indicator of Spatial Autocorrelation) provide another complementary visual approach. LISA maps account for spatial effects, meaning that mining sites near each other are more likely to share the same scores because they share comparable conditions. LISA maps explore the spatial distribution of the scores for each indicator¹² to identify patterns of geographic clustering. The values on the LISA maps can be read as follows:

- 'High-high': mining sites with high scores, which are grouped together in space to form hot-spots;
- 'Low-low': mining sites with low scores, which are grouped together in space to form cold-spots;
- 'Low-high': mining sites with low scores that are surrounded by mining sites with higher scores;
- 'High-low': mining sites with high scores that are surrounded by mining sites with lower scores.

Finally, to statistically identify correlations between the different RMS indicators, we use a **correlogram** that compares the scores of indicators by all possible pairs and provides a Pearson correlation coefficient ranging from -1 (negative correlation) to 1 (positive correlation).¹³

11 IPIS, *Responsible mining scorecard in eastern DRC*, August 2022 (<https://ipisresearch.be/publication/responsible-mining-scorecard-in-eastern-drc/>). Additionally, an online dashboard gives access to mining sites scores for the different indicators: https://ipisresearch-dashboard.shinyapps.io/mining_scorecard_easterndrc_app/

12 LISA maps rely on Local Moran's I statistic as introduced by Anselin. Local Moran's I allows identifying on a map whether individual sites are part of spatially similar or dissimilar clusters relative to nearby sites and using significance tests (with a P <.05 as significant). In the top right-hand corner of the LISA maps, we also include a reading for Global Moran's I. This value ranges between 1 and -1 and indicates how much spatial autocorrelation is occurring across the whole dataset. Closer to 1 means observations with a certain value tend to geographically be grouped together (positive spatial autocorrelation). Closer to -1 means observations with a certain value are close to observations with contrasting values (negative spatial autocorrelation). A reading near 0 refers to no spatial autocorrelation, i.e., observation values seem distributed randomly in space.

13 Although the correlogram provides relevant insights into score correlations between indicators, it should be interpreted with caution. Contrary to the LISA maps, it does not recognize spatial effects such as spatial autocorrelation, which can inflate the correlation coefficient in areas where scores cluster the most.

3. DATA ANALYSIS

Within the framework of the current project, IPIS teams collected information on 450 artisanal mining sites in eastern DRC between September 2021 and March 2022. As 96 of these sites were not active at the time of the visit, this analysis is based on the 354 remaining active sites in the sample. Twenty-one percent of the mining sites (96 out of 450) being inactive, is a good illustration of the artisanal miners' mobility and fluctuations in ASM productivity. 137 of these sites are new in IPIS' database, as they had never been visited before.

3.1. GENERAL OVERVIEW

In total, the 354 active mining sites employ an estimated 55,604 miners in the Kivu Provinces, Haut Uele, Tshopo, Maniema, and Tanganyika (Table 1). Teams did not yet visit mines in Ituri Province, mainly due to insecurity.¹⁴ Haut-Uele was new a province for IPIS' ASM mapping project. Figure 1 shows the geographic location of the mines that have been visited. These locations can also be found on IPIS' interactive web-map.¹⁵

Table 1: Artisanal mining sites per province, September 2021-March 2022

Province	Number of visited mines	Number of miners
Haut Uele	25	3,745
Maniema	62	9,315
North Kivu	126	24,209
South Kivu	98	14,522
Tanganyika	28	2,733
Tshopo	15	1,080

The remainder of this section will briefly discuss the type of minerals (section 3.1.1), as well as the accessibility of the different mining sites (3.1.2), because both have a direct influence on security (section 3.2) and state control (3.3). Furthermore, this section will briefly look into the role of women and children in ASM, providing some statistics on worker numbers (3.1.3), as well as a few numbers on the use of mercury (3.1.4).

14 Three reasons for this: 1) Many areas in Ituri are hard to visit for the moment due to security issues. Violence flared up again in the province since December 2017, linked to the activities of the armed groups Coopérative pour le Développement Economique du Congo (CODECO), and armed self-defense groups including 'Zaire'. More recently the Allied Democratic Forces (ADF) also moved into the province of Ituri, coming from Ituri. Additionally, since late 2021 there have been some violent manifestations against humanitarians, which presented an additional risk for IPIS research teams (<https://www.radiookapi.net/2022/05/28/actualite/securite/ituri-accalmie-niania-apres-manifestation-des-jeunes-contre-les>); 2) some axis have not been visited as they are being visited by IPIS within the framework of other projects; and 3) some axis are due to be visited in the second half of 2022.

15 <https://ipisresearch.be/mapping/webmapping/drcongo/v6>

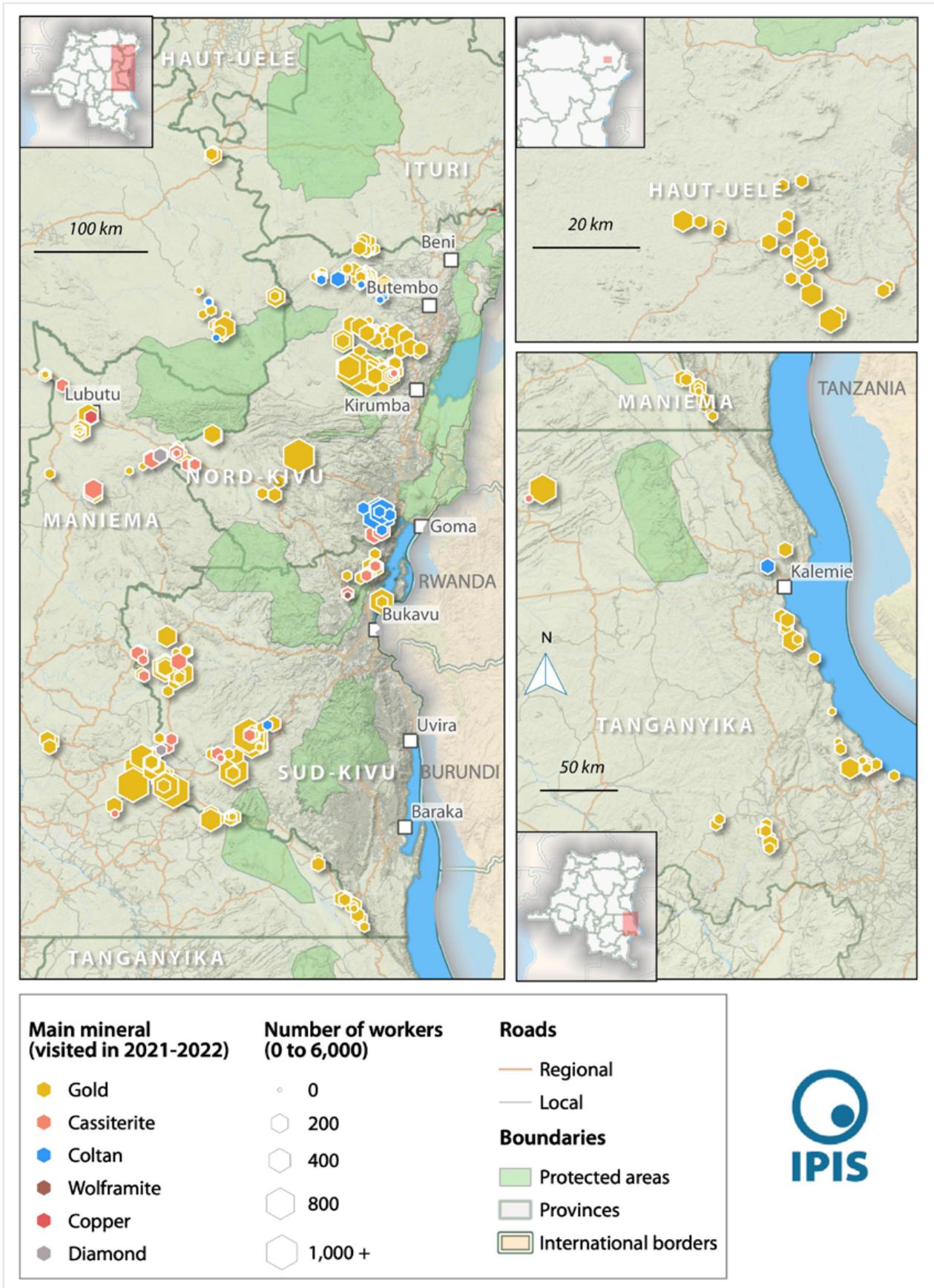


Figure 1: Map of mining sites visited in eastern DRC, September 2021 – March 2022

3.1.1. Type of mineral

Most mining sites visited by the IPIS teams are gold sites. Table 2 shows that 88% of the miners in our dataset (for 354 mines) work in gold mines. The map in figure 1 shows that gold mines are spread all over eastern DRC.

Table 2: Type of minerals in dataset

Mineral	Number of mines	% of mines	Number of miners	% of miners
Gold	304	86%	48,677	88%
Cassiterite	48	14%	4,537	8%
Coltan	19	5%	4,188	8%
Diamonds	6	2%	511	1%
Tourmaline	3	1%	660	1%
Tungsten	3	1%	24	0%
Copper	2	1%	91	0%

Note: The sum of the number of mines and miners is more than their respective totals, i.e., 354 mines and 55,604 miners, because a mine can hold different minerals.

The percentages per mineral in Table 2 are similar to the percentages calculated from the larger IPIS general database on ASM sites in eastern DRC, which is more representative of the entire ASM sector as a whole. From the 2,480 mines (with an estimated 330k miners) visited by IPIS over the past decade (since January 2013), 71% are gold mines (78% of miners), 23% are cassiterite mines (employing 19% of miners) and 9% coltan (with 5% of miners).¹⁶

The type of mineral matters when analyzing the situation in the ASM sector. **Gold is traditionally much more prone to issues of smuggling and conflict financing.** Over the last couple of decades, it has been an enormous challenge to channel mineral trade in legal supply chains, even more so for gold than the 3T minerals. Gold has a high value/volume grade, and as such high values of gold are easily hidden, transported, and smuggled. In DRC, informal gold traders are numerous, and they operate quite openly. Furthermore, gold is regularly used as a mode of payment ('barter trade') in some isolated areas with limited cash flows, which undermines official monitoring of supply chains. Both within DRC, as across the border, a wide range of stakeholders, including formal institutions, are involved in cross-border smuggling to Burundi, Rwanda and Uganda. Roughly estimated, 98% of artisanal gold is smuggled out of eastern DRC. The omnipresence of gold smuggling seriously undermines traceability, legal trade, responsible sourcing and the accompanying initiatives that wish to tackle conflict financing. It has been noted that legal production and trade of gold are not commercially viable under the current market conditions in eastern DRC, as legal traders cannot compete with gold prices from the informal market.¹⁷ The latter issue is also linked to the failing taxation system within the gold sector, which will be discussed in section (3.3.3 on 'challenges to formalization').

16 IPIS, *Artisanal mining in DR Congo - IPIS Open Data Dashboard*, https://ipisresearch-dashboard.shinyapps.io/open_data_app/, visited on 11 July 2022.

17 IPIS, *Armed conflict, insecurity, and mining in eastern DRC: Literature review report*, commissioned by USAID, to be published in December 2022.

3.1.2. Accessibility

Many artisanal mining sites are in very remote areas, without any telephone coverage and only accessible based on hours of walking through dense forests. Relatively few mines are close to urban areas, or are reachable by car. Table 3 shows that almost half of the miners work in isolated mines, for which workers need to walk more than two hours to access them.

Table 3: Access during the dry season

Accessible ...	Mines	% of mines	Miners	% of miners
... by car or motorbike	49	14%	4,902	9%
... after less than 2h walking	171	48%	24,699	44%
... after more than 2h walking	134	38%	26,003	47%

Accessibility is an important factor to consider when assessing the risk for issues related to security and state control. Ease of access seems to promote higher levels of security at the mine and provides better prospects for 'state control' (i.e., the presence of state services) (see section 3.3.4).



Difficult road conditions in Bafwasende territory, Tshopo

3.1.3. Women and children

ASM is an important livelihood activity in eastern DRC's rural areas. It offers opportunities for (young) people to save money for other economic and social purposes (e.g., establishing a business, or the payment of a dowry and school fees). Even though women do play an important role in ASM, they often face issues related to gender equality and social exclusion. They have to deal with economic, social and political barriers to acquire access to mines, minerals and higher positions within the sector.

During the survey, IPIS teams counted around 1,730 **female mine workers**, representing no more than 3% of the total workforce of miners. Social barriers and insecurity seem to be the main explanatory factors for their underrepresentation in mining.

Especially at gold mines, many customary interdictions prevent women from entering the mine, because of concerns it might reduce productivity, related to the traditional belief that presence of women could chase away the gold. In Moba territory, some miners also declared that the prospect for women to make money in the mines scares their husbands, as it may increase their financial independence.

Though women may not be active as miners within the mining site, they are very active in the mining sector through **auxiliary service provision**, as observed at 53% of mines (165 mining sites). These auxiliary services include mostly food provision for the miners, but also transport, and shopkeeping. The presence of female workers is higher at the bigger mines: the 53% of mines where they are present employ 83% of the total workforce of miners.

An estimated 1,614 **children under the age of fifteen** have been reported to be working in the mines - i.e., 3% of the total workforce at the mining sites visited. In most cases, children work as miners in open-pit mines, notably in 80% of the mines where they reportedly work (84 out of 105 mines), and only in a few cases do they dig underground mines (five mines). In 75% of the mines where they work (79 out of



Gold processing, Mwenga, South Kivu

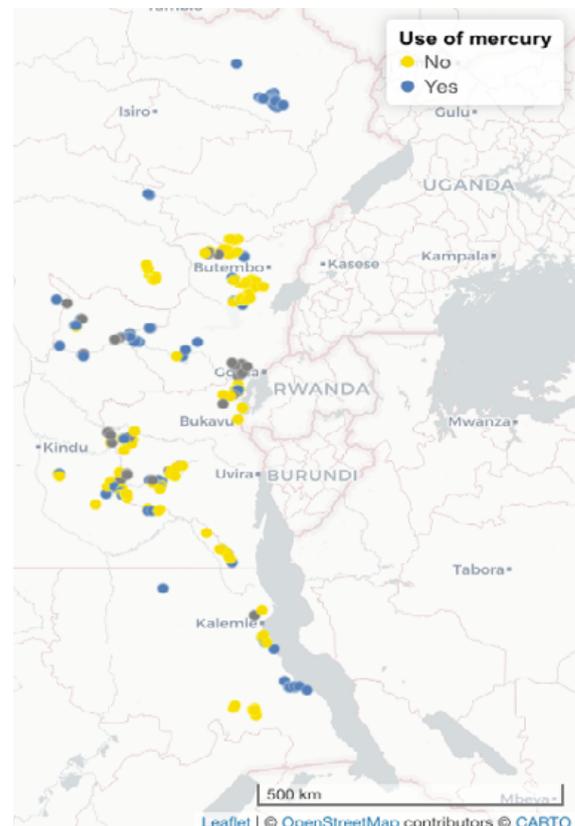


Figure 2: Map on sites using mercury for the treatment of gold ore

105 mines), they wash or treat the mineral ores. It is also worrying that at 17 gold mines, children use mercury to treat gold ores.

3.1.4. Mercury

Amalgamation of gold using mercury is a widespread technique in artisanal mining. It causes harmful effects for the environment and human health.

Mercury is being used at 36% of the gold mines covered in our sample (109 of 304 mines), Figure 2. These mines employ 59% of the workers on gold sites (28,503 of a total of 48,677 workers).



Use of mercury, Walikale, North Kivu

3.2. SECURITY AND THE INTERFERENCE OF ARMED ACTORS

Mining and mineral trade are important elements in the perpetuation of conflict and insecurity in eastern DRC. State and non-state armed actors prey on the mining sector to generate income, which fuels human rights abuses: the so-called ‘conflict minerals’ problem (see text box). While large-scale armed conflict over DRC’s mineral wealth has decreased significantly over the past twenty years, armed actors continuously interfere in the mining sector, and at the local level conflicts over resources are still common.

Brief history of ‘conflict minerals’ in eastern DRC

Minerals have played an important role in conflict financing in eastern DRC over the past 20 years. While Rwanda and Uganda were most driven by political and security concerns during the first Congo War (1996-1997), during the second Congo War (1998-2003) several conflict actors seemed to be much more economically motivated; concerned about access to and control over natural resources.

Since the end of the Congo Wars in 2003, insecurity and armed violence have persisted in eastern DRC. The past fifteen years have been characterized by the proliferation of self-defense groups, including Mai Mai groups, Nyatura and Raïa Mutomboki. It resulted in a situation where an estimated 120-armed groups operate in eastern DRC. Most armed groups were created for ideological or security reasons, often in support of specific ethnic communities. Exploitation of natural resources is not a direct reason for conflict, but the abundance of mines (especially gold) provides economic opportunities to armed groups to finance their survival.

Several other factors also play a key role in the survival of these armed groups, including the national army’s (FARDC) underperformance, failed Disarmament, Demobilization and Reintegration (DDR) processes, social dissatisfaction, a lack of political will and rent-seeking behavior by conflict parties. Additionally, armed groups have also developed alternative income strategies including roadblock taxation, kidnapping for ransom, and illegal logging.

The ‘conflict minerals’ problem in eastern DRC has also been characterized by the interference of army units (FARDC) in the mining sector. Most of the cases of illegal taxation in eastern DRC’s mining sector concern state security actors.¹⁸

18 IPIS, Armed conflict, insecurity, and mining in eastern DRC: Literature review report, commissioned by USAID, to be published in December 2022

IPIS assesses the level of security at mining sites against different criteria, including visits by armed groups, the behavior of state security forces, violence, and conflicts.¹⁹

Economic, social and political tensions often appear within the ASM sector. Consequently, IPIS teams reported **conflicts** over the last six months at 103 sites (29%). Conflicts often involve tensions over the geographic limits between different exploitations, theft of minerals, disputes between landowners and miners working on their land, and discussion over revenue distribution between different stakeholders. At 51 sites (14%) IPIS teams had reported **violence** over the past six months.

The main security problem monitored by IPIS in eastern DRC, is the **interference of armed actors** in mining. 'Armed interference' is the term used to describe all cases where a non-state armed group, an army unit or an armed criminal network make profits from mineral exploitation or trade, through their physical presence in mining zones, or through more indirect interferences. It includes activities such as (illegal) taxation of ASM stakeholders, (illegal) taxation of commercial goods at mining sites, establishment of trade monopolies at mining sites, pillaging of mining sites, and (illegal) pit ownership. 'Conflict financing' has been an issue for ASM since the late 1990s,²⁰ and still is today.

IPIS once again observed the interference of armed actors at **41% of mining sites** visited (146 of 354 mining sites). Interference seems to increase with production figures, which are estimated by the number of miners. In the dataset, **65% of the miners** are working in mines that are affected by the interference of armed actors (36,276 of a total of 55,604 miners).²¹ These tendencies are largely confirmed based on the mining sites visited by IPIS over the past three years (since April 2019): 321 mines, out of 785 mines (i.e. 41%) are affected by armed interference, which represents 54 thousand workers out of a total of 94 thousand workers (57%).

The boxplots of the security indicator of IPIS' 'Responsible Mining Scorecard' illustrate that **gold mines** struggle considerably more with insecurity than other mines (Figure 3). For gold mines, the average security score is -2.1 (standard deviation: 4.8), which is considerably lower than 3T mines (average: 1.3, standard deviation: 2.6). 3T mines include tin ore (cassiterite), tantalum ore (coltan), and tungsten (wolframite). Gold is traditionally much more prone to smuggling and conflict financing, due to the high value/volume grade, barter trade and existing trade networks (See section 3.1.1 'Type of Mineral').

19 IPIS (August 2022), op. cit.

20 IPIS discusses the history of 'mining' and 'conflict financing' and how it has evolved over the past 15 years in other reports: IPIS (December 2022), op. cit.

21 These proportions are of course heavily influenced by the selection of mining areas that have been visited. IPIS teams visited for example many mining sites in Lubero territory (North Kivu), which is heavily affected by armed groups, but did not yet visit the traditionally quieter, but important cassiterite mining zone in Kalima (Maniema). On the other hand, many mining sites with armed group presence could not be visited due to insecurity, such as the NDC-R controlled gold mines north of Mpori (North Kivu), gold-rich Djugu territory (Ituri) which increasingly suffers from CODECO rebels, or Maniema's Maiko National Park, controlled by General Mando's Simba rebels.

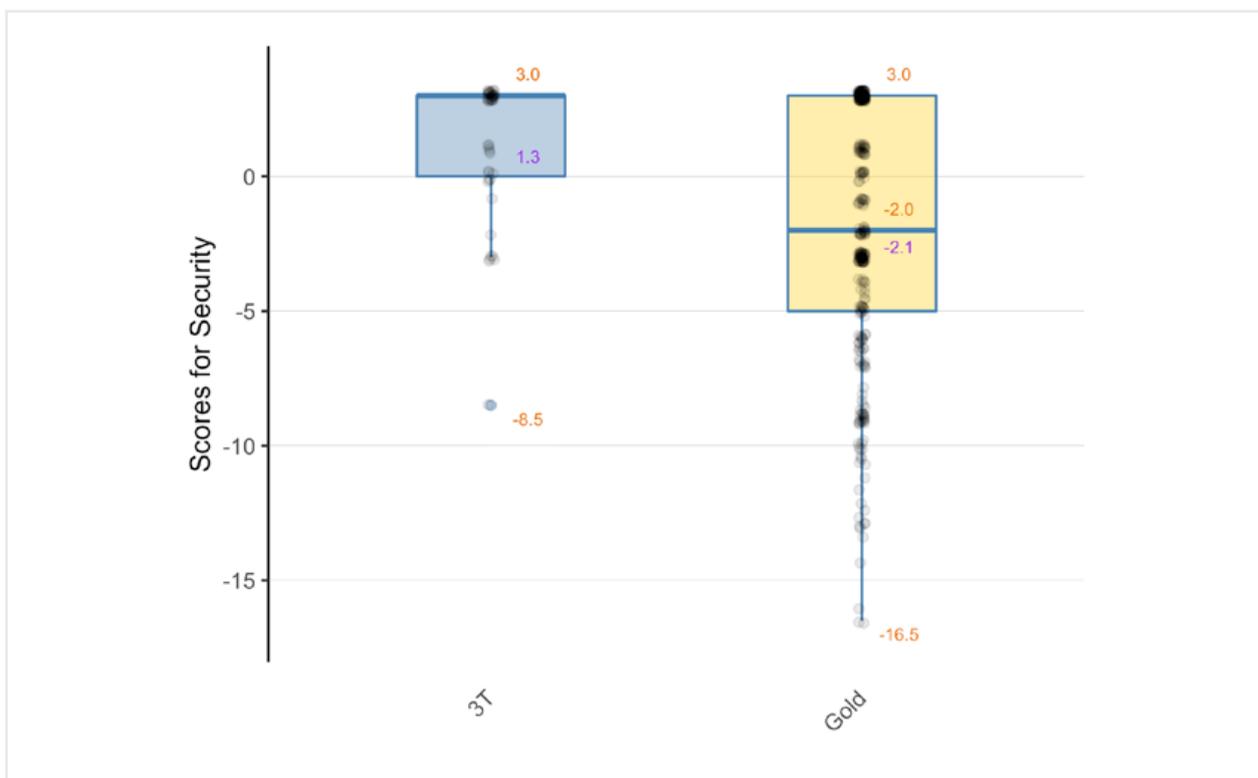


Figure 3: Boxplots of the scores for the RMS indicator 'Security', 3T vs Gold, with indications on minimum, maximum and median values (text in brown), and average (purple)

Table 4 gives a general overview of the different armed actors that IPIS teams observed at the mining sites. The national army (**FARDC**) is present at 36% of the mines, and the **Police** (PNC) at 15%, while both of these actors' presence is illegal. Order at a mining site should be maintained by the specifically established Mining Police (PMH, Police des Mines et Hydrocarbures). Seventy-three percent of the mining sites visited by FARDC reported a form of interference by the soldiers (92 of 126 mining sites). For PNC, this was only the case at 40% of the mines where they are present (22 of 55).

Besides state security actors, IPIS teams also observed the interference by **Mai Mai groups**, **NDC-R**, and **Nyatura**. Below we will discuss these groups more in detail. A general overview of the armed groups is also provided in a text box under section 3.2.1.

Table 4: Presence of armed actors at mining sites

Armed actor	Number of mines		Number of miners	
FARDC (National army)	126	36%	22,931	41%
PNC (Police)	54	15%	11,311	20%
Mai Mai groups	70	20%	19,353	35%
NDC-R	17	5%	12,571	23%
Other	4	1%	355	1%

FARDC is the main armed actor present in the mines, and it is striking to observe that FARDC units interfere in the mining sector in nearly all territories (Figure 4).²² FARDC units can regularly be observed in the mines in areas where they are deployed to provide security against armed group activities. In those cases, they often use illegal taxation to generate some revenue, called “effort de guerre” (‘war effort’). However, FARDC is also present in relatively calm areas, such as Kasongo territory in Maniema. There are only a few reports of extortion of miners by FARDC units in Kasongo, but army commanders have developed interests in the mining business, which is illegal. Some FARDC elements own mining pits or crushing machines, and they organize fraud, for example, by facilitating tax exemptions.

3.2.1. Armed interference in mining, geographic overview

This section presents the main geographic hotspots of insecurity and armed interference for the 354 mines visited in eastern DRC. The LISA map clearly shows some hotspots of low security levels (i.e. coldspots of ‘Security’ in Figure 5), notably ‘low-low’ – for mining sites with low scores for security that are clustered with other ‘insecure’ mines – and ‘low-high’ – for mining sites with low scores that are surrounded by more ‘secure’ mining sites.

Figure 5 does not constitute a comprehensive overview of ‘conflict financing’ and armed interference in mining in eastern DRC. Mai Mai Yakutumba (Fizi territory, South Kivu), and the militias *Coopérative pour le Développement Economique du Congo* (CODECO) and Zaïre (Djugu territory, Ituri Province) are the most notorious actors missing from this analysis. Mai Mai Yakutumba, and its interests in the gold mining sector, are covered by another IPIS study from 2021²³. Furthermore, IPIS avoided Djugu territory over the past few months due to insecurity. CODECO and Zaïre are however discussed in a recent literature review by IPIS²⁴, and will be covered by a case study developed in late 2022. Finally, eastern DRC hosts more than a hundred - mostly small - rebel groups.²⁵ Even though many of them provide interesting examples of the dynamics around conflict financing, like for example Charles Quint in Shabunda territory (a Raïa Mutomboki group), they cannot all be covered within the limited timeframe of this study.

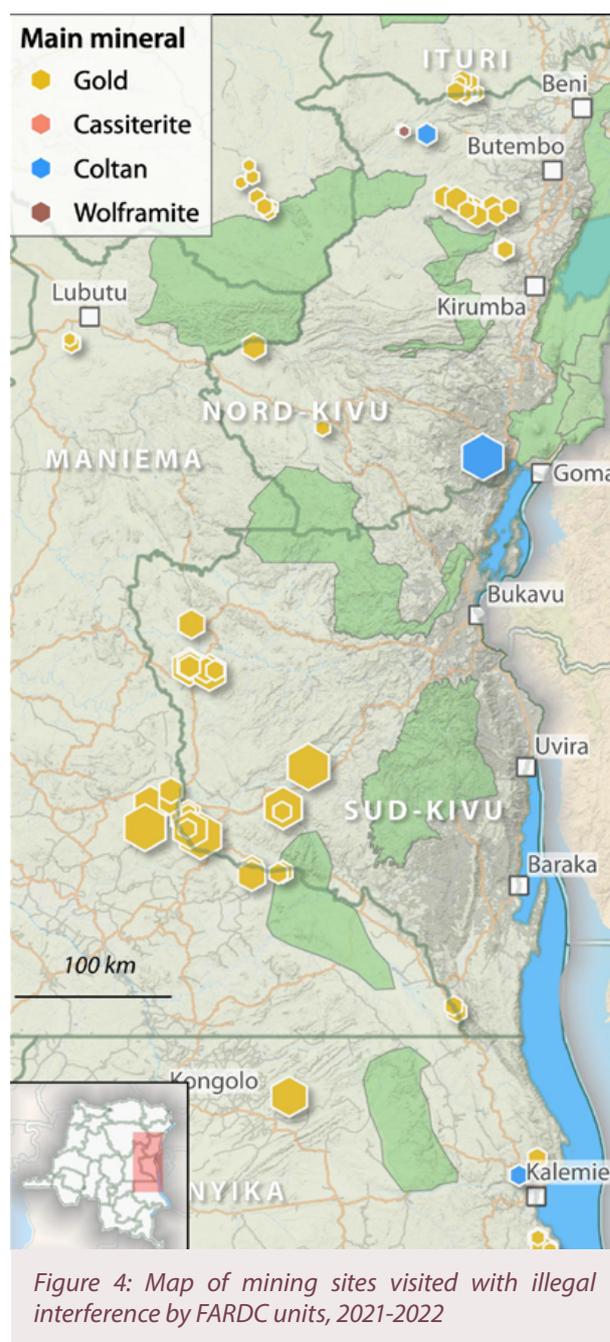


Figure 4: Map of mining sites visited with illegal interference by FARDC units, 2021-2022

22 Select “FARDC - Éléments indiscipline” in the menu on the right at the interactive webmap: <https://ipisresearch.be/mapping/webmapping/drcongo/v6>

23 IPIS, *Conflict analysis and stakeholder mapping in South Kivu and Ituri*, commissioned by Madini project, April 2021.

24 IPIS (December 2022), op. cit.

25 Kivu Security Tracker, *The Landscape of Armed Groups in Eastern Congo: Missed opportunities, protracted insecurity and self-fulfilling prophecies*, February 2021

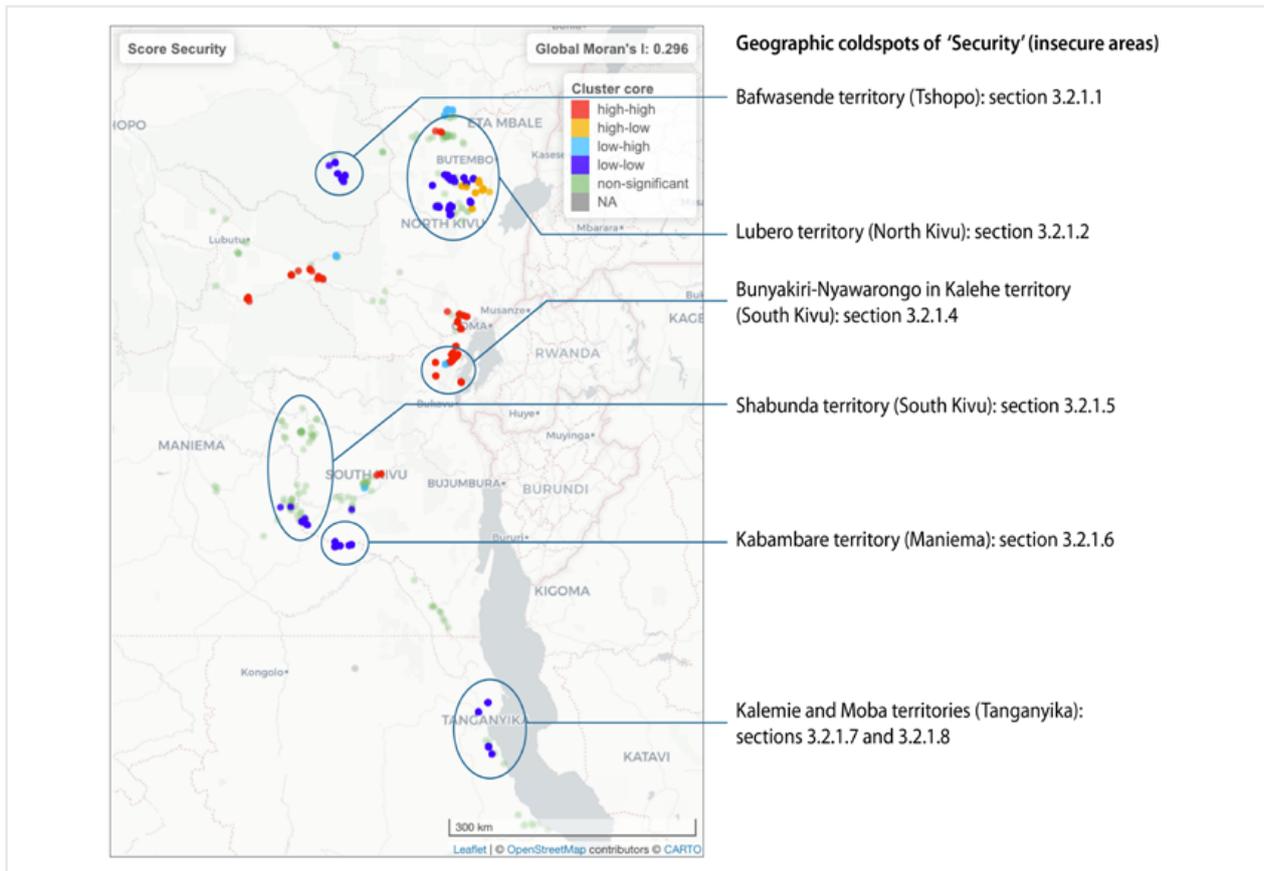


Figure 5: LISA map showing the coldspots of 'Security'

Brief overview of armed groups in mining

The below sections will discuss more than 15 armed groups all over eastern DRC. We have listed all of them, as well as a few additional important groups, in this textbox. The Kivu Security Tracker (KST) website also offers a good overview of armed groups in eastern DRC.²⁶

- 'Mai Mai Simba' is a label used by several armed groups, which dates back to 1964, when the Lubumbist Pierre Mulele launched a rebellion movement against the Congolese state. The movement however soon became stranded in the forests of the border area between Maniema, North Kivu, Ituri and Tshopo. In our report, we refer to three groups that use the Simba label:
- Mai Mai Luc, or Union des Patriotes, pour la Libération et le Développement (UPLD), commanded by Luc Yabili (See '3.2.1.1 Bafwasende territory');
- The Simba rebels of commanders Mangaribi and Manu (ex-Morgan) operate mostly in Mambasa territory (Ituri), up to the border area with Lubero territory (North Kivu) (See '3.2.1.2');
- General Mando Mazeri's Simba rebels (the so-called Forces Divines Simba) have sheltered in the Maiko National Park, in Lubutu territory (north Maniema) for decades, and have also been observed at times to cross into neighboring Walikale territory (North Kivu) (See '3.2.1.3')

The Lubero and Walikale territories host several self-defense armed groups that are collectively called 'Mai Mai Mazembe'. The movement emerged around 2015 to defend Nande and Kobo communities against FDLR, but later also other groups such as ADF in Beni territory.

²⁶ <https://kivusecurity.org/about/armedGroups>

It has also been accused of violence against Hutu civilians in general.²⁷ In this report we refer to two Mazembe factions (in section 3.2.1.2 'Lubero territory'):

- Mai Mai Juvenal in the north of Batangi; and
- The Front Patriotique pour la Paix–Armée du Peuple (FPP/AP) is the strongest group in South Lubero for the moment. It has somewhere between 200 and 300 combatants, and is commanded by Kasereka Kasyano Kabidon. FPP/AP regularly clashes, including over access to gold mines, with Guidon's Nduma Défense du Congo – Rénové (NDC-R).²⁸

The Nduma Défense du Congo – Rénové (NDC-R) is the biggest remnant of the division in the original NDC movement of Sheka Ntabo Ntaberi that emerged from the Nyanga community in Walikale territory. In the meantime, the NDC-R has also split into two factions, one belonging to commander Bwira, and the other to Guidon. Some of the interference of NDC-R Guidon will be discussed in section 3.2.1.3 on Walikale.

Several Nyatura groups traditionally operate in Masisi and Rutshuru territories, in the south of North Kivu. They claim to protect the Congolese (Rwandophone) Hutu population against threats from Mai Mai or the army. In previous reports, IPIS discussed the challenges Nyatura's presence and interference poses to the validated mines around Rubaya.²⁹ Since 2018, they have however also operated in Kalehe territory, in the north of South Kivu, in the wake of the arrival of Rwandophone refugees. Clashes have been reported with Raia Mutomboki armed groups.

A plethora of Raia Mutomboki groups operate in several territories of South Kivu, mainly in Shabunda, but also in Walungu and even Kalehe territories. They were created as self-defense groups against FDLR around 2005. Over the years, they have developed different sources of revenue, and IPIS has regularly reported on its interference in the mining sector.³⁰

Armed mobilization in the border area between South Kivu (Shabunda and Fizi territories), Maniema (Kabambare territory) and Tanganyika (Nyunzu and Kalemie territories) is mainly centered around the Coalition Nationale du Peuple pour la Souveraineté du Congo (CNPSC). The coalition is led by William Amuri Yakutumba, and gathers a dozen of local Mai Mai groups. The main group, Mai Mai Yakutumba, is not discussed in this report as its area of operation, notably Fizi territory, is covered by another IPIS study from 2021.³¹ Mai Mai Yakutumba is currently one of the most notorious examples of conflict financing from natural resources. The UN Group of Experts has reported over many years about its income from illegal logging, the trade of redwood, fishing taxes and gold mining.

Two other member organizations of CNPSC, notably Mai Mai Malaika and Mai Mai Apa Na Pale, are covered by this report. Mai Mai Malaika has been pushed out of Shabunda territory, and currently operates in Kabambare (Maniema Province). The group has been founded by the deceased She (or Sheikh) Assani, and is known for its armed struggle against the industrial miner Banro's activities in Namoya and Salamabila.

The Mai Mai Apa Na Pale is based in Kalemie territory, but also operates in the neighboring territories of Kabambare, Nyunzu and Fizi. The group, commanded by Mundus, has been established to protect the Batwa community against the Bantu.

The Mai Mai Eléments, on the contrary, is a local self-defense militia protecting the Bantu communities against Twa armed group mobilization. This report will discuss some of the activities of the faction led by Bitonto, which operates between Kalemie and Moba along the shores of Lake Tanganyika.

27 <https://kivusecurity.org/about/armedGroups>

28 UN Group of Experts, Final report of the UN Group of Experts on the DRC, 10 June 2021, S/2021/560, Annex 30; Congo Research Group, For the Army, With the Army, Like the Army?: The rise of Guidon, May 2020

29 IPIS (April 2019), op. cit., p.30.

30 IPIS (April 2019), op. cit., p. 16; IPIS (December 2022), op. cit.

31 IPIS, *Conflict analysis and stakeholder mapping in South Kivu and Ituri*, commissioned by Madini project, April 2021

3.2.1.1. Bafwasende territory (Tshopo province)

A hotspot of ‘insecurity’ is observed in the south of **Bafwasende territory** (Tshopo Province) (Figure 5). The security situation is relatively calm for the moment, but militarization increases further south. In the *secteur* Bakundumu, the police are present to take care of security, and further south, in Barumbi d’opi-enge there is relatively little insecurity. In the most southern *secteur* (Bakumu d’Angumu), however, the FARDC is the sole state authority present, because in 2020 they were still engaged in serious fighting with the Mai Mai Luc – named after its leader Luc Yabili, also known as *Union des Patriotes, pour la Libération et le Développement* (UPLD).

For the moment, there is no fighting between FARDC and Mai Mai Luc. The two parties respect the river Loya as the limit between their respective zones of influence.

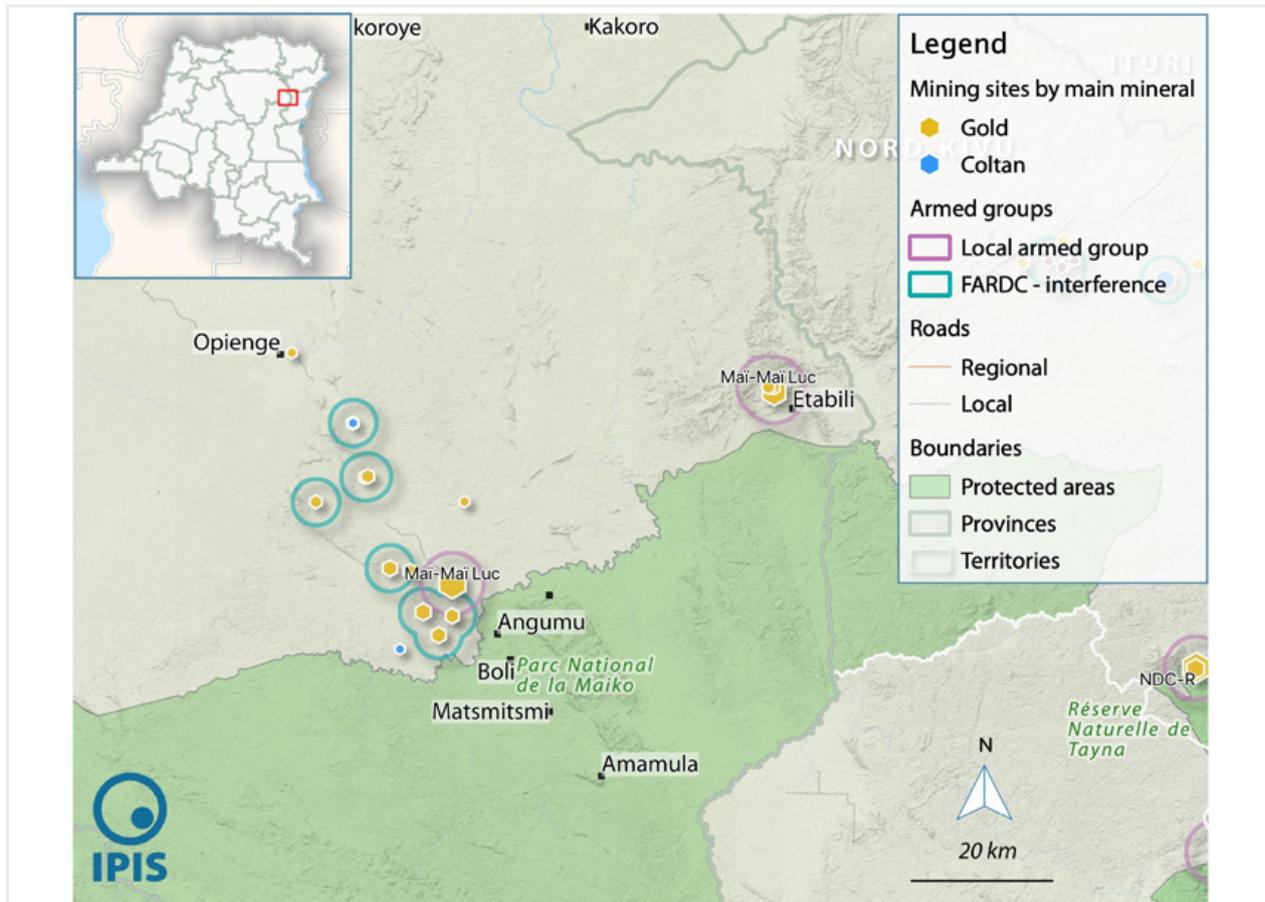


Figure 6: Map of mines controlled by FARDC and Mai Mai Luc in secteur Bakumu d’Angumu, Bafwasende territory

Mai Mai Luc controls the area to the east of the Loya river (Figure 6). All travelers crossing the river, and entering or leaving their zone of control, must pay 10,000 Congolese Francs (FC, *Franc congolais*) (US\$5), or the value of 1 tige³² of gold at a checkpoint held by the Mai Mai. Additionally, all people living in this area must pay a monthly tax (*jeton*) corresponding again to one tige of gold, or 10,000 Congolese Francs. Furthermore, the group levies taxes on the artisanal mining sites, and has installed a monopoly on several products such as cigarettes, bushmeat, and cannabis.

While Mai Mai Luc enjoys some popular support in the *groupement* Loya, in other areas people are happy with the presence of the **FARDC**, as it provides protection against insecurity around the Mai Mai group’s operations. Nevertheless, local communities also hold negative perceptions against the FARDC units’ illegal economic practices in the area. As no other state services, such as police, are present in Bakumu d’Angumu, the FARDC continues illegal practices without any sanctions.

32 Alternative units of weights, to the metric gram, are used in DRC’s gold sector. 1 ‘Kitchele’ is around 1.2 grams, and 1 ‘tige’ is around 0.1 grams. 1 Kitchele equals 12 tiges.

FARDC levies illegal taxes at the mining sites, poaches and sells bushmeat, and taxes passers-by at some roadblocks. On the Loya riverbank, they charge 10,000 FC for all those crossing the river and entering Mai Mai Luc's area. Roadblock taxes, as well as FARDC's interference in the trade of cigarettes and alcohol, have created tensions with the local chief of Bakumu d'Angumu and some mine managers, as these practices affect their economic interests.

3.2.1.2. Lubero territory (North Kivu province)

The overall security situation in the **north of Lubero** – *secteur* Bapere and *chefferie* Baswagha – was **relatively calm** at the time of the mine visits in late 2021. Nevertheless, several issues have been reported with regards to armed actors. A lot of mining sites around the trading hubs of Bandulu-Etaïto and Bilulu-Kambau suffered from illegal taxation by the **FARDC** (Map in Figure 7, mining sites with green circles in the north-east and north of Lubero). Mining cooperatives must pay a monthly tax ranging from 50,000 to 150,000 FC per month. Furthermore, around these same axis, IPIS teams reported that soldiers were heavily involved in trade of cannabis, alcohol, food, and meat. They often exchange these goods for gold, which they sell afterwards to local mineral traders.

Figure 7 also shows a cluster of mines at the border between Lubero and Mambasa territories. Located around the trading hubs of Bilulu and Kambau, these gold mines suffer regularly from pillaging by the **Simba rebels** of commanders Mangaribi and Manu (ex-Morgan).

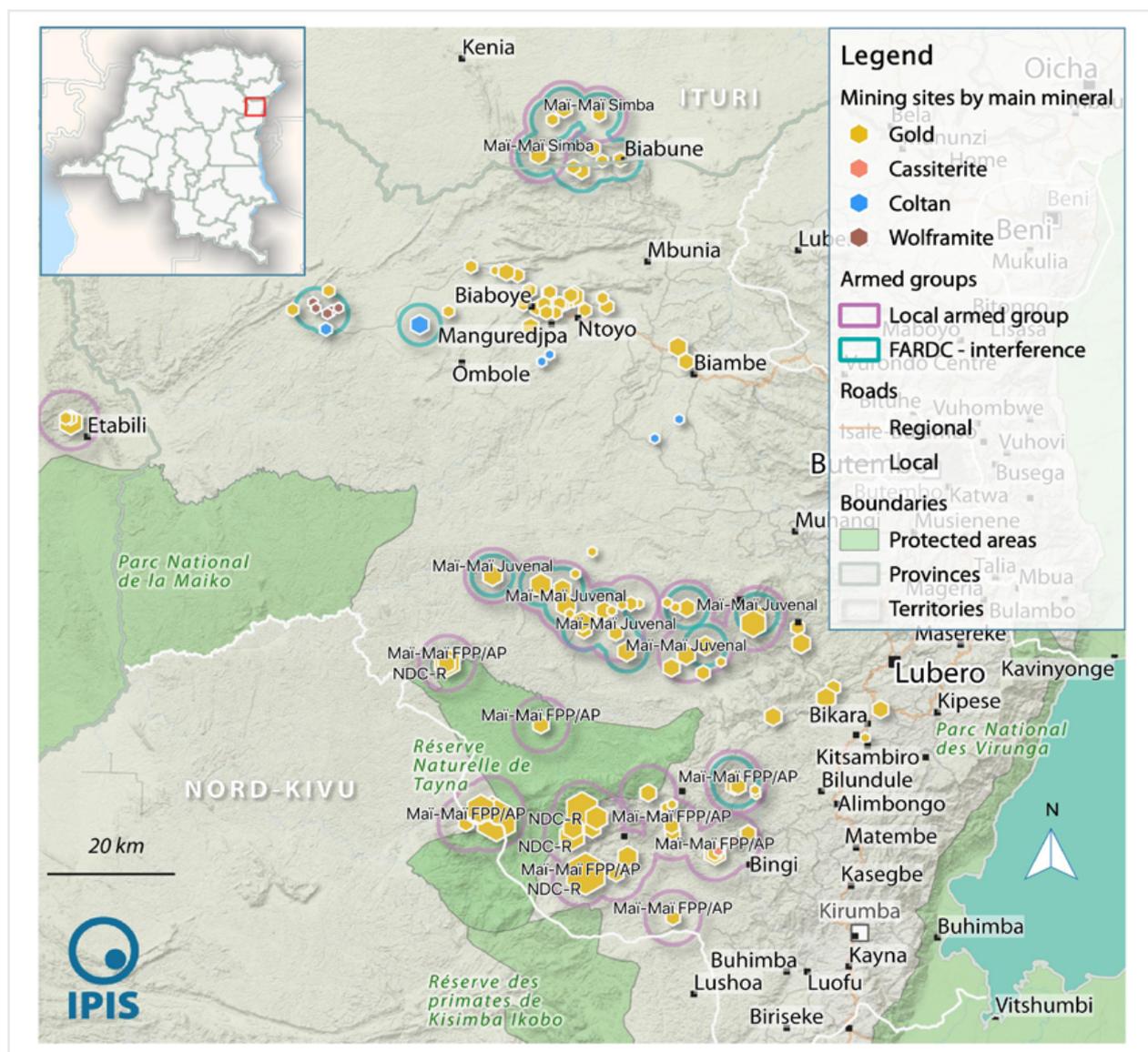


Figure 7: Map of mining sites visited in Lubero territory in 2021-2022

Further **south in Lubero – in the chiefdoms of Bamate and Batangi** – the LISA map (Figure 5) shows an important cluster of highly insecure mines. Armed groups fighting, bad behavior by state security forces, and a customary conflict created a **volatile security situation**. Although IPIS collected information on 58 mines in the area, IPIS could not visit 31 of these 58 mines due to insecurity. The area has a long history of rebel activity and ‘conflict minerals.’ The *Forces Démocratiques de Libération du Rwanda* (FDLR), Lafontaine’s *Union des Patriotes Congolais pour la Paix* (UPCP), and *Nduma Défense du Congo – Rénové* (NDC-R) have all controlled the area over the last decade, and competition over access to resources continues to the present.

The mines in the north of Batangi (center of Lubero territory) are disturbed by both the **FARDC** and **Mai Mai Juvenal** (center of the map, Figure 7). IPIS registered around 12 mines with FARDC interference in the area, and 14 mines subjected to the presence of Juvenal. The gold mine Lusasiko, for example, has 77 active pits and employs 328 miners. The Mai Mai Juvenal charge US\$10 per month and per pit, which results in US\$770 for the whole mine per month. FARDC and Mining Police extortions in the area (for example at the sites Sumbo, Maanzale, Vuhate, and Mambasi) reportedly create a lot of anger among the local population.

Even though some confrontations have been reported between Mai Mai Juvenal and the FARDC (e.g., at the gold mine Gomora), in most cases both actors tax gold exploitation completely undisturbed. At 10 mines, both groups even levy taxes at the very same mine. At the gold mine Sumbo, for example, the FARDC charges 12,000 FC per pit per month (US\$6), 2,000 FC per month from each vendor selling alcohol, and US\$5 per farmer per month. The Mai Mai Juvenal demand 20,000 FC (US\$10) per pit and 30,000 FC (US\$15) per farmer.

Additionally, the **FARDC** is present in a few mines south of Kasugho, such as Kitsanga, Vitsange and Matalyo. Although it is the start of the area under control of Front Patriotique pour la Paix–Armée du Peuple (FPP/AP) (see below), FARDC still manages to levy illegal taxes at these sites.

The **FPP/AP** is currently one of the strongest groups in South Lubero and it operates around the axes Kanyatsi-Mbwavinwa-Pitakongo-Bunyatenge. Its leader Kasereka Kasyano Kabidon (or Kabido) used to be a commander in Lafontaine’s UPCP. He established FPP/AP in 2018 after he split from the Mai Mai Mazembe-UPDI, as he disagreed on the alliance with NDC-R. The UN Group of Experts estimates its strength at 200 to 300 combatants.³³

FPP/AP controls many gold mines in the area as IPIS already counted around 30 sites. (Figure 7, bottom of the map). At most of these mines, their level of control is strong, and state services are not allowed to enter. FPP/AP uses several types of taxes, as well as other activities, to generate income. At most mines, IPIS observed a monthly lump-sum tax ranging from 70,000 FC (US\$35) per month for smaller mines, to more than 4 million FC (US\$2,000) for the large ones. Additionally, at 16 mining sites they established a monopoly on the trade of alcohol and cannabis, and at Vunzengere (employing 3,500 miners) they levy a 10% tax on the value of all merchandise entering the site. Finally, all people living in the area must pay a levy of 1,000 FC each month, for which they receive a ‘Jeton’ as proof of payment (Figure 8).

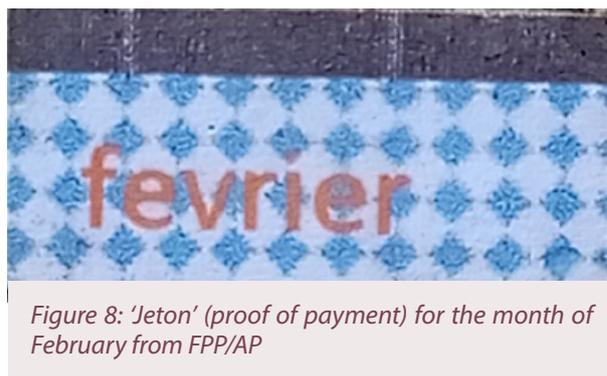


Figure 8: ‘Jeton’ (proof of payment) for the month of February from FPP/AP

33 More background information on FPP/AP in: UN Group of Experts, Final report of the UN Group of Experts on the DRC, 10 June 2021, S/2021/560, Annex 30; Congo Research Group, *For the Army, With the Army, Like the Army?: The rise of Guidon*, May 2020; Kivu Security Tracker, <https://kivusecurity.org/about/armedGroups>, consulted on 21 June 2022.

FPP/AP has been in direct **conflict** with NDC-R over the past few years. The conflict between FPP/AP and **Guidon's NDC-R** is one of the main causes of insecurity in South Lubero. Regular clashes resulted in renewed population displacements earlier this year.³⁴ In 2016, NDC-R – originating from Walikale territory – migrated northwards into South Lubero, chasing away Lafontaine's UPCP from the gold mines around Buyatenge and Pitakongo that the latter had controlled for over a decade. NDC-R eagerly took over the gold mines and extortion rackets from UPCP and its FDLR allies.³⁵

More recently, however, FPP/AP pushed back NDC-R into Walikale, and regained control over the area's gold mines. NDC-R now regularly attacks FPP/AP's positions, notably in the localities Munguto, Elimu and Banyangungu (*groupement* Luenge Biroi in Bamate chiefdom), and plunders gold mines. (The references to NDC-R on the map in Figure 7 refer to plundering and not to direct control).

Some clashes between NDC-R and FPP/AP have occurred near other gold mines such as Vumilia/Ilubo, La vie, and Magoagoa/Mikyota. In February 2022, only a few days prior to IPIS' visit to Musigha mining site, NDC-R rebels had plundered the miners' camp.

The latter area – *groupement* Luenge Biroi – is also the scene of a customary conflict. One of the parties looked for support from the NDC-R rebels to facilitate annexation to Walikale's *groupement* Kisimba.

3.2.1.3. Walikale territory (North Kivu)

Further south of Lubero, IPIS planned to visit mining sites to the **north of the axes Mpofi-Ruvungi-Kibua** in Walikale territory, North Kivu. These mines were however inaccessible in February 2022, due to intensive fighting between the NDC-R factions of Guidon and Bwira.

NDC-R of Guidon control most sites in the area, including Kinchimba, Muungu, Bukacha, Nkingwe, Mafokoki, Charingwangwa, Beteli, Irameso, Titi and Munjuli. All of these sites have been visited by IPIS in previous years (2013-2018) (Figure 9), and can be found on the IPIS interactive webmap. Additionally, all civilians in the area must pay a monthly '*jeton*' at 2,000 FC, and an additional 1,000 FC per week for the ration *militaire* for the NDC-R fighters.



Vumilia mining site, Lubero, North Kivu

34 Radio Okapi, Nouvelles vagues des déplacés enregistrées au sud de Lubero, 18 January 2022

35 Congo Research Group (May 2020), op. cit., p. 22.

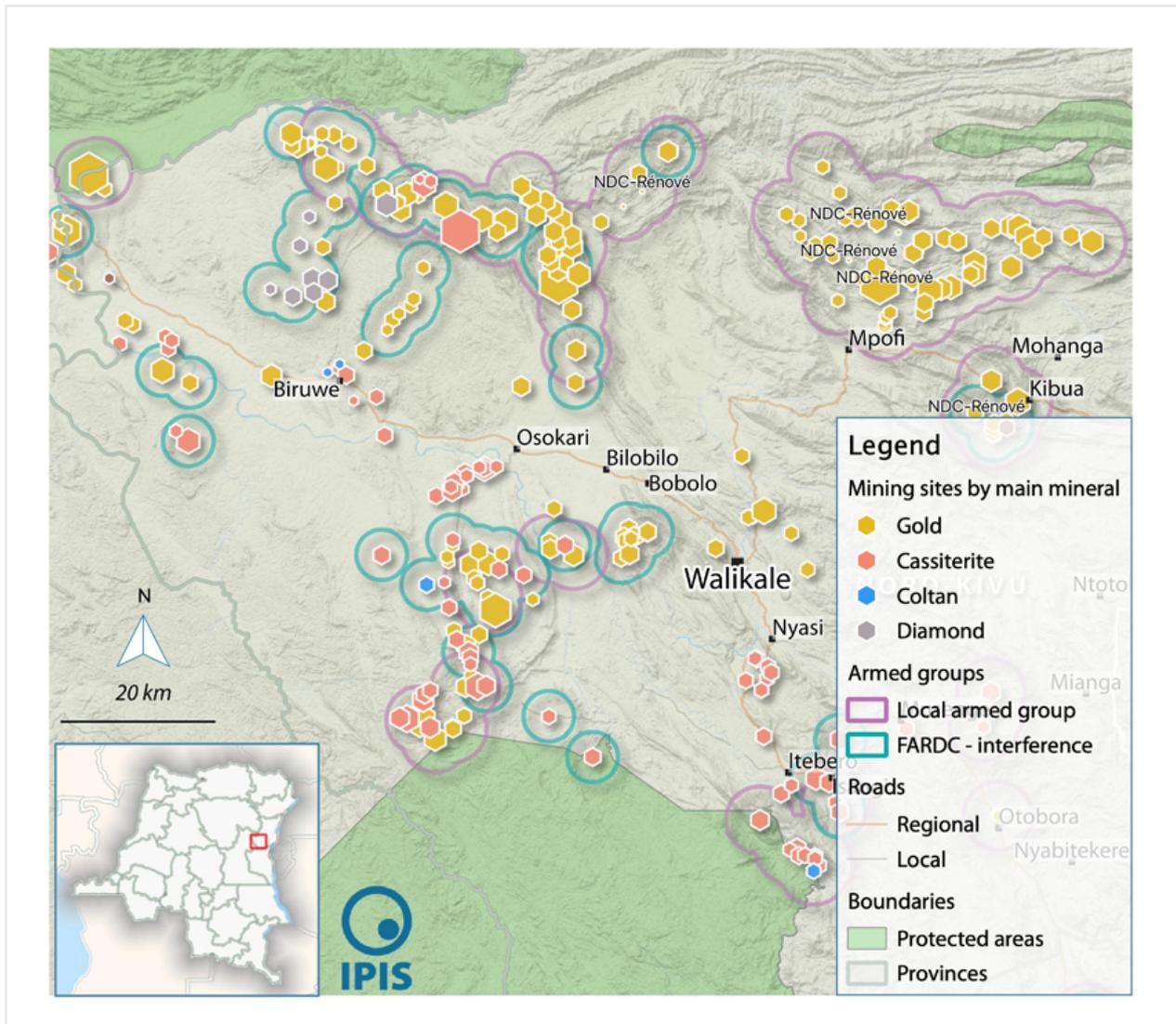


Figure 9: Map of NDC-R controlled area in the north-east of Walikale territory, North Kivu (IPIS data from 2013-2018)

Whereas the surrounding mines are still in the hands of Guidon’s NDC-R, the mine of Matungu has been under FARDC control since October 2020, after it was captured in collaboration with the NDC-R Bwira faction.³⁶ The army also controls two roadblocks along the path leading from Ruvungi/Kembe – on the main road – to Matungu, to secure it against NDC-R. At the first roadblock, near Kembe, FARDC charges 1,000 FC to escort people to the second roadblock, named ‘Hewa Bora’. There again people pay another 1,000 FC for an escort up to Matungu.

Besides the escort, FARDC also charges a tax on the transport of goods that are destined for Matungu. For example, people must pay 5,000 FC (US\$2.5) for a goat, a box of alcoholic drinks or palm oil.

Further west, along the National Road 3, between **Walikale-Biruwe-Makana** the situation is much more secure. When IPIS visited them in 2017, the mining sites to the north of NR3, around the Osso River – including Sous-sol, Merci Bakoko, Temps Présent and Matongué – were still under control of General Mando’s Simba rebels (from Lubutu, Maniema). Since 2019-2020, however, the rebels have left, and the area is under control of the **FARDC** from the military base of Biruwe. FARDC interference at these mines is rather limited to some small demands. At the path between Makana and the mines, the FARDC – in collaboration with intelligence agency ANR (*Agence Nationale de Renseignements*) – demands 500 FC for all people passing by, as well as a 5,000 FC tax on all 25 kg mineral bags.

36 UN Group of Experts (2021), op. cit., §54-56; Radio Okapi, L’armée dément son implication dans l’exploitation des minerais à Matungu, 18 December 2020.

Following the Oso River further west, at the border with Maniema Province, the Simba rebels are present. Up to Oso town/bridge, Mando's Simba controls seven checkpoints along the river at the following places: Arsenal, Mbudju, Bangui, Nonante, Banyarukula, Cinquantenaire, and Ciquante-cinq. A canoe traveling the river must pay 80,000 FC to the Simba rebels for one trip, and on top of that each passenger must pay another 1,000 FC at each of the seven Simba-held checkpoints. The rebels also charge taxes on dredges operating on the Oso River. An authorization to send a dredge up the river allegedly costs one million Congolese Francs (FC), or US\$500. Additionally, each dredge owner is obliged to pay 500,000 FC (US\$250) per month to contribute to the 'war effort'.



Ifarifari gold mining site, Walikale, North Kivu



Mambuluku gold mining site, Walikale, North Kivu

Furthermore, Mando allegedly still has people buying gold for him at the mining sites close to the part of the river under his control.

Simba's main area of operation is however in neighboring Lubutu territory, in Maniema. They control the part north of the national road number 3, between Lubutu and the border with Walikale, including the Maiko National Park.

3.2.1.4. Bunyakiri (Kalehe territory, South Kivu)

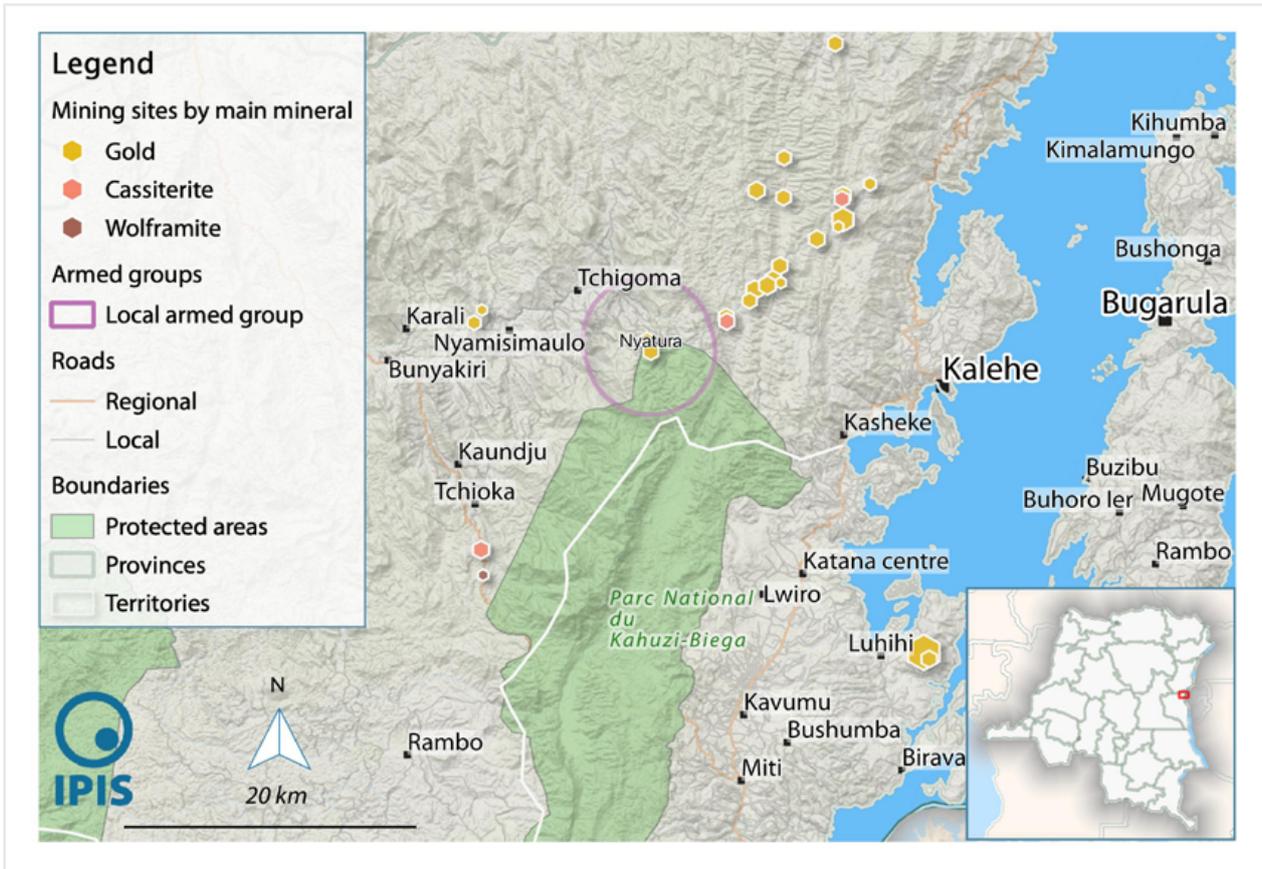


Figure 10: Map of mining sites visited in Kalehe territory in 2021-2022

A string of gold mines was visited north-east of Bunyakiri, in Kalehe territory, just north of the highland part of Kahuzi Biega National Park (Figure 10). This area has suffered from increasing **intercommunity tensions** over the past few years, including a peak of violence in 2021.

In April 2021, in the Buhavu Chieftdom (Kalehe territory), fighting occurred between Raia Mutomboki on the one hand, and Nyatura- 'National Council for Renewal and Democracy' (CNRD) on the other. The tensions have increased since 2018, when Kinyarwanda-speaking refugees arrived in the area. The fault line between the Hutu, considered as non-autochthonous, and local communities covers tensions over land and local political issues, as well as access to resources.³⁷

At the time of the research, in January-February 2022, the security situation was relatively calm at the level of most mining sites. Nevertheless, tensions, and armed actors, are still present. **Nyatura** rebels shelter in Kahuzi Biega, and are involved in mining inside the park. The IPIS team reported their presence at the Mubwahi mine, where they allegedly monopolize gold exploitation.

The intercommunity tensions are also reflected in the divide between the **mining cooperatives** COMI-CHA and COMINYA. Both cooperatives are quite **monoethnic**. COMINYA, reportedly the oldest one, protects the interests of the Havu community. However, more and more Rwanda-speaking refugees arrived in the area and started mining around Nyawarongo. To protect their interests, they have established the cooperative COMICHA, which created tensions with COMINYA.

37 Muzailia G. et al., *Ni paix, ni guerre ? La persistance des conflits et de l'insécurité dans le territoire de Kalehe au Sud-Kivu*, série insecure livelihoods, March 2022, pp. 41-42.

3.2.1.5. Shabunda territory (South Kivu)

Within the framework of the current project, IPIS visited 56 mining sites in Shabunda territory, along the axis Matili-Moba-Mungembe (Bakisi Chiefdom) and Penekusu-Lusenge-Kitindi (Wakabango Chiefdom). Within the framework of the project '*Madini kwa Amani na Maendeleo*,' IPIS visited a few other axes in the territory, including the *groupements* Bamuguba-Nord and Bamuguba-Sud, for which the analysis can be consulted in another report from 2021.³⁸

The security situation was relatively calm around the mining sites visited in the territory, especially compared with previous years, when the presence of Raia Mutomboki groups was higher. Nevertheless, several security issues persist, including some local conflicts and tensions, as well as bad behavior of state (security) actors.

Access to resources contributed to **social tensions** between Barega and Bashi – the latter mostly controlling gold trade in the area. Several Bashi traders have for example been victims of robbery and violence. In September 2021, two Bashi traders were killed near Mungembe. Some local community members claimed that the victims were cursed as they had not respected the local ritual practices (Kimbirigiti). It is however unclear to what extent the incident was linked to the failure to respect these rites, or rather a blunt robbery, as the traders were reportedly carrying gold that they had just acquired in Mulolo mining site.

State security services are still deeply invested in the mining sector in Shabunda. **FARDC** and/or **police** (PNC, *Police Nationale Congolaise*) were interfering in 48% of the mines visited in Shabunda (27 of 56 mines). Unsurprisingly, the most productive mines are attracting the most armed actors. The mines affected by armed interference employ an estimated 7,025 miners, which represents 82% of estimated workforce at the 56 visited mines.

Interviewees complained of the behavior of police and FARDC units – both from Maniema (stationed in Bikenge) and South Kivu. These state agents collect money at gold mines and possess some mining pits themselves. Furthermore, miners have complained that police and FARDC have been used by mining services to intimidate people to force them to pay their taxes. These intimidations include arrests and exorbitant illegal fines.



Katuzo mining site, Shabunda, South Kivu

38 De Brier G., *Conflict analysis and stakeholder mapping in South Kivu and Ituri*, IPIS, Madini, April 2021.

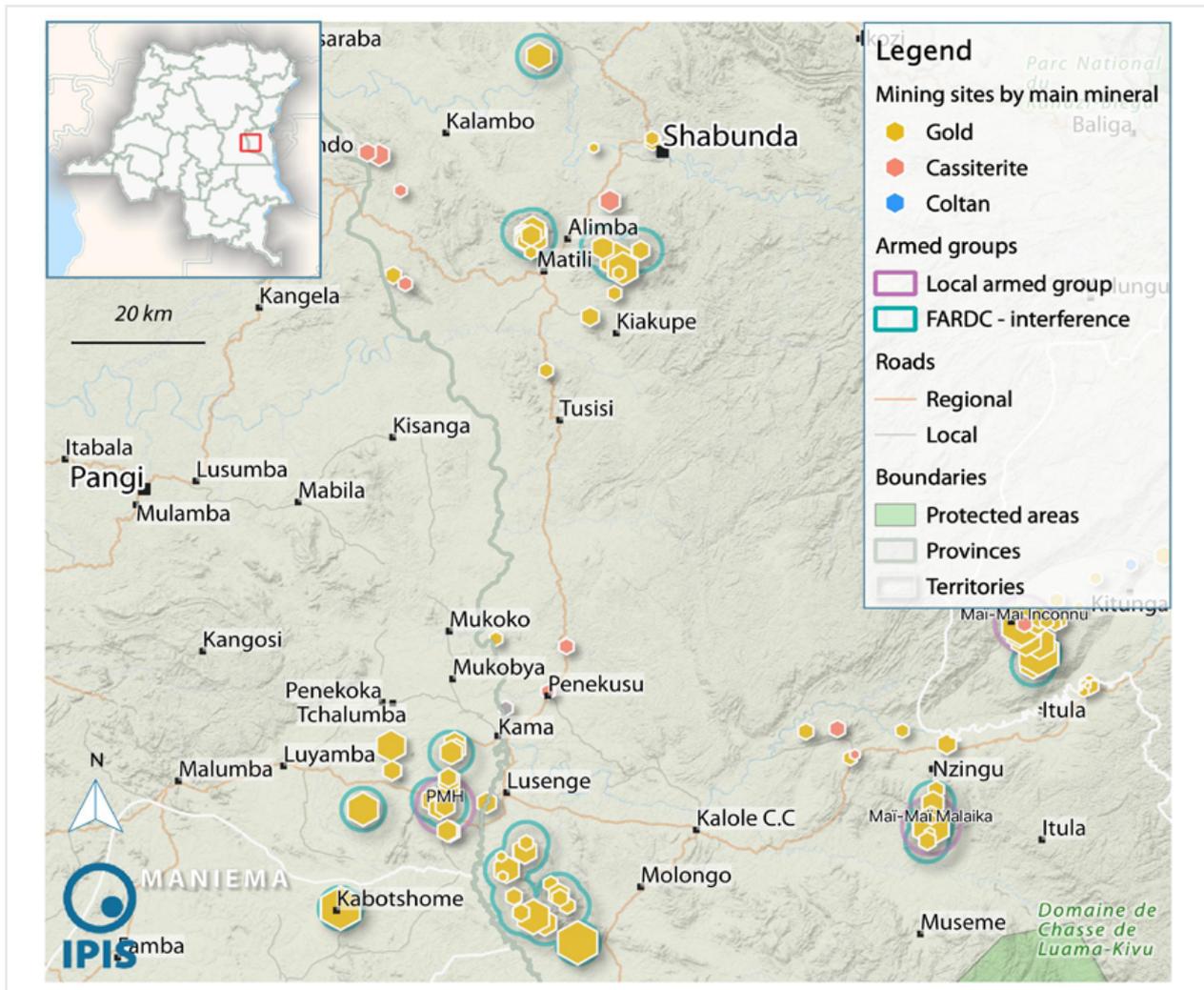


Figure 11: Map of mining sites visited in Shabunda territory in 2021-2022

The area south of Lusenge is seriously affected by misbehavior of FARDC units and police. The LISA map (Figure 5) revealed this cluster of ‘insecure’ mines in Shabunda. The map in Figure 11 shows that these sites south of Lusenge suffer from armed interference by FARDC, which includes illegal taxation and pit ownership by commanders. The mining sites Umoja/Mosoko and Nyakwagiagia/Kambanyama used to be controlled by the Mai Mai Malaika, who levied a tax of five grams of gold per month. When the FARDC pushed back the Malaika rebels from the zone, it retained the system of illegal taxation, levying five grams of gold per month for two years. In November 2021, the mine manager and the cooperative negotiated with the soldiers, reducing the *‘effort de guerre’* to one gram of gold per month. At another mine in the area, Kapilapila, FARDC officers own several gold pits, especially at the most productive *chantier*, called Temutemu.

The **Mai Mai Malaika** have thus been pushed away from Shabunda, and they are now mainly active in the territory of Kabambare, Maniema Province (see below, section 3.2.1.6). Nevertheless, they do intrude at times, such as in October 2021 when they visited the miners’ camps Katutu and Boucherie around the mining site ‘Kisangani,’ close to the trading hub of Kitindi.

3.2.1.6. Kabambare territory (Maniema)

In contrast with the rest of Maniema Province, which is relatively calm, the security situation in the territory of Kabambare is difficult. IPIS visited mines in the north of the territory, around Salamabila, and along the eastern border with South Kivu’s Fizi territory (map in Figure 12). Sites around Kabambare town were not accessible due to insecurity.

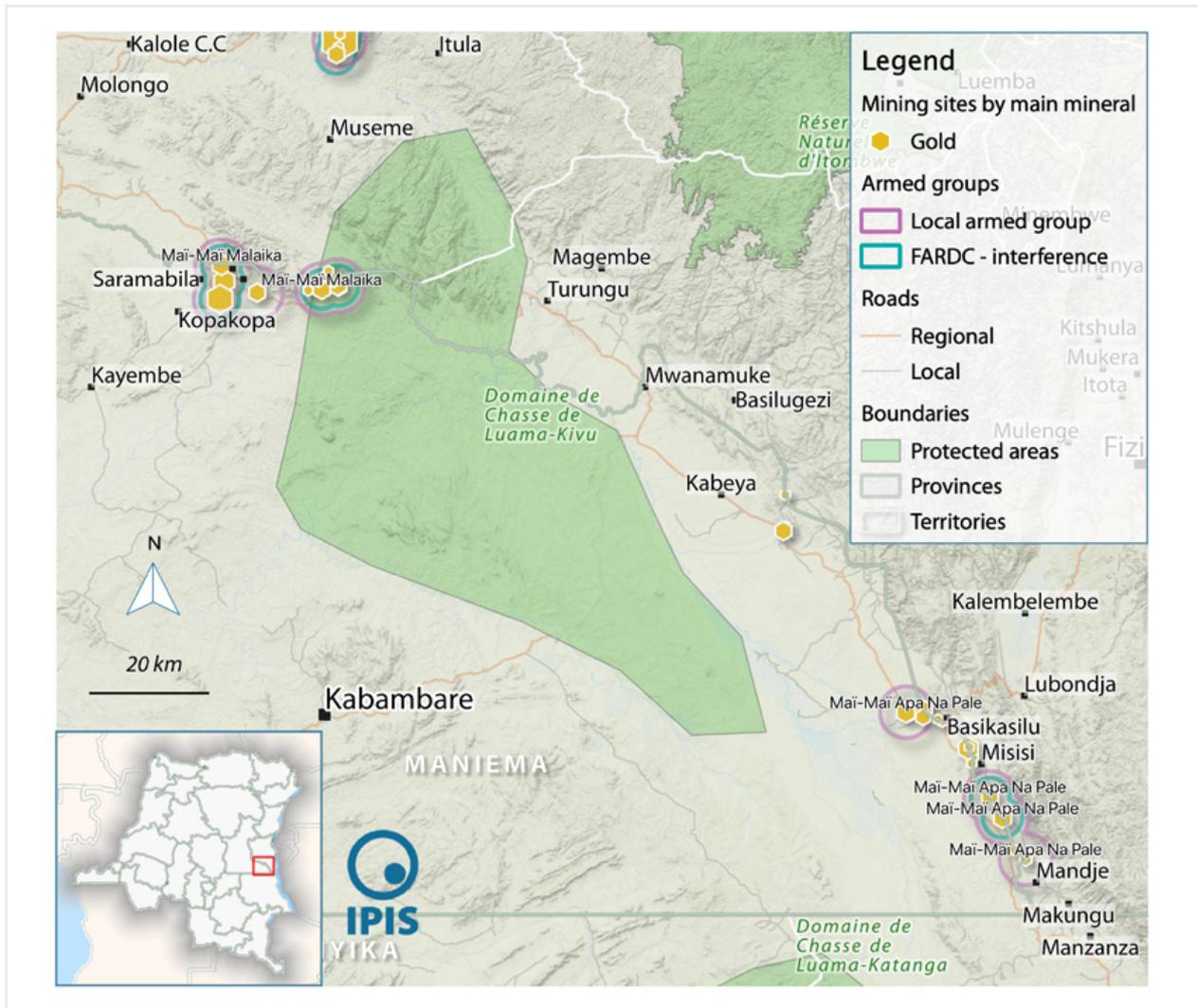


Figure 12: Map of mining sites visited in Kabambare territory in 2021-2022

The mines around Salamabila are all affected by the interference of both **Mai Mai Malaika** and the **FARDC**. Mai Mai Malaika became very active in the area around 2018, under the command of Sheikh Hassani. It strongly resisted the industrial miner Banro's activities in Namoya and Salamabila, through violent attacks against the company. In 2020, the UN Group of Experts reported on the FARDC operations against Mai Mai Malaika.³⁹

At the time of IPIS' mine visits in late 2021, the FARDC was no longer actively fighting Mai Mai Malaika. On the contrary, both actors were heavily involved in the mining sector, taxing production and trade, both at the mining sites and at several roadblocks. There were even reports of blunt collusion between the two actors, to continue profiting undisturbed from the gold sector (Map in Figure 12, top center).

A roadblock operated by FARDC to enter the Bizola gold mine charges 1,000 FC. Leaving the site with a bag of gold ores costs another 3,000 FC at the same roadblock. Next, to enter the processing site 'Concasseur,' only a few kilometers away, a roadblock controlled by the Malaika rebels charges an additional 3,000 FC. FARDC soldiers can also peacefully pass by the latter roadblock to crush their gold ores at the processing site.

In several gold mining sites, both actors levy taxes. At times, they divide the days so that each actor can control the entrance of the mining site to tax production. Furthermore, the FARDC levies taxes at several roadblocks along the Salamabilia-Lulimba-Misisi axes.

IPIS also visited a string of mines in the West of Kabambare territory, close to Misisi (Fizi territory). The **Mai**

39 UN Group of Experts, Final report of the UN Group of Experts on the Democratic Republic of the Congo, S/2020/482, 2 June 2020

Mai Apa Na Pale operates in the area, even though the group is mainly based in Tanganyika Province (see below). The group commanded by Mundus is, just like Malaika, a close ally of Yakutumba's CNPSC alliance (*Coalition nationale du peuple pour la souveraineté du Congo*).

Apa Na Pale reportedly made several attacks against the concession of the company TSM (see section 3.4) and surrounding villages. For this reason, the company hired the FARDC to secure its permit.

Moreover, at the mines Kako and Muzingamalomba, Apa Na Pale levies a 60,000 FC tax every two weeks, and it occasionally passes by Kasanga. Some villages around Kako had reportedly been abandoned due to Apa Na Pale's presence (Figure 12).

3.2.1.7. Kalemie territory (Tanganyika)

In 2016 and 2017, inter-ethnic violence between the Bantu and Twa communities disrupted large parts of the province of Tanganyika. Displacement of population, human rights violations, including murder and rape further affected social cohesion.⁴⁰ During IPIS' latest visits in 2021 and 2022, residual effects of armed mobilization on the mining sector can still be observed.

The territories of Kalemie and Nyunzu keep struggling with security issues linked to armed groups' activities. In the mining sites visited by IPIS, intercommunity tensions between Batwa and Bantu were still very much present.

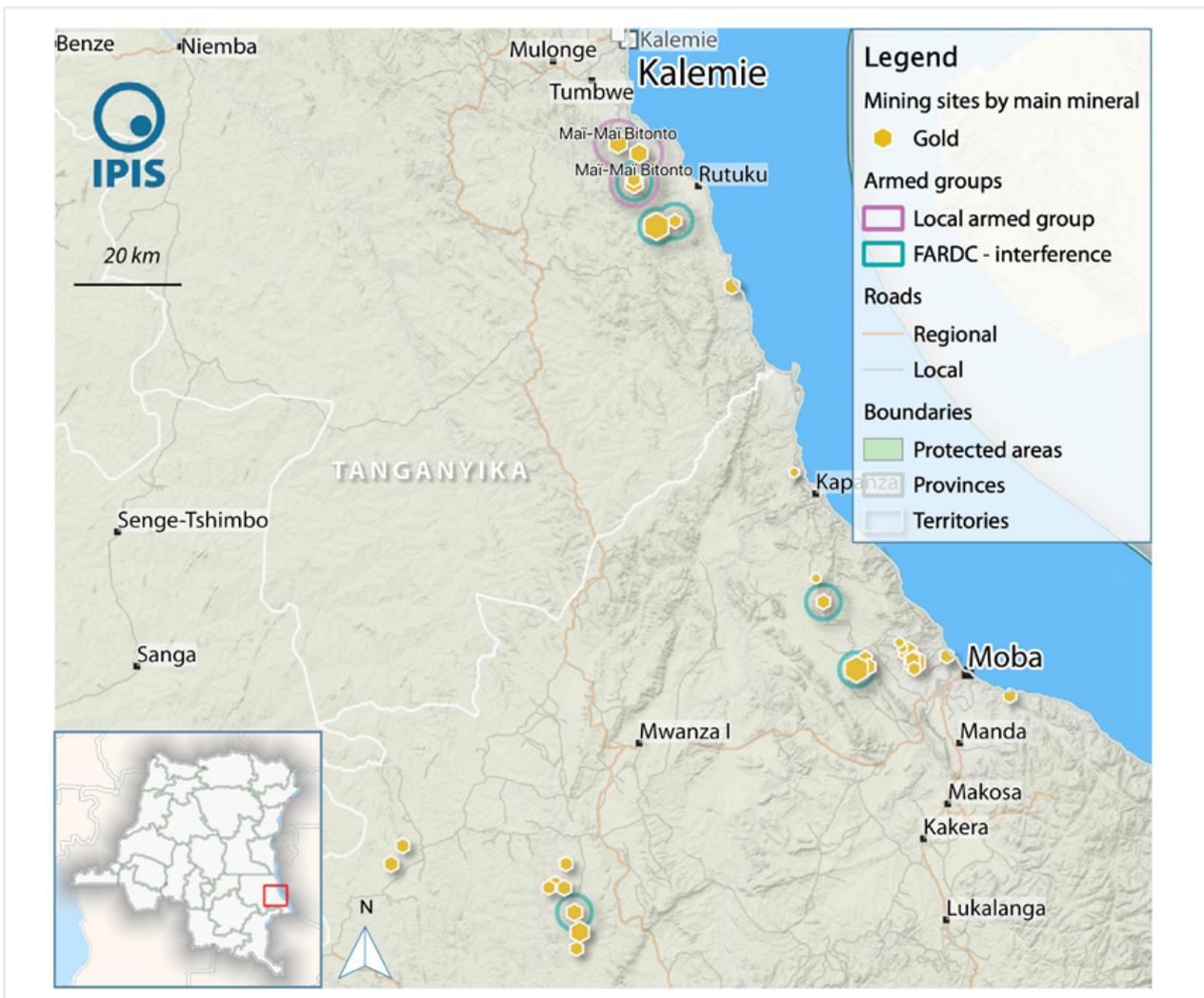


Figure 13: Map of mining sites visited in Kalemie and Moba territories in 2021-2022

40 International Rescue Committee, A Silent Crisis in Congo: The Bantu and the Twa in Tanganyika, 31 August 2017

The **Mai Mai Apa Na Pale** was created by their commander Mundus after he deserted from the army, in reaction to attacks from Bantu militias on Batwa Internally Displaced Peoples (IDP) camps.⁴¹ The group commanded by Liwa reportedly pillaged some of the mines around Rugumba, north of Kalemie town. IPIS teams reported that people locally accuse MONUSCO of collaborating with the Apa Na Pale rebels. They claim the rebels are sheltering in the bush and receive new weaponry from the MONUSCO blue helmeted soldiers.

The **Mai Mai Eléments** is a local self-defense militia that has its roots in the Kata Katanga rebellion of Gedeon. The Eléments have been established to protect Bantu communities in response to the Twa armed group mobilization. The faction led by Bitonto mostly operates between Kalemie and Moba along the shores of Lake Tanganyika (Figure 13).⁴²

Interviewees explained how Bitonto's men had originally chased away Twa militias, but then got increasingly interested in illegal taxation and the mining sector. Bitonto holds its base in Tukamba and controls several gold mines in the area. IPIS reported the Eléments' presence in four mining sites, including Tukamba, Kibi, Mala and Rwanda. For example, at Tukamba, the Eléments units are mining themselves, and Bitonto levies a lump sum per miner. Everyone must pay 10,000 FC per month, in exchange Bitonto assures that they are not obliged to pay any other (legal) tax.

The **FARDC** is present in the zone, as well as in the mining sector. Soldiers regularly patrol several mining sites claiming their '*ration militaire*.' There are however several mining sites controlled by Bitonto that are avoided by the military. Interviewees did not believe that Bitonto's Mai Mai Eléments had the military capacity to resist the FARDC. Therefore, an understanding between the Mai Mai and FARDC seems to exist, not to obstruct each other's 'business.'

In July 2021, as the situation was relatively calm, the military retreated from the area. But soon after, tensions between youth of the Batwa and Bantu communities quickly arose. In August 2021, after two SAEMAPE agents (SAEMAPE is a technical service of the Ministry of Mines, *Service d'assistance et d'encadrement de l'exploitation minière artisanale et à petit échelle*) were attacked at a mining site Katolo, state services lobbied the provincial government to redeploy the army in the area. Consequently, calm has returned, along with the FARDC's illegal taxations.

3.2.1.8. Moba territory (Tanganyika)

Moba territory is relatively calm now compared to 2016-2017. Nevertheless, security incidents persist, and many former combatants remain in the community.

Several mining sites in Moba territory played an important role during the '2016-2017 war.' The mining site Kakuma was, for example, a training ground for new combatants of the Mai Mai Eléments, where they also performed initiation rites. The chantier Kakurwe (also called Mitonga) of the mining site Kasoro, was an important base camp of the Eléments. All the miners were Mai Mai, but also kept producing gold throughout the war.

For the moment, the Mai Mai Eléments are no longer operational in Moba. In 2017, the Mai Mai was still involved in serious fighting with the FARDC,⁴³ but after the reported death of its leader Katenda Funkwe the group soon fell apart – even though one Kafwimbi took over leadership of the group.

Some disarmament efforts have taken place in 2019, but they appeared to be rather symbolic, as most former combatants have kept their arms. A lot of them are currently working in the mines. In fact, in most of the mines visited in Moba territory, **former Mai Mai Eléments combatants** constituted an important part of the workforce. Even though they no longer pose a direct threat, as they are not operational as an armed group, security concerns remain over the presence of these men.

41 UN Group of Experts (June 2021), op. cit., § 156.

42 Kivu Security Tracker, <https://kivusecurity.org/about/armedGroups>, visited on 27 June 2022.

43 Radio Okapi, Moba : une milice crée l'insécurité dans trois localités, 18 July 2017.

State agents at several mining sites declared how dangerous the situation remains. They often did not tax miners, fearing physical violence from the miners. One state agent in Ntoya for example explained their challenges, as their superiors demand considerable ‘taxation levels’ going up the chain:

“It happens that at the end of the month, I did not manage to collect money for “le rapport” (bribe, or part of the illegal taxation a state agent has to pay to his hierarchy), due to the context and zone that we are working in. The miners, who are mostly former “Eléments” militiamen, sometimes refuse to pay taxes. In that case, I’m obliged to pay the “rapport” from my own money ..., because our superiors do not understand the situation we are in. And when we try to explain to them, they disregard it. They are only interested in a good “rapport”.”⁴⁴

3.3. STATE CONTROL

Governance of the artisanal mining sector is highly challenging in eastern DRC. The DRC Mining Code (established in 2002 and revised in 2018⁴⁵) and Mining Regulation (2003) legalized artisanal mining, whilst imposing a number of conditions. One of the artisanal mining sector’s main problems in the eastern DRC is the implementation of these legal provisions.

Miners rarely hold the official artisanal mining card, which is issued by the Provincial Mining Administration. Besides not being registered, artisanal miners generally dig in areas where such extraction is legally prohibited, i.e., on industrial concessions. The Mining Code determines that artisanal exploitation is only permitted in specially designated artisanal mining zones (Zone d’Exploitation Artisanale, ZEA). The number of ZEAs is however relatively low, and they offer little security of tenure. Recognizing these disincentives, state services tolerate most informal artisanal mining.



Artisanal mining card

Despite challenges to comply with the mining sector’s legal provisions, ASM stakeholders have been used to working in the informal sector for decades. This informal sector is well-structured, and artisanal exploitation and trade have developed around an extensive network of actors and institutions that work on the dividing line between the legal and informal sector.

44 Original quote: *“Il arrive qu’à la fin du mois je n’ai pas eu d’argent pour le rapport (bribe, or part of the illegal taxation a state agent has to pay to his hierarchy), vu le contexte et la zone dans laquelle nous travaillons. Des creuseurs, en majorité des anciens miliciens Eléments, s’opposent parfois à payer les taxes. Je suis obligé de donner mon argent pour le rapport. ..., parceque nos chefs ne comprennent pas ce que nous vivons ici et quand nous leur parlons de ça, ils n’en tiennent pas compte. Ce qui les intéresse, c’est juste un bon rapport.”*

45 Loi n°18/001 du 09 mars 2018 modifiant et complétant la Loi n° 007/2002 du 11 juillet 2002 portant Code minier.

Consequently, most ASM actors work informally, and state actors lack the capacity to monitor the sector. Nevertheless, efforts to increase formalization have been implemented, such as the establishment of mining cooperatives, deployment of state agents in mining areas, and the implementation of responsible sourcing efforts.

This section does not provide an evaluation of such formalization efforts, as this would require a targeted qualitative assessment. Nevertheless, IPIS data provide some insights on progress and challenges with regards to formalization.

3.3.1. Mining cooperatives

Since 2010, artisanal miners in DRC are obliged to group themselves in **mining cooperatives**. The minister of mines established this requirement in an effort to improve regulation of the mining sector in order to tackle illegal mining and mineral trade, and its link to armed groups and insecurity in eastern DRC.⁴⁶ Such cooperatives have mushroomed all over the eastern part of the country. **Fifty-six percent of mining sites visited by IPIS** (197 sites) had at least one cooperative in place. This percentage is considerably higher for 3T sites (76% of the total number of 3T sites, compared to 52% for gold sites), as the 3T sector is more regulated than the gold sector (see section 3.1.1 on ‘Type of Mineral’).

Unfortunately, instead of promoting collective action among artisanal miners to further their interests, in practice, cooperatives have become vehicles of exploitation. Often, cooperatives are subject to elite capture, as they establish trade monopolies, are organized along ethnic lines (see for example section 3.2.1.4 on the cooperatives COMICHA and COMINYA in Kalehe territory), and they do not provide any support to miners.⁴⁷ IPIS teams collected some perceptions from miners on the cooperatives. At 55% of the mining sites with a cooperative (109 of 197 sites), first reactions were rather positive, while at 44% (86 sites) people complained that cooperatives exploited them or did not provide any support. However, these perceptions may not represent an accurate assessment of cooperatives actual performance, as most people are not sufficiently informed on cooperatives’ responsibilities and duties.

3.3.2. State services

Even though the majority of mining activities are informal in eastern DRC (see introduction of section 3.3 ‘State control’), state services monitor most mining sites to some degree. IPIS teams reported on visits by state services at 83% of mining sites (293 sites).

Table 5: State services present at mining sites over last 6 months prior to visit

Service	Number of mines	% of mines
SAEMAPE	269	76%
Mining Division	256	72%
Mining Police (PMH)	154	44%
Chiefdom/sector	77	22%
Groupement	28	8%

Table 5 shows **the main services present** at the visited mining sites. SAEMAPE and the Mining Division are services of the Ministry of Mines, responsible for the technical support and administrative oversight

46 Arrête 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.

47 IPIS (December 2022), op. cit., p. 18.

of ASM. The Mining Police (PMH, *Police des Mines et Hydrocarbures*) are police forces specifically responsible to guard security in and around mining sites. 'Chiefdom/sector' and 'Groupement' are local (often customary) authorities. Besides these services a wide range of other services have been reported, but less frequent, such as the intelligence service (ANR), Tax Office (DGI), etc.

State control over ASM is however much lower than what the above figures seem to suggest. Firstly, while state services visit many sites, in many cases this does not happen very frequently. SAEMAPE for example is only present at least once a week in 55% of the mines where their presence had been noted (148 of 269 sites where SAEMAPE is present). For the Mining Division (35%, 89 of 256 sites), PMH (38%, 59 of 154 sites) and other services, the **frequency** of their presence is considerably lower.

Secondly, in many cases, people consider state agents as 'exploitive' rather than 'supportive.' Hence, state presence should not automatically be considered as a positive influence on governance. **Complaints on the behavior** of state agents in eastern DRC's mining sector are common. IPIS teams registered complaints at 74% of the mines where state agents are present. Once again, there is a remarkable difference between 3T sites (40%) and gold sites (82%), due the different levels of regulation. Higher levels of fraud and smuggling in the gold sector seem to stimulate some state agents' predatory behavior.

Complaints most often include illegal taxation, but also issues around state agents developing their own stakes in mining, or threatening miners. 'Taxation without a receipt' was for example reported in 182 sites, 'over-taxation' (asking more than foreseen by legislation) in 127 sites and 'pit ownership' by state agents (which is illegal) in 63 sites.

For example, in Moba territory, miners complained about the lack of clarity over tax rates. One pit boss testified,

"The amounts of money that state agents demand us to pay are not accurate. When they arrive, they tell us: "You need to buy this document and it costs 80,000FC". But when we negotiate with them, they end up accepting 40,000FC or 35,000FC. This leads us to understand that the money they are asking is not what the state has determined. Amounts are based on documents that are simply produced locally to generate money. They always bring us photocopies." 48

3.3.3. Challenges to formalization

Greediness of individual state agents should not be considered as the main driver for these **illegal practices**. Structural governance issues are also responsible for these problems, including the non-payment of state agents, the lack of control over ASM in general and well-established informal governance practices.

The ASM sector is characterized by 'legal pluralism,' which is the coexistence of different normative systems and different norm-producing authorities. These authorities include the state (and its services), customary authorities, local communities, economic actors, and increasingly responsible sourcing initiatives coordinated by various international actors. To acquire access to the mines, people have to deal with various authorities, including: state representatives, military leaders, local leaders, associations and cooperatives. All of these actors levy official and non-official taxes. It should also be noted that legal authorities are not always the ones that are perceived to be the most legitimate ones by local stakeholders.

48 Original quote: "Des sommes d'argent que des agents de services de l'état viennent nous demander de payer ne sont pas exactes parce que, quand ils arrivent, ils nous disent "vous devez acheter ce document et c'est à 80,000FC" mais quand nous discutons avec eux, ils finissent par accepter soit 40,000FC ou 35,000FC. Alors cela nous amène à comprendre que l'argent qu'ils nous demandent ce n'est pas ce que l'état a préétabli, ou tout simplement ce sont leurs documents fabriqués localement pour avoir de l'argent, car d'ailleurs ils nous ont toujours amené des photocopies."

As tax collection is very challenging in the **largely informal ASM sector**, and particularly in gold mines, state agents apply alternative, informal strategies. A common example is the **'flat-rate charges'** (*taxation forfaitaire*) that many state agents use as they are unable to define the actual taxable amount. In Watsa territory (Haut-Uele Province), informal traders buy unknown amounts of gold through their small shops, escaping state control. SAEMAPE agents charge each shopkeeper that buys gold US\$20 per month as a 'flat-rate tax on the value of their mineral trade', and the provincial tax revenue authorities charge US\$10 per month for 'gold trade authorization.' These amounts do not consider the actual gold volumes they trade.

Similar practices occur all over eastern DRC. In Lubutu territory, gold traders pay a monthly lump sum of 30,000 FC (US\$15) to SAEMAPE, and 24,000 FC (US\$12) to CEEC. In Beni territory, gold traders have to pay a lump-sum tax of between US\$5 and US\$10 on market days. And while cooperatives have to pay in principle 10% of the value of their production, one such cooperative in Beni declared it actually pays between US\$5 and US\$10 per month and per team of miners to SAEMAPE.⁴⁹

The practice of the tax forfaitaire indicates that control over the gold sector is challenging. State services are unable to gather reliable data on gold production and trade.

Most gold actors work outside of the formal framework, and when they do submit **production data**, they usually only declare a fraction of their actual production. At the Makenga mine (Lubutu territory), gold treatment operations (or so-called '*loutras*') are scattered all over the mining site and the miners' camp. Consequently, neither state agents, nor the cooperative are present during the treatment of the gold ores. Miners can therefore declare what they want.

As gold can be traded simply and quickly in eastern DRC, there is **no real need for traders to register, resulting** in a wide range of practices that further strengthen informality. In the visited mining areas in Watsa territory, almost all shopkeepers acted as gold traders, but their turnover is unknown. Moreover, **barter trade** represents another key issue to monitor gold trade as many traders use gold to buy food and consumer goods. Finally, a crucial factor is the apparent increase in **semi-industrial gold exploitations**,⁵⁰ which often refuse to collaborate with provincial mining state representatives to monitor their production. This phenomenon is more than a decade old,⁵¹ and issues have been flagged regularly in North Kivu, Ituri and especially South Kivu.⁵² Over recent years the number of such exploitations seems to be rising. As state representatives do not manage to monitor these operations, this gold production leaves the DRC illegally.

Over the past decade, policy efforts and international responsible sourcing initiatives have helped to make progress with regards to transparency in the 3T sector. State oversight is higher in the 3T sector, compared to gold, and it is less affected by the interference of armed men. Nevertheless, the government continues to struggle with governance issues within the 3T sector as well.

A recent Global Witness report⁵³ has denounced how traceability systems launder large amounts of 3T in eastern DRC, **'contaminating'** the so-called 'responsible, conflict-free mineral **supply chains**.'

Mineral bags within these controlled supply chains must be labeled (or tagged) by state agents at the level of the mining sites to guarantee the origin of all mineral exports. Non-tagged mineral bags, however, continue to be labeled at trading hubs far away from the mining sites, as if they were coming from another, but validated, mining site. IPIS teams, for example, reported such issues in Lubutu territory, Maniema Province.

49 IPIS, ASSODIP and ASADHO, *L'exploitation minière artisanale à Beni-Mbau : Etat des lieux et cartographie des sites miniers*, February 2020, pp. 13-14.

50 The Congolese mining legislation requires small-scale mining operations to apply for a PEPM (Permis d'Exploitation de Petite Mine). A small-scale operation is characterized by: an investment that varies between US\$100,000 and US\$2,000,000; the exploitation of the mineral deposit has a lifespan of less than 10 years; the operations need a certain level of mechanization. Source: Règlement Minier, Décret n°038/2003, article 204

51 In 2011, IPIS discussed gold "dredging" operations in former Orientale Province (including the new Ituri and Haut Uele Provinces). Many issues mentioned back then persist today, including high and uncontrolled potential production volumes, obstructing mining state agents to monitor these operations, no declaration of production statistics, etc. The reference of this report is IPIS, *A detailed analysis of Orientale Province's gold sector*, commissioned by GIZ and ICGLR, December 2011.

52 IPIS (December 2022), op. cit.

53 Global Witness, *The ITSCI laundromat: How a due diligence scheme appears to launder conflict minerals*, April 2022

Efforts have been undertaken to address loopholes in the main traceability systems. Nevertheless, the key drivers behind the failure of the responsible sourcing efforts persist, including a lack of local ownership, strategies of exclusion, corruption, and wider mining governance challenges.⁵⁴

The credibility of the iTSCi traceability system, for example, largely relies on state agents to implement the tagging process of minerals. The system’s credibility therefore relies on these state officers. The ‘Katangan’ cassiterite mine near Ntufia (Maniema Province), provides a good illustration of why a foolproof traceability system is impossible. iTSCi agents pass by Ntufia’s SAEMAPE officers once or twice a month to collect the documents containing all information on the mineral bags and their tags. These SAEMAPE agents however rarely visit the actual mines. The miners take their production home in the evening, and mineral traders buy in the miners’ camp. Once traders have acquired a sufficient volume, ready for export, they will call on the SAEMAPE agent to come over to label the mineral bags. SAEMAPE agents, and consequently iTSCi, have no actual oversight on production at the level of the mines.

In general, many SAEMAPE agents lack the motivation to provide close monitoring as they are often not well paid. Some of them must even arrange transport themselves, on their own expenditure, to visit the mines. This is clearly also one of the drivers behind the problem of illegal taxation.

3.3.4. Correlation between accessibility, type of mineral, state control and security

Section 2.1 briefly mentioned the importance of accessibility and type of mineral, for the levels of security and state control on a given mining site. The data collected by IPIS provide some statistical evidence for this.

Exploitation and trade of 3T minerals is better controlled than gold. (See section 3.1.1 ‘Type of Mineral’). Figure 14 clearly shows the differences between 3T and gold mines for the indicators ‘Formalization’ and ‘State presence’ - average score decreases from 0.5 to -0.7 for ‘Formalization’ and from 2.4 to -1 for ‘State presence.’ In section 3.2, Figure 3 showed the same trend between gold and 3T for the indicator ‘Security.’

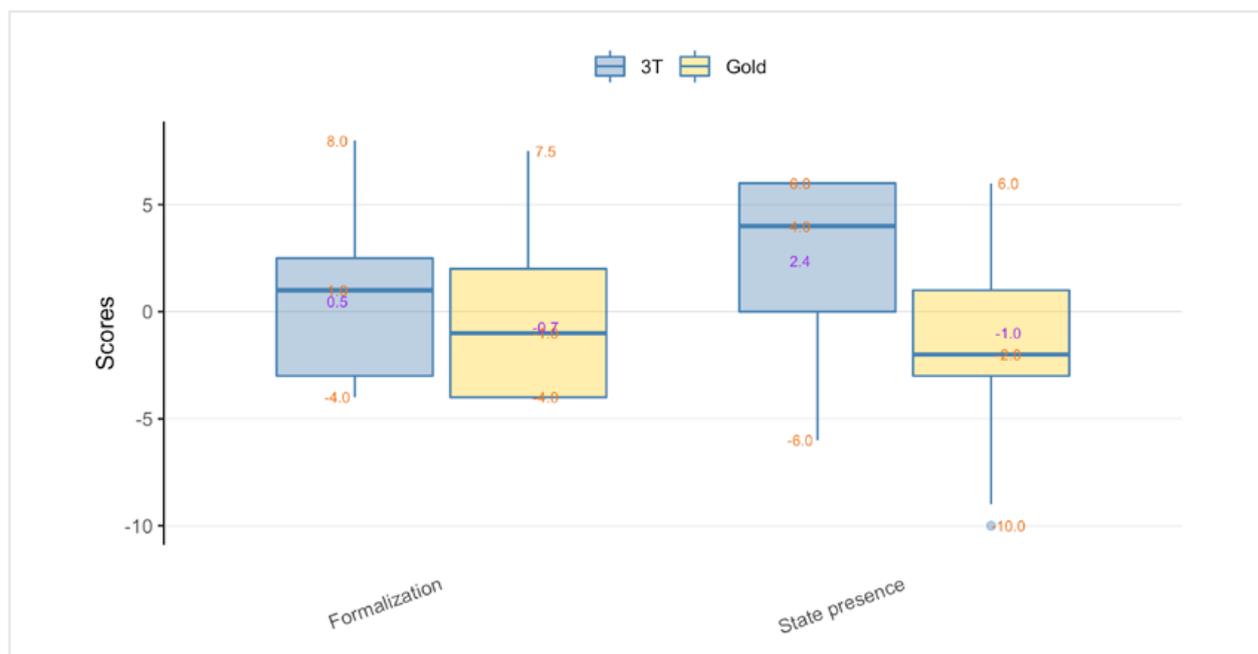


Figure 14: Boxplots of the scores for the indicators ‘Formalization’ and ‘State presence’, 3T vs Gold, with indications on minimum, maximum and median values (text in brown), and average (purple)

54 IPIS (December 2022), op. cit.

Besides the type of mineral, the accessibility of a mining site is also of crucial importance to assess the risk of security and the challenges of state oversight. The correlogram in Figure 15, based on the Responsible Mining Scorecard, suggests that the indicators 'Accessibility', 'Security' and 'State presence' are relatively well correlated for gold sites. 'Accessibility' has a positive correlation with both indicators 'Security' (i.e., Pearson corr = 0.27, $P < .001$, for gold sites) and 'state presence' (i.e., Pearson corr = 0.37, $P < .001$, for gold sites). These results suggest that more accessible sites have a lower likelihood of suffering from the interference of armed men and are more likely to be monitored by state agents.

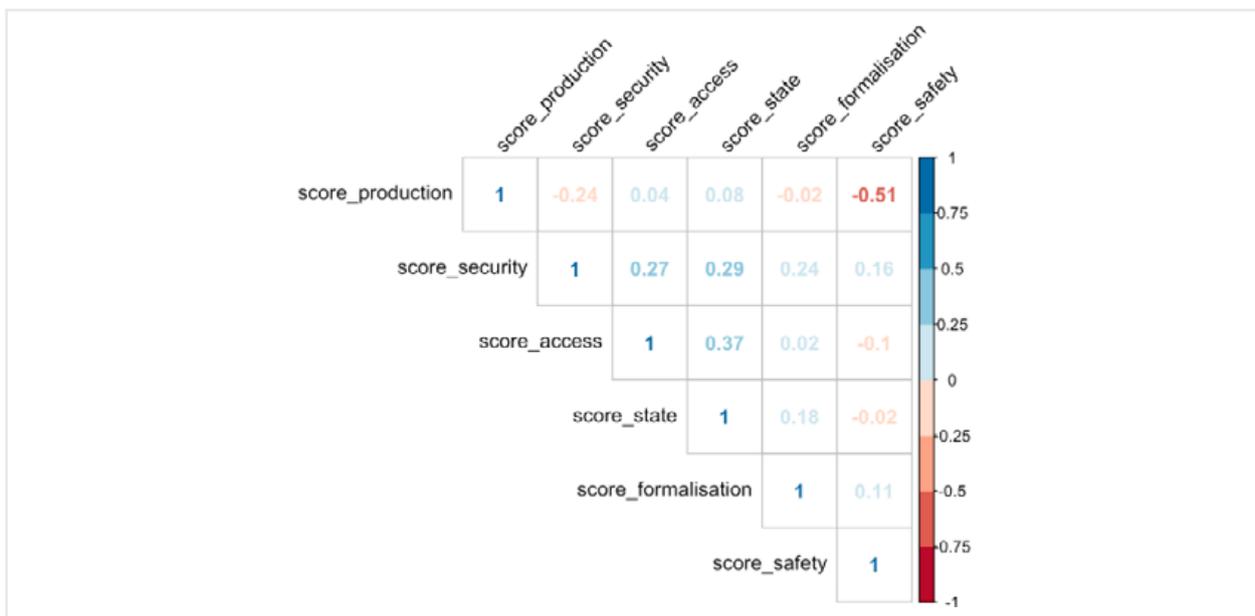


Figure 15: Correlogram for the six different indicators of IPIS' Responsible Mining Scorecard' for gold mines (304 mines)

It is worth underlining that the correlogram should be interpreted with care as it can be biased by spatial autocorrelation of the scores (see section 'Methodology'). Several case studies do, however, illustrate these correlations. Section 3.2.1.1, for example, discusses the interference of both FARDC and Mai Mai Luc in the remote sector Bakumu d'Angumu (Bafwasende territory). No other state services can access these sites. The same is true for the chiefdoms of Bamate and Batangi, in the south of Lubero territory. The FPP/AP controls several mines in the area and does not allow any state agents to visit the mines (see section 3.2.1.2). The LISA maps for 'Access,' 'State presence' and 'Security' (Figure 16) also reveal that the FPP/AP-controlled area (south Lubero territory) is characterized by inaccessibility, low security levels, as well as low state presence.

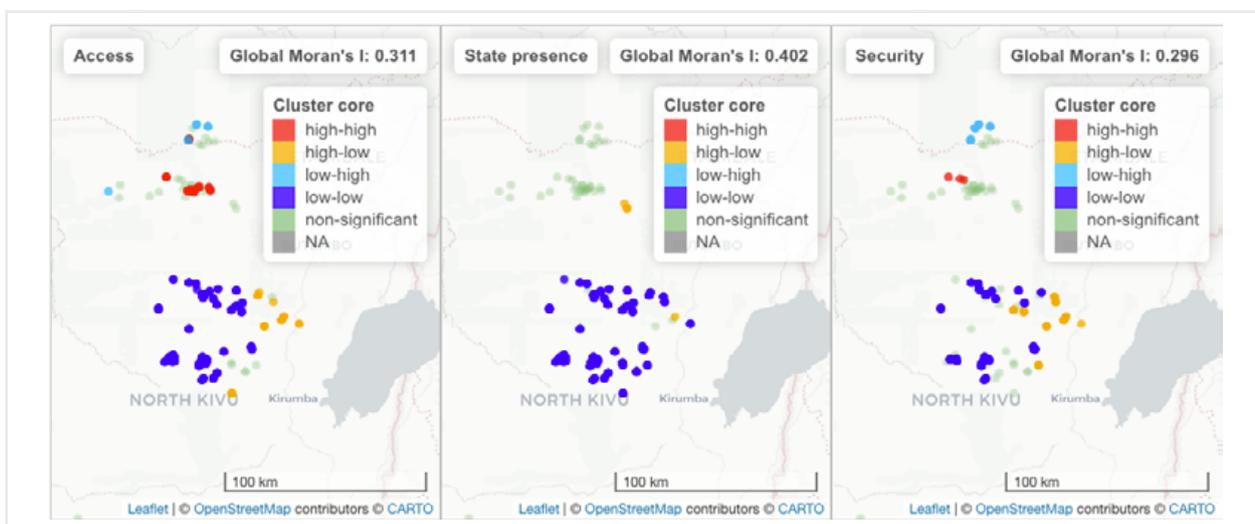


Figure 16: LISA map showing the clusters of mines for the indicators 'Access', 'State presence', and 'Security' in Lubero territory, North Kivu

Finally, the correlogram in Figure 5 reveals a negative correlation between ‘Production’ and ‘Security’ (i.e., Pearson corr = -0.24, P < .001, for gold sites) suggesting that **armed actors tend to prey more on the most productive mines**. This observation is confirmed by the numbers presented in section 2.2. IPIS observed the interference of armed men at 41% of mining sites visited (146 of 354 mining sites) and these mines employ 65% of the miners in our dataset (36,276 of a total of 55,604 miners).

3.4. MECHANIZATION AND SEMI-INDUSTRIAL EXPLOITATIONS

Artisanal mining in eastern DRC has witnessed increasing levels of **mechanization** over the last decade. Geenen S. and Radley B. (2021) reported on how mine managers and traders in South Kivu have reinvested their profits in gold production, which led to **new production technologies** and increasing production levels. As such, it challenges the traditional divide between small-scale, artisanal production and large-scale industrial.⁵⁵

Increasing levels of mechanization provide both risks and opportunities. On the one hand, Radley has demonstrated that more mechanized forms of production make more significant contributions to local development.⁵⁶ On the other hand, as ASM in eastern DRC struggles with a lack of governance, higher mechanization levels raise questions on its potential impact with regards to the environment, and health and safety.

Table 6: Level of mechanization

Level of mechanization*	Number of mines	% of mines	Number of miners	% of miners
Low	61	17%	4,513	8%
Medium	228	64%	27,268	49%
High	65	18%	23,823	42%

* IPIS has categorized the level of mechanization based on the tools that it observed at the mining site:

- “Low,” when observing only rudimentary hand-held tools such as pickaxes, shovels, machetes, and iron bars;
- “Middle,” when observing jackhammer, metal detectors, pulley, hoist, and motor pumps;
- “High,” when observing motorized machines such as crushers, grinders, and generators.

IPIS gathered data on the production tools observed in the mining site (Table 6), revealing that ASM relies on several mechanical tools. These observations are also linked to the increasing number of small enterprises – often working with foreign capital – doing **semi-industrial gold exploitation**. They work with more mechanized tools and higher capital investment levels. While these exploitations should apply for a small-scale mining permit, in reality they often do not, and they used small Congolese mining cooperatives as front companies to get access to these permits.⁵⁷

Semi-industrial exploitations are often hardly monitored by state services, and their production and export volumes are unknown. Furthermore, a wide range of other issues has been denounced, including the protection received from local strongmen and politicians, the lack of clarity on permits, corruption, the use of army personnel as private security contractors, the environmental impact, and communities’ complaints on the impact on local development.⁵⁸ These frustrations are an actual **source of tension** that risks resulting in additional insecurity and violence. Closer monitoring of these exploitations, and management of the related risks, are thus important to prevent the situation getting further off track. IPIS observed the aforementioned frustrations in various areas, including the territories of Lubutu (Maniema), Kabambare (Maniema), and Watsa (Haut Uele).

55 Radley B. and Geenen S., *How large miners and states stifle local capital and innovation in DR Congo*, The Conversation, 12 April 2021.

56 Radley B., *Small-scale gold miners in DRC challenge the view that they can't cut it*, The Conversation, 23 February 2022.

57 See footnote 31 for the legal description of a small-scale mining operation under Congolese law.

58 IPIS, *In focus: grievances, governance and gold in the eastern DRC*, 1 February 2022.

Gold exploitation with dredges along the **Osso River**, on the border between Lubutu (Maniema) and Walikale (North Kivu), date back to 2011.⁵⁹ These semi-industrial exploitations continue up to date despite continuous complaints **over the lack of state oversight** and the registration of production figures. Nevertheless, a delegation of SAEMAPE-North Kivu visited the mining operators in September 2021, notably the Chinese company Mango Tree and the *Coopérative Minière de Banalia* (COMIBA).⁶⁰ A lack of clarity on their official permits persists. According to the data of the Mining Register, these exploitations seem to be carried out on a research permit (PR 13615), (Figure 17). Besides Mango Tree, the company STELAC established an agreement with COMIBA, and here as well there seems to be a lack of transparency on production levels. The company pays 10% of the value of its production to COMIBA based on its own production statements.

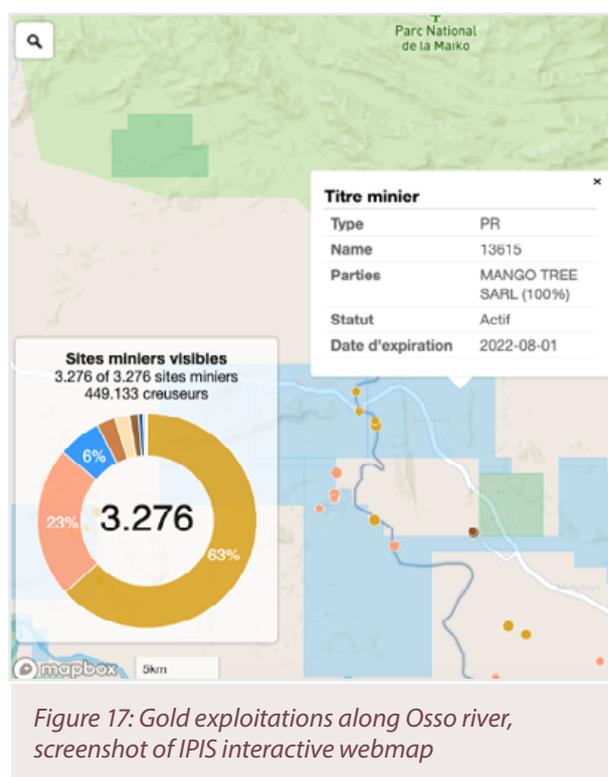


Figure 17: Gold exploitations along Osso river, screenshot of IPIS interactive webmap

Another semi-industrial exploitation in Lubutu is operated by the *Société Minière de Lubutu* (SOMIL) at the concession PE 133, which includes the mines Etogo, Kilomoto and Tcholo. Complaints arose around the presence and behavior of **FARDC** units, who secure the permit but have been accused of arbitrary arrests and imposition of illegal fines. Furthermore, artisanal miners also complained about the **gold buying price** imposed on them by SOMIL, as the company buys all the production on its concession.

Social tensions therefore regularly arise around these exploitations. Besides the behavior of FARDC and purchase monopolies, tensions over local communities' unfulfilled expectations of enterprises' social responsibilities (see below example of TSM), or competition over access to resources emerged frequently.

Watsa territory (Haut Uele) offers an interesting illustration. Most of the mining sites visited on the axes between **Watsa-Moku-Wanga** (Figure 18) are located on the concessions of the Société Minière de Moku-Beverendi (PE 12712, 5057, 12709 and 12711) and Wanga Mining Company (PE 13062).⁶¹ As these companies are not present on the ground, local mining site owners (AFM, Administrateur de Foyer Minier) have granted out several mines to Chinese semi-industrial enterprises, including the mines Dieu Merci, Mission Moto1, Kadungu, Mission Moto 2, Moku center, and Toli. Once they arrive on the ground, these enterprises chase away the artisanal miners who subsequently claim compensation to the AFM, for the investments they had already done, in vain.

So far, these tensions have not yet resulted in real expressions of discontent. Local customary authorities are strong and very influential in the ASM sector. They have managed to control miners' dissatisfaction. Additionally, the Chinese enterprises' mines are guarded by police and soldiers, which surely also discourages miners to step up against these companies.

59 Matthysen K. et Wangachumo R., *Des brouillards et de la fumée sur Osso: Prototype d'un système opaque de l'exploitation semi-industrielle de l'or à Walikale*, PAX, LPI and IPIS, 2015.

60 Flambeau de l'Est, *Les dragues chinoises de la rivière Osso, enfin accompagnées et administrées par les services des mines*, 4 November 2021.

61 More recently, however, the Mining Register apparently turned Wanga's concessions into a 'Restricted area' (Zone Interdite): See the "DRC Mining Cadastre Map Portal", <http://drcllicences.cami.cd/EN/>, visited on 17 June 2021.

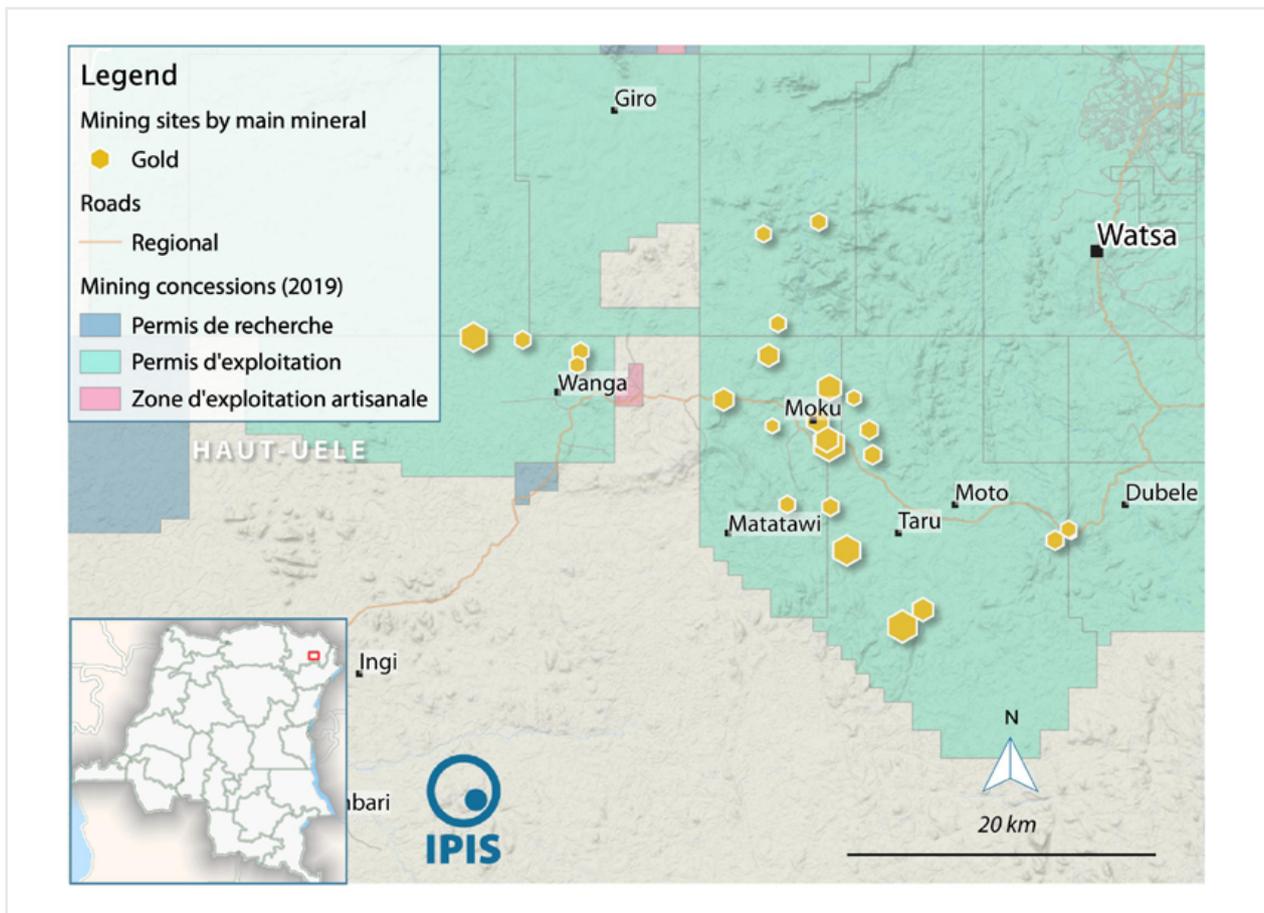


Figure 18: Map of mines visited along Watsa-Moku-Wanga, Haut Uele⁶²

The semi-industrial exploitations leave the tailings of its production for the cooperative at several mining sites. Consequently, artisanal miners are regularly found at the same sites, processing the tailings - see the picture taken at the mining site of 'Dieu Merci.' Miners reportedly pay 500,000 FC to acquire access to the tailings.

State services oversight seems to be limited due to the power of customary authorities (e.g., 'Dieu Merci'), or due to presence of police units (e.g., Mission Moto 2 exploited by the company 'Tongli Resources'). Tongli Resources arrived under the auspices of the *Coopérative Minière de l'Est du Congo* (COMEC), and allegedly pays **police units** to protect its workers. The police have erected a roadblock at the entrance of the site to control access to the mine. Consequently, government agents from the Ministry of Mines cannot access the mining site to monitor mining activity. Additionally, interviewees reported that it has become impossible to assess production levels as these companies produce day and night, and no one controls their production volumes, nor their production destination.



Mining site 'Dieu Merci': Miners processing the tailings of a semi-industrial exploitation

62 IPIS DRC Webmap <https://ipisresearch.be/mapping/webmapping/drcongo/v6/#2.9669602144442138/29.40819880002175/9.676846790737104/4/1,4/>

The lack of clarity on permits and limited oversight by state services raise serious concerns on the potential risks around these exploitations, for example concerning its environmental and social impact. The potential impact becomes even more tangible when analyzing the scale of some exploitations through satellite imagery. Figure 19 shows how the mining sites of 'Mission Moto 2' and 'Dieu Merci' have expanded over the past two years, through an additional number of pits. Clear governance and close monitoring of these exploitations are direly needed to manage potential risks.

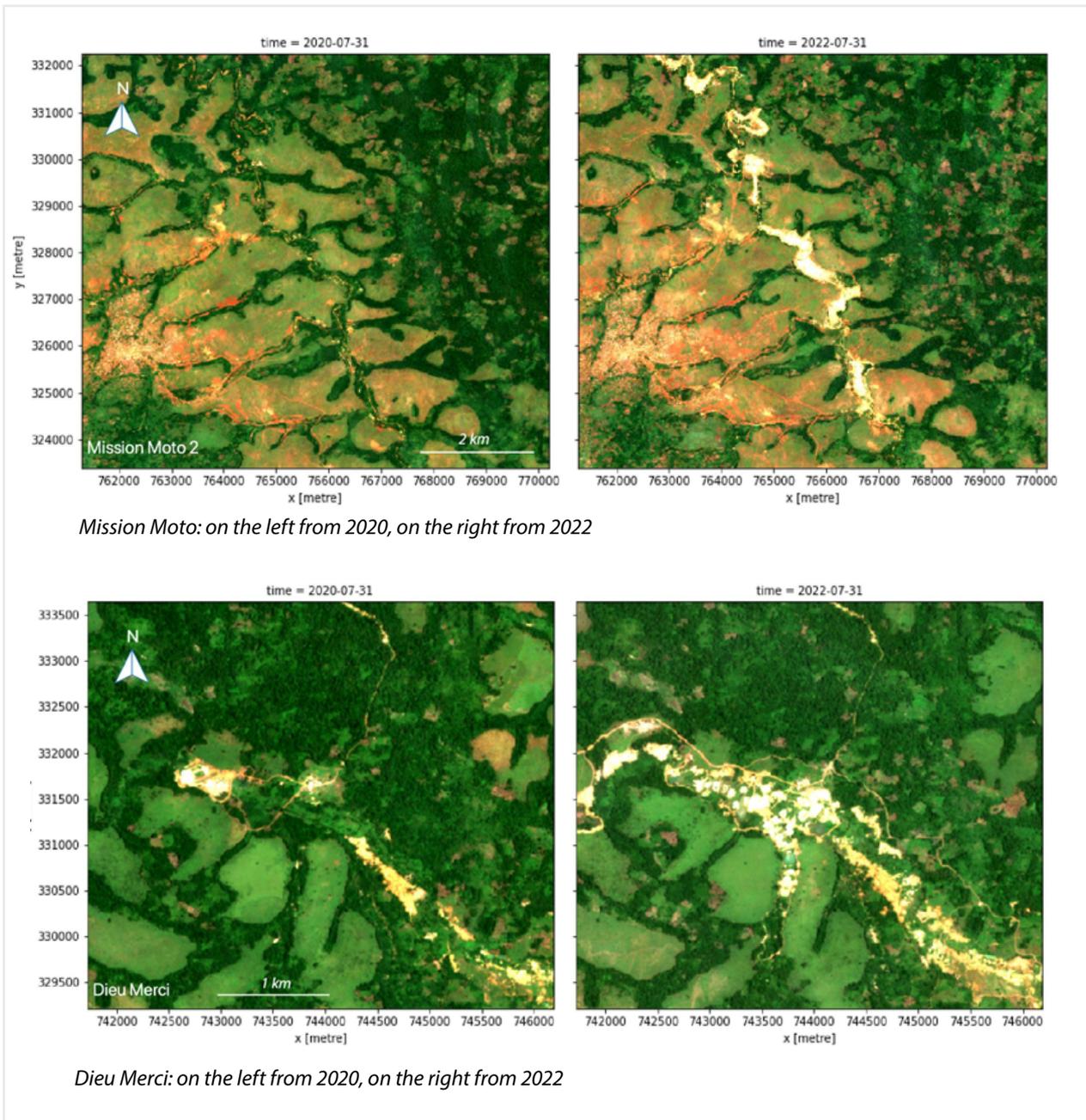


Figure 19: Satellite images of the sites Mission Moto (first row) and Dieu Merci (second row), Six months cloud-free composite of images compiled over the first semester of the years 2020 (left) and 2022 (right). Source: Sentinel-2. Composite images computed via Digital Earth Africa Sandbox⁶³

63 <https://www.digitalearthafrica.org/>

In **Kabambare** territory, Maniema Province, the company Tshisangama Simeon Mining (**TSM**) holds a Small-Scale Mining Permit (PEPM 7121). After tensions persisted for several years between the Babuyu community and the company, the two have signed an agreement in which TSM promises to invest in some local development projects.⁶⁴

Additionally, the company struggles with the threat of armed group activity in the area. Mundus' Apa Na Pale militia regularly attacks and pillages the mining site and surrounding villages. There are allegations some members of the local communities who do not feel that they profit sufficiently are complicit in these attacks. The FARDC is now present at the site to protect it from these attacks.



TSM's gold exploitation in Kabambare territory

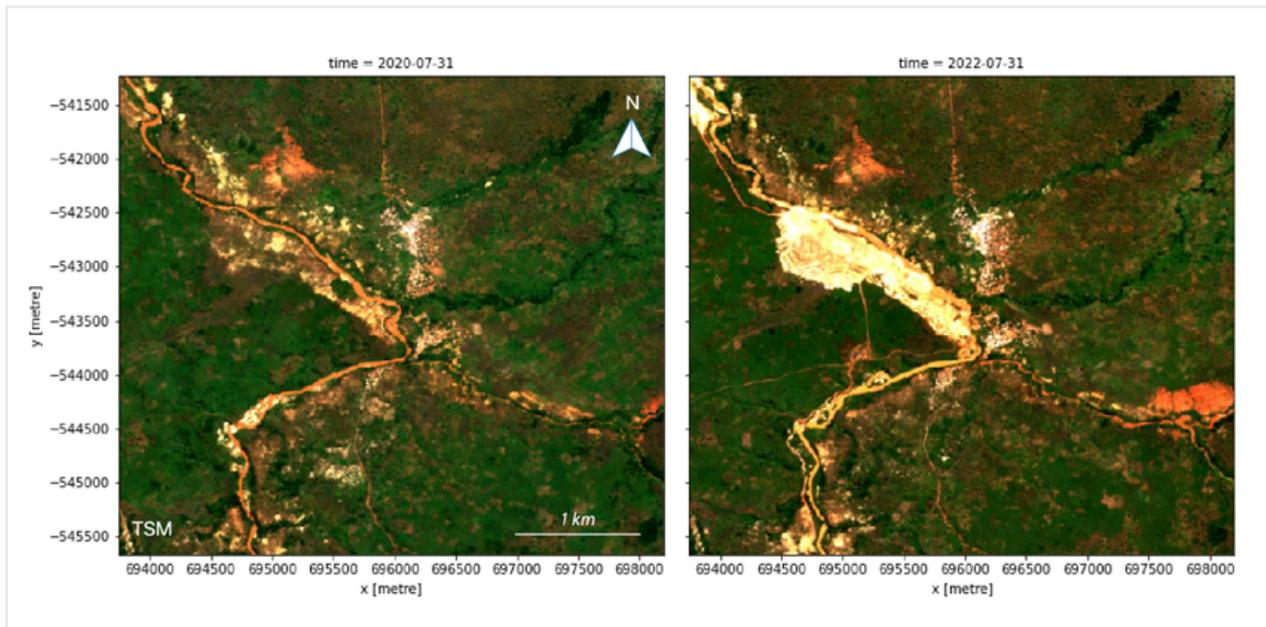


Figure 20: Satellite images of the TSM exploitation in Kabambare territory, Six months cloud-free composite of images compiled over the first semester of the years 2020 (left) and 2022 (right).

Source: Sentinel-2. Composite images computed via Digital Earth Africa Sandbox

64 <https://www.radiookapi.net/2021/10/21/actualite/societe/maniema-la-societe-mini%C3%A9re-tsm-signe-un-accord-avec-la-communaut%C3%A9>

4. CONCLUSION

Within the framework of its latest mapping project supported by USAID's ILRG project, IPIS visited 450 artisanal mining sites in eastern DRC between September 2021 and March 2022. In total, 354 were active sites, spread over different provinces, namely Haut-Uele, Tshopo, North Kivu, South Kivu, Maniema, and Tanganyika.

The information collected on the different mining sites can be consulted through the various tools that IPIS provides, including:

- **IPIS interactive webmap:** <https://ipisresearch.be/mapping/webmapping/drcongo/v6> ;
- **IPIS Open Data Dashboard** on artisanal mining in DR Congo: https://ipisresearch-dashboard.shinyapps.io/open_data_app/
- Downloadable IPIS 'Open Data' table accessible via: <https://ipisresearch.be/home/maps-data/open-data/>;
- **IPIS' Responsible Mining Scorecard** in Eastern DR Congo (https://ipisresearch-dashboard.shinyapps.io/mining_scorecard_easterndrc_app/)

The 354 active sites visited by IPIS provide a source of information to better understand larger trends in the ASM sector. This report focuses on the interference of armed actors at mining sites, the state control over ASM, and the increasing levels of mechanization.

The report discusses a range of armed groups present at the mining sites, including several Mai Mai groups, NDC-R, Mando's Simba rebels, and Nyatura. (An overview of the different armed groups can be found in a text box under section 3.2.1). The most difficult security situation was observed in the border area between south Lubero and north Walikale, in North Kivu Province. Several armed groups, including different NDC-R factions and FPP/AP, are fighting each other, in part, over access to mining sites. Conflict financing is an important issue in the area, as a few dozen mines are controlled by these groups. For some of the bigger mines, the FPP/AP makes a few thousand dollars per mine each month through lump-sum taxes on production, on the miners and their dependents, as well as taxes and monopolies over the trade of other commodities.

In a few other areas, it is remarkable to see how armed groups continue to skim off profits from the mining sector, while the FARDC seems to tolerate these practices. The FARDC has pushed Mai Mai rebels away from some areas and mines, for example in south Shabunda territory (South Kivu), but no longer actively fights them in other territories such as Kalemie (Tanganyika) and Kabambare (Maniema). In several cases, both the FARDC and the Mai Mai groups are preoccupied with their economic interests, and at times even had agreements over the distribution of revenues at gold mines.

There is also a link between ASM and insecurity, beyond direct conflict financing. Former rebels that are working in the mines, and who have never truly demobilized, create fear among state agents, for instance in Moba territory (Tanganyika), where former Mai Mai fighters make up a large part of the workforce in the mines.

The main source of armed interference is still FARDC. Twenty-seven percent of the miners in our dataset work in a mine where the FARDC extorts profit (15,060 of 55,604 miners). They regularly charge illegal taxes at the mines in areas where they are deployed to provide security against armed groups. Furthermore, FARDC units are sometimes also present in the mines in relatively calm areas, such as Kasongo territory (Maniema).

Moreover, the FARDC and police units are also regularly present at the permits of semi-industrial exploitations, to protect them against several threats, such as armed groups, or disgruntled local miners or communities. The use of FARDC as a private security guard raises questions and the IPIS teams regularly reported complaints about bad practices against miners such as arbitrary arrests and imposition of illegal fines, for example at the SOMIL concession in Lubutu territory (Maniema).

Despite examples illustrating the persistent link between 'mining' and 'insecurity,' progress has been

made over the past decade. Previous studies already discussed how governance reforms and responsible sourcing initiatives seem to discourage armed interference in the artisanal mining sector.⁶⁵ A remarkable difference between gold and the 3T sector exists, the latter doing much better on indicators for armed interference, security, and state oversight. Gold has always been more closely linked to issues of smuggling and conflict financing, due to a high value/volume grade. Furthermore, in DRC, informal gold traders operate quite openly, and gold is regularly used as a mode of payment, which undermines official monitoring of supply chains. Additionally, illegal gold trade networks are well established both within DRC, as across the border.

The 3T sector is also the one where responsible sourcing initiatives have made most progress. However, the overall impact on security and armed interference in mining is disappointing. The 3T sector could be considered as the 'low-hanging' fruit, as the sector has traditionally been less prone to conflict financing than gold, and it represents no more than 23% of the ASM sector in eastern DRC.⁶⁶

After all these years, 57% of the miners (54,000 out of a total of 94,000 miners)⁶⁷ are still affected by the interference of armed groups. The dynamics have surely changed, and ASM is no longer financing large-scale open conflict to the same extent as it did in the beginning of the century. However, extortion and protection rackets by the army and local Congolese armed groups are still omnipresent in gold mining. Most gold miners are still subjected to illegal taxation or other forms of extortion by armed groups.

The figures on 'armed interference' must be contextualized. As most 'armed interference' comes from FARDC, it is often related to general predatory practices that thrive on insecurity and systemic corruption, than to 'conflict financing.' While the FARDC urgently needs a genuine reform process, its behavior is also part of this larger problem of corruption and predation. Miners complained about the behavior of (non-armed) state agents, for example from the ministry of mines, at 74% of the mines where they are present. The IPIS survey showed that taxation without receipt, over-taxation, state agents' personal investments, and intimidation of miners are the most common issues.

Beyond the traditional definition of 'conflict financing,' it is increasingly important to analyze more general security problems around mining. While the number of mines affected by armed groups is limited in some areas, several security issues are closely linked to mining. First, the previous paragraph discussed extortion by the FARDC. Second, tensions and local conflicts persist around access to mines and minerals with a risk that the different parties turn to armed groups to protect their claims. Third, the presence of semi-industrial exploitations, often developed by foreign investments, represents another source of tension to access resources. These exploitations have a considerable impact on the local community and environment, and they have created a lot of dissatisfaction in several provinces.

Fourth, several simmering inter-community tensions have been observed in the visited mining areas, and a lot of former – but non-demobilized – Mai Mai were working in the mines. Both issues have a strong impact on mining and affect more particularly the capability of state agents to monitor the sector.

Addressing these issues – notably intercommunity tensions, local competition over access to resources, state (security) agents' behavior, semi-industrial actors' rush on gold, non-demobilized former combatants – is crucial to improve prospects for more responsible mineral exploitation and sourcing. These areas, which are not affected by open conflict, could profit a lot from increased monitoring linked to traceability and due diligence efforts. An important pre-condition is however that they be developed and implemented in a more participative way, considering these contextual challenges.

65 PRG, IPIS, SFR and Ulula, *Evaluating Due Diligence Programs for Conflict Minerals: A Matched Analysis of 3T Mines in Eastern Congo*, Los Angeles/Antwerp, November 2020; Musamba J. and Vogel C., 'The Problem with "Conflict Minerals"', 21 October 2021, https://www.dissentmagazine.org/online_articles/the-problem-with-conflict-minerals; IPIS, *Mapping artisanal mining areas and mineral supply chains in eastern DR Congo Impact of armed interference & responsible sourcing*, in collaboration with DIIS, April 2019; Iguma Wakenga C. et al., *From 'conflict minerals' to peace? Reviewing mining reforms, gender, and state performance in eastern Democratic Republic of Congo*, The Extractive Industries and Society, March 2021; IPIS, *'Conflict Minerals' initiatives in DR Congo: Perceptions of local mining communities*, November 2013.

66 23% of the workers (76 thousand out of 330 thousand workers) at mining sites visited by IPIS between 2013 and 2022 work at mines containing 3T ores, while 78% (258 thousand out of 330 thousand workers) works at mines where gold is extracted. Source: Artisanal mining in DR Congo - IPIS Open Data Dashboard, consulted on 13 July 2022, https://ipisresearch-dashboard.shinyapps.io/open_data_app/

67 For the 785 mines visited by IPIS between April 2019 and April 2022.

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