



THE ARTISANAL AND SMALL SCALE MINING SECTOR IN EASTERN DRC SIX MONTHS AFTER THE COVID-19 OUTBREAK

The artisanal and small scale mining sector in eastern DRC six months after the Covid-19 outbreak

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TABLE OF CONTENTS

1. Introduction	4
2. Covid-19 in eastern DRC.....	5
2.1. The arrival of Covid-19 in DRC	5
2.2. Sanitary measures.....	5
2.3. Disruption of mineral trade	6
3. Methodology	7
4. Mineral trade	9
4.1. Number of mineral traders	9
5. Mineral prices	11
5.1. Gold	11
5.2. Cassiterite.....	14
6. Production	16
6.1. Evolution of numbers of mine workers	16
6.2. Analysis of impact of Covid-19	17
6.3. Other factors linked to Covid-19 impacting production.....	17
6.4. Factors unrelated to Covid-19 impacting production	18
7. Fall of the local economy	20
8. Security situation at mining sites	22
8.1. Mining Police	22
8.2. FARDC	22
8.3. Armed groups	23
9. Conclusion.....	24
10. Appendices	26

1. INTRODUCTION

In April 2020, when the Coronavirus spread around the world, IPIS took the initiative to monitor the impact of the pandemic on the production and trade of the artisanal and small-scale mining (ASM) sector in eastern Democratic Republic of the Congo (DRC).

IPIS published a [report](#) in October 2020 that discussed the results of several rounds of consultations with ASM stakeholders at nearly 90 Tin, Tantalum, Tungsten and Gold (3TG) mining sites in eastern DRC, conducted between May and June 2020.¹

At that time, ASM stakeholders seemed to fear the economic collapse as much as the virus. When DRC and neighbouring countries closed their borders, all mineral processing houses reported great difficulty to export; all they could do was to stock their minerals until export would be feasible again. Due to export difficulties, processing houses did not get any income. Therefore, many ceased to prefinance traders. Consequently, traders ran low in cash and many of them stopped visiting mining sites. The lack of liquidity among local traders forced miners to accept significant lower prices for their mineral production, resulting into a socioeconomic crisis for local mining communities.

In October 2020, IPIS organized another round of consultations at the same 87 mining sites, in order to evaluate the impact of Covid-19 on ASM on the medium term, **six months after** Covid-19 reached eastern DRC.

Observations made in October 2020 showed that many people in mining communities believed that Covid-19 was over. Restrictive measures were no longer respected, neither controlled by government agents. Nevertheless, this report will discuss the extent to which the socioeconomic impact on the ASM sector was still being felt.

¹ IPIS, The impact of Covid-19 on the artisanal mining sector in eastern DRC, October 2020, <https://ipisresearch.be/publication/the-impact-of-covid-19-on-the-artisanal-mining-sector-in-eastern-drc/>

2 METHODOLOGY

In order to enable comparative analysis, IPIS used the same methodology (including same questionnaires) in October 2020 as it did in the first half of 2020.

Over the years, IPIS has built a network of contacts covering most of the 2,400 mining sites it visited over the past decade, which represent virtually all relevant mining areas of eastern DRC. The data of these mining sites can be consulted on the IPIS interactive webmap², and open data dashboard³. For the purpose of this research, IPIS researchers contacted this network to collect information on the impact of Covid-19 on a range of selected mining sites located in Ituri, Maniema, North Kivu and South Kivu (Table 1).

Between May and June 2020, IPIS researchers conducted telephone interviews with representatives of 13 processing houses and 87 3TG mining sites, including mine managers, cooperative leaders, traders, village chiefs, and mining state agents. For each mining site, respondents were consulted four times, i.e. once every two weeks.

After these initial 4 rounds of consultation, and accompanying report,⁴ a new round of telephone surveys ('Round 5') was organised in October 2020.

The mining sites were selected from IPIS' database based on two criteria:

- Mining sites visited relatively recently by IPIS, i.e. between June 2018 and December 2019;
- Mining sites that employed a considerable number of miners – at least 200 for gold sites and at least 100 for 3T sites.

Since all of the selected 3TG mining sites had been visited fairly recently, we considered the data from 2018 and 2019 as being the pre-Covid-19 'Baseline data'.

All the selected mining sites have been consulted five times, i.e. five rounds of data collection. For the analysis of this report we will compare the baseline data with data from rounds 1, 4 and 5:

- Round 1 – refers to the period running from 7 May to 19 May 2020;
- Round 4 – 19 June to 4 July 2020;
- Round 5 – 10 October to 4 November 2020

A combination of multiple-choice and open-ended questions was asked to the mining stakeholders. The open-ended questions allowed the respondents to detail their observations.

Table 1: Number of mining sites studied per province in October 2020 (Round 5)

Data collection round	Number of mining sites surveyed
Ituri	12
Maniema	35
North Kivu	11
South Kivu	28
Total	86

It is noteworthy that the 86 mining sites selected for this study are those for which IPIS received answers by key informants on sites during the different rounds of phone surveys. Therefore, the final selection of the mines could not result from a sampling strategy that aimed to be representative of the artisanal mining sector in Eastern DRC. Rather than being generalisable to the whole study area, this study aims

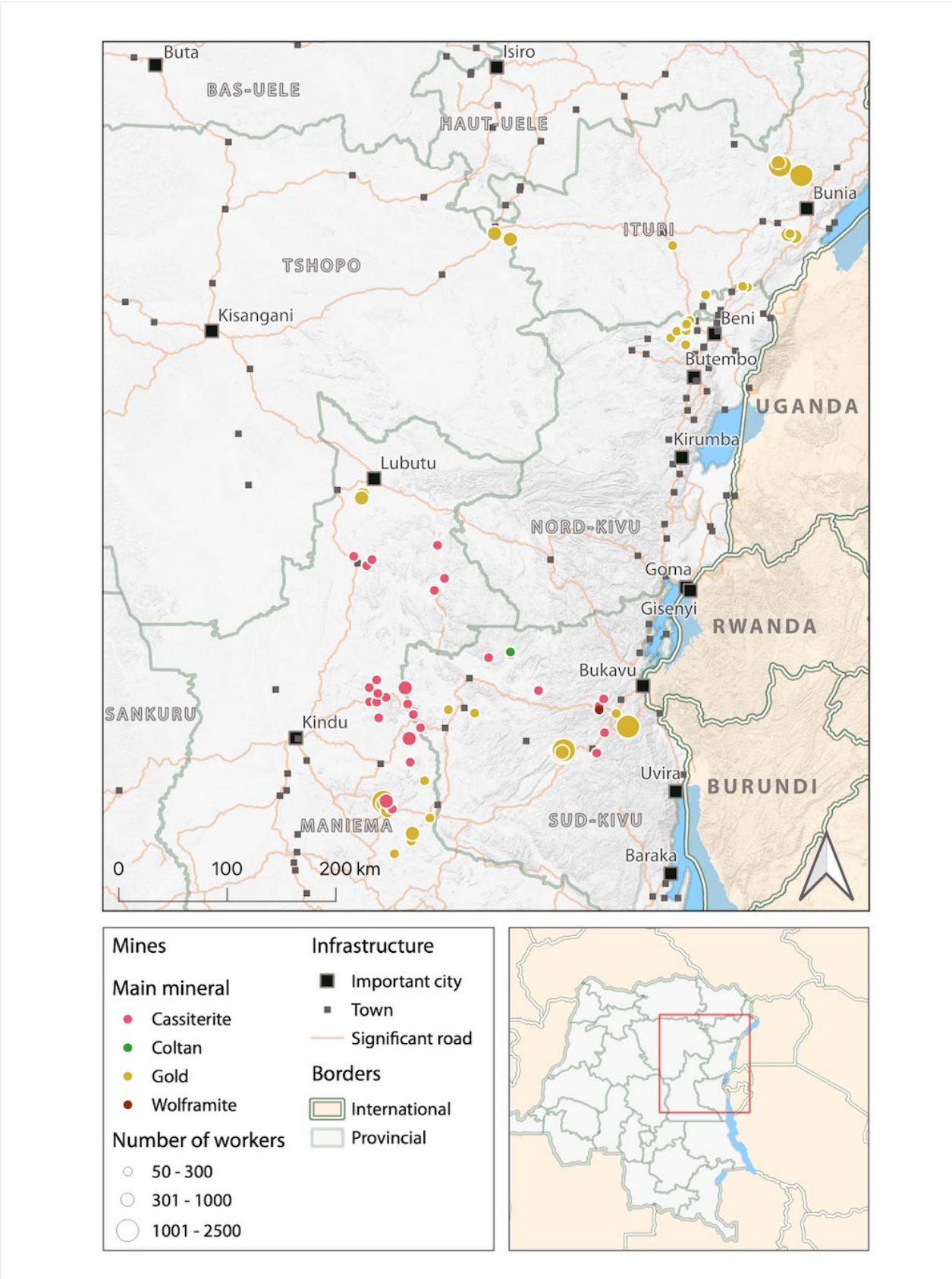
2 Interactive webmap of artisanal mining areas and mineral supply chains in eastern DRC: <https://ipisresearch.be/mapping/webmapping/drcongo/v6/#-3/28/5/4/1/>

3 See IPIS Open Data Dashboard (https://ipisresearch-dashboard.shinyapps.io/open_data_app/)

4 IPIS (October 2020), op. cit.

to be indicative in providing a unique insight into the short and medium-term impacts of the Covid-19 pandemic on the mining sector in eastern DRC.

All statistical and geospatial analyses were performed using R version 4.0.2.



3. MINERAL TRADE

In October 2020, mineral trade seemed to have recovered to a certain extent, following the collapse in the first half of 2020. The preceding report discussed how export difficulties and a lockdown in Bukavu disrupted mineral trade. Mineral prices decreased, local traders ran low in cash, and pre-financing of mining operations came to a standstill. Widespread cash flow problems even resulted in increasing levels of barter trade.⁵

The current report will discuss how **mineral prices** have since increased considerably (section 3.1), as well as the **number of traders** (section 3.2). **Cash flow** problems however persisted and continued to affect mineral trade.

It is important to note that there are key regional differences with regards to mining and mineral trade, which are discussed in detail in the appendix of the report.

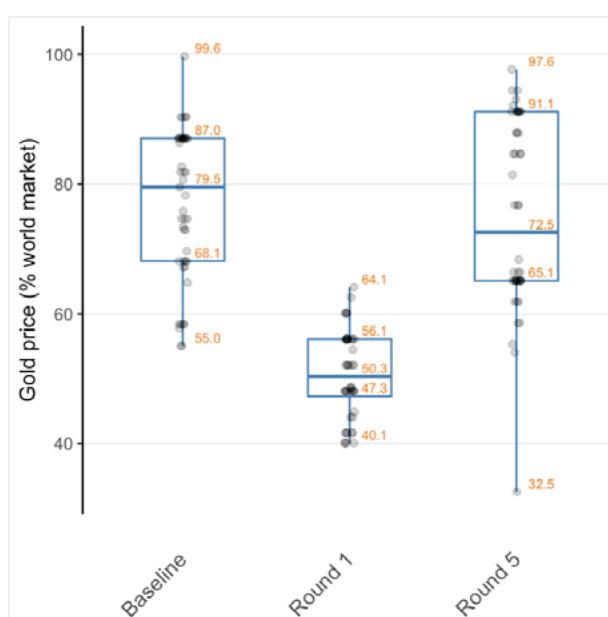
3.1. MINERAL PRICES

3.1.1. Gold

By October 2020, gold prices had largely recovered at the level of the mining sites, after the collapse at the start of the Covid-19 crisis ('Round 1'). Table 2 shows that the average gold price per gram rose from 32.0 US\$ in 2018-2019 ('Baseline'), to 45.9 US\$ in October 2020 ('Round 5'), which represents a 43% increase.

Table 2: Gold price at the level of the mining site, US\$/g⁶

Data collection round	Average	% world market price	Median	% world market price
Baseline (47 mines)	32.0	77%	32.9	80%
Round 1 (48 mines)	28.5	51%	28.3	50%
Round 4 (45 mines)	38.9	69%	40.6	72%
Round 5 (48 mines)	45.9	75%	44.3	73%



The preceding report explained how the evolution of the world market price for gold masked the actual impact of the crisis on the local price levels. Table 2 and Figure 2 clearly show that relative prices have decreased much more drastically during the height of the crisis. While the average price at the level of the mining sites was 77% of the world gold market price prior to Covid-19, it plummeted to 51% early May 2020 before it experienced a gradual rebound. By late June (Round 4), relative gold prices already largely recovered to 69%, but artisanal miners did not yet get the same share of the gold market value compared to the pre-Covid-19 era. In October 2020, gold prices reached an average of 75% of the market prices approaching the level of the pre-Covid-19 period.

Figure 2: Price of gold at the level of the mining site compared to world market price (% of world market price)

⁵ IPIS (October 2020), op. cit., pp. 9-10.

⁶ The selling price of gold in the mining sites was calculated as a percentage of the gold market price using averaged monthly data from <https://goldprice.org>

All of the figures and tables below express the weight of gold in (metric) gram. However, in eastern DRC, at the level of the mining sites and local trading hubs, the 'Kitchele' is more commonly used as the unit of weight for gold. One Kitchele equals about 1.28 metric grams. In order to enable comparative analysis, all gold weights in the tables and figures have been converted into metric gram. Furthermore, all price levels have been converted from Congolese Francs (FC) into US\$.

Moreover, it is noteworthy that the price of gold per gram reported at the level of the site does not always perfectly reflect the actual selling price per gram. At several mines, traders buy gold through the system called 'loterie', meaning that they do not use a balance to weigh the gold but they assess the value just by looking at the production.

All the provinces experienced this general trend, even though the actual values are a bit lower in the northern areas of our sample (see figure 3 and the appendix). After a price collapse in March-April 2020, prices quickly recovered to a large extent in June-August 2020, but stagnated in September-October 2020. Around Kamituga (South Kivu), for example, the price of gold had collapsed in March-April 2020 to 50,000 FC per Kitchele. By the end of June 2020, prices had increased again to 95,000 FC, while in July-August 2020, they even rose to 150,000-155,000 FC. Afterwards, in September-October, prices lowered a bit, varying between 140,000 and 145,000 FC per Kitchele. In Lubutu territory (Maniema), prices rose to about 90,000 FC per Kitchele in October 2020, while in Beni territory (North Kivu) and Ituri, they were around 100,000 FC. Near Kampene and Bikenge trading hubs (southern part of Maniema), prices varied around 130,000 FC. Interviewees, however, claimed that the price was higher before the Covid-19 crisis, at 150,000 F.

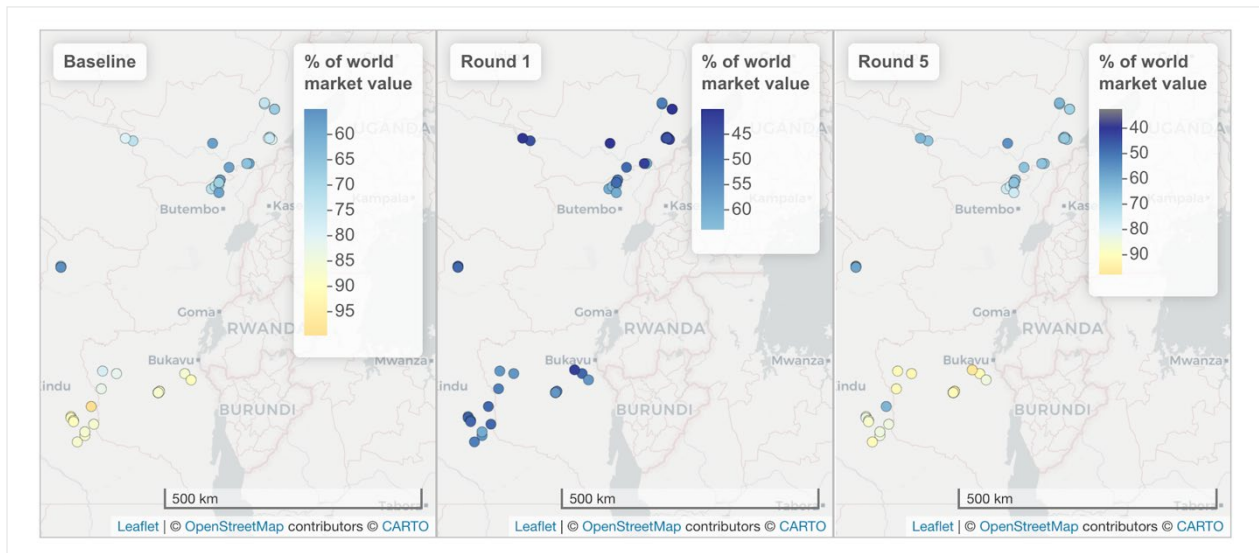
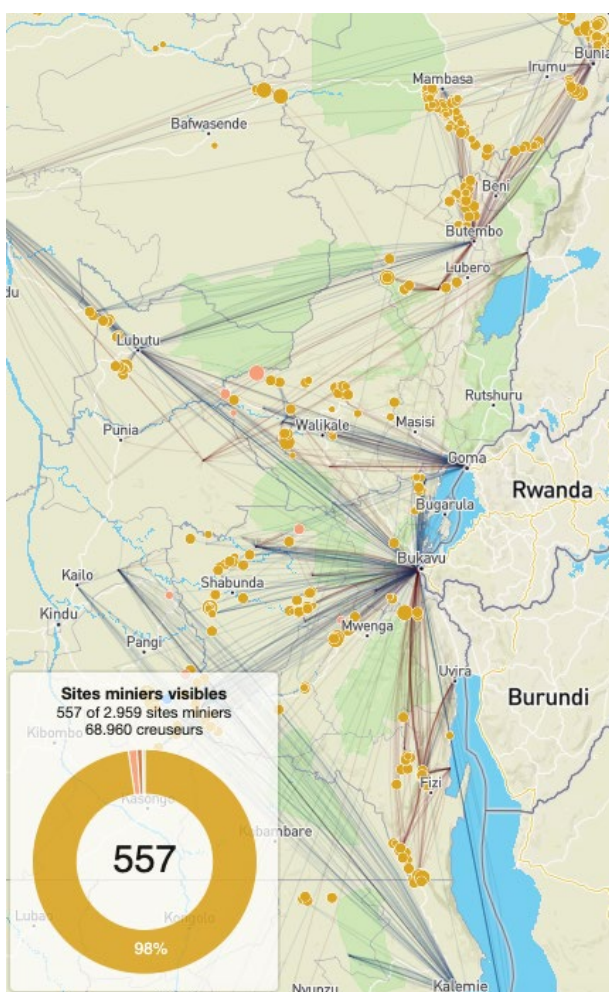


Figure 3 – Map showing the temporal evolution of gold prices (% of world market price) at the mining sites between the baseline study and October 2020 (Round 5).

Figure 3 shows that the gold price is higher (yellow dots in 'baseline' and 'round 5' in figure 3) in Bikenge, Kampene (Maniema province) and South Kivu, compared to the sites in Beni territory (North Kivu) and Ituri, in our sample. This difference is not related to Covid-19, as the difference persists throughout the different rounds. The reason is not clearly established but one hypothesis could be the quality of the gold. Amalgamated gold (which has been treated with mercury to extract the gold) is less dense, hence



cheaper, than alluvial gold⁷. Mercury use actually seems to be more common in Ituri, compared to South Kivu. For the gold mining sites selected for this study, mercury use has been observed during the 'baseline' at 9 out of 12 sites in Ituri (75%), compared to 4 out of 11 in South Kivu (36%).⁸ Another possible explanation can be linked to the trading routes. While gold from South Kivu, Bikenge and Kampene passes by Bukavu, gold from Ituri and Beni is traded via Butembo and Bunia (see figure 4).

Figure 4 – Screenshot of the IPIS interactive webmap⁹ showing the destination of mineral production per mining site

In conclusion, gold prices relative to the world market price collapsed around March-April 2020, at the height of the crisis. The relative prices quickly recovered after the international borders re-opened and trade revived. In October 2020, the relative gold prices (on average 75% of the world market prices) are close to the level of the relative gold prices before the outbreak of Covid-19 (on average 77% of the world market price).

3.1.2. Cassiterite

Table 3: Cassiterite price at the level of the mining site, US\$/kg

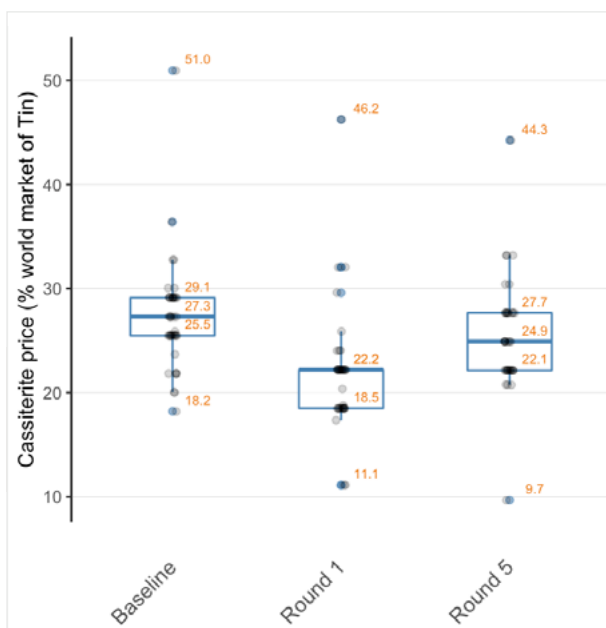
Data collection round	Average	% world market tin price	Median	% world market tin price
Baseline (41 mines)	4.5	27%	4.5	27%
Round 1 (38 mines)	3.4	22%	3.5	22%
Round 4 (38 mines)	4.0	24%	4.0	24%
Round 5 (38 mines)	4.7	25%	4.6	25%

The evolution of cassiterite prices is quite similar to the evolution of gold prices. Table 3 shows that average cassiterite prices at the level of the mine were 24% lower early May (3.4 US\$/kg), compared to our baseline data from 2018/2019 (4.5 US\$/kg). By the end of June 2020 ('Round 4'), prices had partly recovered, up to 4.0 US\$/kg, but they were still 11% below the pre-Covid-19 price levels ('Baseline' at 4.5 US\$).

⁷ Alluvial gold deposits form over time where a river runs, or has previously run through ground which is rich in gold. The erosive power of the water removes the surrounding rock due to its comparative low density while the heavier gold resists being moved. Alluvial gold usually takes the form of dust, thin flakes or nuggets. In <https://www.cdeglobel.com/applications/gold/alluvial-gold-mining>

⁸ The difference in mercury use between Ituri and South Kivu can also be observed when consulting all of the gold mining sites in IPIS' database. For the gold mining sites visited by IPIS since June 2018, mercury use has been observed at 52% of the sites in Ituri (66 out of 127 sites), compared to 23% in South Kivu (30 out of 129 sites). (Source: Artisanal mining in DR Congo – IPIS Open Data Dashboard: https://ipisresearch-dashboard.shinyapps.io/open_data_app/)

⁹ <https://ipisresearch.be/mapping/webmapping/drcongo/v6/#-1.360750477318092/29.34577753644362/6.100961810003449/4/1.6/2.1nxkao>



In October 2020, average prices had surpassed the baseline level, which may however be partially due to increasing tin prices on the world market between May and October 2020 (from 16.0 to 18.4 US\$/kg).¹⁰ Consequently, miners still got a slightly smaller part of the value of cassiterite compared to period prior to Covid-19, relative to the world market price. (See figure 5)

Figure 5: Price of cassiterite at the level of the mining site compared to world market tin price (% of world market tin price)

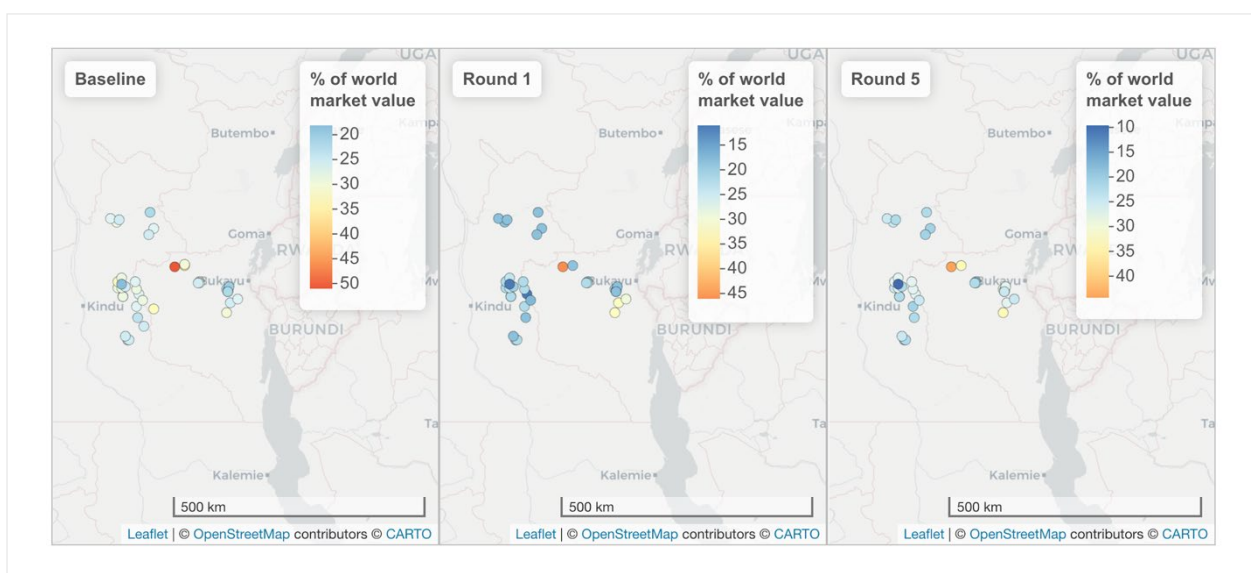


Figure 6 – Map showing the temporal evolution of Cassiterite prices (% of Tin world market price) at the mining sites between the baseline study and October 2020 (Round 5).

Figure 6 reveals that, in general, cassiterite mines in both Maniema and South Kivu experienced the same trend. Cassiterite prices relative to the world market tin prices decreased in March-April 2020 ('Round1') compared to the pre-Covid-19 period ('Baseline'). By October 2020 ('Round 5'), relative cassiterite prices had partly recovered.

3.2 NUMBER OF TRADERS

Besides the substantial recovery of mineral prices, table 4 suggests that the average **number of traders** has also significantly increased between May and October 2020. These results should however be interpreted with caution. Firstly, the artisanal mining context is very dynamic, meaning that many **other factors** (besides the impact of Covid-19) influence trade dynamics. For example, gold traders (*managers*) did not have the habit to go up to the mine of Golgotha (Kamituga area) in the past. However, since some

10 Source: <https://www.lme.com/en-GB/Metals/Non-ferrous/Tin#tabIndex=2>

crushers (*concasseurs*) have been installed on site, traders started buying gold at the level of the mine in October 2020. This example illustrates a growing number of traders on site that has no relationship with the outbreak of Covid-19. Secondly, the differences observed between May and October 2020 are greatly influenced by variations in just a few mining sites with a relatively high number of traders, which explains why the median estimates remain stable over time.

Table 4: Number of traders visiting the mining site per week

Data collection round	Average per mining site	Median	Min	Max
round_1 (86 mines)	4.28	2	0	100
round_4 (84 mines)	4.42	2	0	50
round_5 (86 mines)	6.62	2	0	150

Furthermore, a closer look reveals that serious trade issues persist. In many areas, interviewees explained how **cash flow problems** still exist, as several processing houses (*comptoirs*) in Kindu and Bukavu still have difficulty to export and acquire funds from their international partners.

Although mineral traders are circulating again in most places, they often do not have the same **purchasing power** as prior to the Covid-19 crisis. Additionally, traders' cash flow problems continue to disturb the traditional **pre-financing** of mining activities. Some miners complained that buyers only bought gold that was readily available, and no longer pre-finance operations to be reimbursed in gold afterwards.

“Actuellement, les boss n’ont plus d’argent pour pré-financer les travaux avant la production. Normalement, on rembourse les boss avec cette production, mais aujourd’hui, ils ne parlent qu’avec les creuseurs qui ont déjà de l’or”
A mine manager, so-called PDG, near Kamituga (South Kivu)

Mining sites around the major cassiterite hub **Kalima**, for example, started to produce minerals, but local traders' cash flow problems continued to affect mineral trade. In October 2020, two (out of three) Kindu-based *comptoirs*, notably Metachem and AMUR, had not yet resumed purchasing from Kalima and Kailo. While cassiterite prices had increased by October 2020, miners experienced difficulty to actually sell their production, as traders struggled with a lack of cash.

4. PRODUCTION

Table 5: Number of miners estimated per reference period

Data collection round	Total number of mine workers	Average per site	Median	Min	Max	SD*
Baseline (86mines)	31,385	365	200	50	2,500	517.37
Round 1 (85 mines)	20,350	237	116	0	5,000	562.58
Round 4 (84 mines)	26,554	316	120	5	7,550	849.57
Round 5 (83 mines)	28,847	335	150	0	8,500	929.38

*SD = Standard Deviation

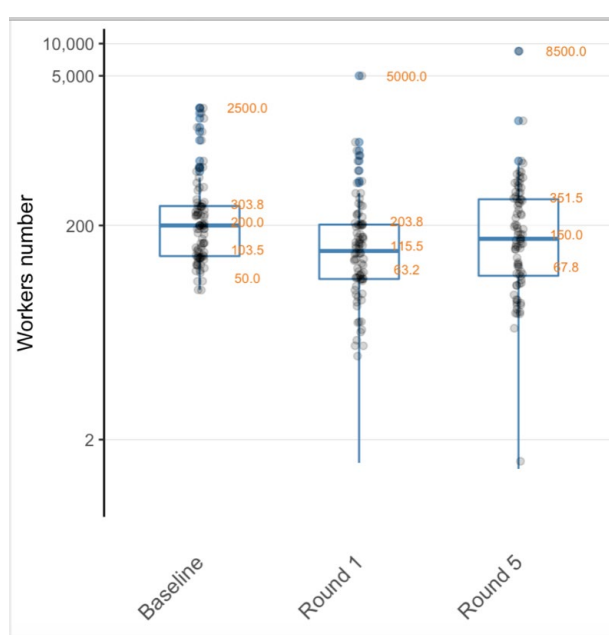


Figure 7: Number of miners per reference period (logarithmic scale)

The evolution of the number of miners, as presented in table 5 and figure 7, indicates that artisanal mining has recovered gradually since the height of the crisis (Round 1)¹¹. Artisanal mining increased, as mineral trade largely recovered, and money is circulating.

At the level of the mining sites, mining activity (i.e. the number of miners) is however not everywhere back at the pre-Covid-19 levels. This difference is linked to a **variety of factors**, related both to Covid-19 and some other dynamics. These factors include seasonality (rains), (non-)availability of pre-financing, operational challenges at site level and the security situation. A summary of some of regional differences is described below, more

details on the evolution of number of miners per province can be found in the Appendix.

For instance, **heavy rainfall** in October 2020, combined with a **lack of pre-financing** following the Covid-19 crisis, seriously impacted production in several areas. Around the cassiterite trading hubs of Nzibira and nearby Luntukulu (Walungu territory, South Kivu), interviewees explained that flooding of mine pits requires investments in motor pumps and fuel to enable production to continue. Low mineral prices during the Covid-19 crisis, however, discouraged *managers* (or traders, providing pre-financing) to make such investments as they were afraid to lose money in the end. This context explains the decreasing number of miners between June and October 2020 (Round 4 to 5, see appendix 8.1). On the contrary, in North Kivu, a strong decrease in number of miners could already be observed in June 2020 (round 4), as heavy rains seriously hampered gold production around Beni in that period.

« il n'y a plus de Boss qui donne des prêts pour financer des travaux lourds »
PDG at Kazibe

¹¹ A paired t-test shows a significant increase in number of workers between May and October 2020 with $p < 0.001$. A statistical comparison between Baseline and October 2020 does not show any significant difference ($p = 0.3$). The calculation of Global Moran's I index indicates that no spatial auto-correlation may affect the validity of the statistical tests (Global Moran's I ranging around 0 from -0.02 to 0.008).

Additionally, in South Kivu, new promising **discoveries** appeared at the mining sites Chosho/Tchoncho (cassiterite, *groupement* Kaniola in Walungu) and Luhihi (gold, Kabare territory). This presented an additional incentive for miners around Nzibira to leave the area, for mines where minerals are still more easily accessible.

In Kalima (Maniema province), interviewees explained how **traders' cash flow problems** started to disincentivise mineral production in October 2020. There have even been reports that these cash flow problems resulted once again in **barter trade**: cassiterite was directly traded for consumer goods.

Moreover, very **local factors** might impact the mining activity. At some cassiterite mines in Mwenga territory (Kashwa, Misela and Mayengo), interviewees complained that a local **trade monopoly** by the cooperative negatively impacted trade and production. Furthermore, in Irumu territory, interviewees referred to the arrival of **some semi-industrial investors**. At the three mining sites Manzanza, Cartusi and Murondo (Irumu territory, Ituri), there were no miners left in October 2020. During the peak of the Covid-19 crisis, when production, trade and prices plummeted, Chinese investors acquired access to these three mines and reportedly depleted them.

The **security** situation and the **interference of armed actors** are also important factors to consider in eastern DRC. The preceding report discussed how the surrender of **Raïa Mutomboki** chief Maheshe had a positive impact on productivity in Walungu. A strong increase in the number of miners had for example been observed at Mushangi D8, from around 150 early May to almost 600 miners by the end of June 2020.¹² Nevertheless, some insecurity has been reported more to the north of Nzibira in Kabare territory, as some of Maheshe's men defected and shelter in the mountains in Nindja territory and regularly pass by Muhinga mining site. (See text box)

The rebel leaders Shabadeux Mazi and Shagalu defected from Maheshe's Raïa Mutomboki early 2020, as they did not agree with the latter to surrender to MONUSCO in May 2020. They have established themselves in the chefferie Nindja (Kabare territory), where they have allegedly chased away the Raïa Mutomboki from Lukoba and Bralima.¹³

Since the arrival of Shabadeux, the security situation at the Muhinga cassiterite mine deteriorated. In May 2020 some miners had been kidnapped. Ever since, the mine owner has to send a monthly payment to the rebels via 'mobile money transfers'. The original amount was 50,000 FC (about 25 US\$) but shortly after it rose to 160,000 FC (about 80 US\$) to reach up to 200,000 FC (100 US\$) in August 2020.

By October 2020, most of the miners had already left to the new discoveries in Luhihi and Chosho/Tchoncho, and only 22 stayed at the site. This small workforce was no longer able to pay the 100\$ demanded by the rebels.

The mines in Djugu territory (four in our survey) provide another illustration of the impact of (in)security on production levels. These mines observed a strong increase in number of miners between May and October 2020, from 1,730 to 2,735 miners. This is however well below the 5,590 miners reported when IPIS teams visited the mines in September 2018 ('baseline'). The fluctuations in this area are especially due to the fragile security situation caused by **CODECO** (*Coopérative pour le Développement du Congo*), an

12 The positive vibe back then, due to the departure of Maheshe and increasing numbers of buyers, has partly been tempered by October 2020, when no more than 350 miners were working at the mine. This decrease is due to new discoveries in Luhihi and Chosho/Tchoncho (discussed above), rainfall and a lack of pre-financing.

13 Telephone interviews with mining stakeholders in Kabare and Nindja territories, October 2020.

alliance of Lendu armed groups.¹⁴ The signing of a ceasefire in July 2020 by some of the CODECO factions had a positive impact on the security situation.¹⁵ Consequently, the number of miners has increased considerably as pillaging and extortion are less frequent.



Magnida gold mine Djugu territory, Ituri, September 2018

CODECO remains the most important armed group in Djugu, and more generally in Ituri. Its militiamen are for example involved in gold exploitation at the mines Camp Trois and Magnida.¹⁶ Some interviewees even claim that it is precisely because some CODECO groups took control of gold mines, and their men can work in the mines, that the level of violence has decreased.

The preceding report discussed that **children** and **teachers** were reported among the newcomers at many mining sites, which contributed to an increasing number of miners at some mines:

Child labour during the holiday periods is a well-known phenomenon. The emergence of children at mining sites was most probably linked to school closures, one of the government measures taken against Covid-19.¹⁷

Schools officially re-opened on 12 October 2020, which was confirmed by some respondents in October 2020. Nevertheless, the presence of children had still been reported at several mines. Some school had actually not yet started, as teachers were on strike demanding better working conditions (including payment) from the government, since the latter decided to abolish the direct payment of teachers by the parents of the pupils.

The Kadumwa gold mining site (Mwenga territory), provides an interesting anecdote related to the re-opening of schools. Its workforce rose from 5,000 to 8,500 miners between May and October 2020. Since the school closure at the beginning of the Covid-19 crisis, many teachers and students started digging for gold in Kadumwa. Additionally, in September 2020, a lot of parents started working in the mines to prepare for the re-opening of schools - and school fees - in October. Finally, unemployed staff of the industrial mining company Banro ("*congé technique*") still worked in the mine.

14 IPIS, Persistent violence in gold-rich Ituri Province, DR Congo: root causes and impact on local population, IPIS Briefing August 2020, <https://ipisresearch.be/weekly-briefing/ipis-briefing-august-2020-persistent-violence-gold-rich-ituri-province-dr-congo-root-causes-impact-local-population/>

15 UN Group of Experts on the DRC, Midterm report, S/2020/1283, 23 December 2020

16 In September 2020, IPIS teams have also observed CODECO at the gold mines around the 'Iga Barrière' trading hub. See interactive webmap: <https://ipisresearch.be/mapping/webmapping/drcongo/v6/#1.7139687933079841/30.33066720265765/11.257053385461706/4/1,2/4.eo>

17 IPIS (October 2020), op. cit., p. 18.

5 LOCAL ECONOMY

The preceding report discussed how Covid-19 hit the local economy in mining areas, and beyond, in eastern DRC. The closure of the international borders, internal restrictions of movement and limited transportation of goods. On top of that there was the devaluation of the Congolese Franc. While mining stakeholders' revenues decreased, the prices of food and essential goods started to rise dramatically. Diggers complained about the increase in food prices, sometimes up to two or three times the price of the pre-Covid-19 period.

In October 2020, the local economy still dealt with some of the effects of Covid-19. The exchange rate had not yet recovered. Before the announcement of the Covid-19 restrictions, 1 US\$ was changed at 1,600-1,700 FC. In May 2020 the exchange rate was 1 US\$ for 1,900 FC, and it was still 1,960 FC in October 2020.

The price of imported products and production equipment was still relatively expensive all over. The price of a shovel, for example, varied between 10,000 and 15,000 FC in October 2020 in some of the Maniema mining sites of our survey, while it was within the range of 5,000 - 9,000 FC before Covid-19.

For food products, price levels and price evolutions vary from one area to another. In Kasese and Punia (Maniema province), Beni (North Kivu) and Ituri, people reported price decreases due to the harvest season. For example, a cup of rice cost 600 FC in October 2020 in Kasese and Punia, while it was sold between 1,000 and 2,500 FC a few months earlier. However, in South Kivu and some other hubs in Maniema (Kalima, Kampene and Bikenge), people complained that food prices were still well above pre-Covid-19 price levels. In Kamituga and Mwenga (South Kivu), people referred to the bad state of the National Road as an explanatory factor of the rising prices.¹⁸ The project 'Commercially Viable Conflict-Free Gold' also explained that areas depending on subsistence agriculture, rather than food imports, have been less affected by food insecurity.¹⁹

18 Radio Okapi, La dégradation de la route à la base la flambée des prix à Kamituga, 29 January 2021.

19 Levin Sources & Global Communities, The Impact of COVID-19 on Artisanal Gold Miners in Eastern DRC, USAID, 28 October 2020.

6 SECURITY SITUATION AT MINING SITES

Several armed groups interfered at the mining sites that have been surveyed, including:

- CODECO groups in Djugu territory (Ituri);
- The Allied Democratic Forces (ADF) that are pillaging mining sites in the north of Beni territory (North Kivu);
- Mai Mai groups in the western part of Beni (North Kivu)²⁰;
- Raïa Mutomboki groups in South Kivu.

Nevertheless, the research did not find a link between insecurity, violence or armed interference in mining areas on the one hand, and Covid-19 on the other hand.

6.1 STATE SECURITY FORCES



Policeman at the Mavula gold mine near Kampene, Maniema province, July 2018

The role of the **mining police** is however noticeable. There seems to be an increasing presence of these agents at mining sites since the Covid-19 crisis, as they have been verifying whether the preventive measures against the Coronavirus were respected. In May-June 2020, the mining police fined miners (between 5,000 to 25,000 FC) on several mining sites, for not wearing a mask and hence, not complying with the Covid-19 protective measures. In Shabunda, an increase in harassment, including illegal taxation, of mining police and other law enforcement officers was reported since the outbreak of Covid-19.

Table 6: Mining police presence at the mining sites

Data collection round	Number (and %) of mines with Mining Police presence
Baseline	13 (15%)
Round 1	25 (29%)
Round 5	20 (23%)

²⁰ IPIS, Armed groups challenging opportunities for responsible gold mining in Beni, IPIS Briefing January 2021, <https://ipisresearch.be/weekly-briefing/ipis-briefing-january-2021-armed-groups-challenging-opportunities-for-responsible-gold-mining-in-beni/>

In October 2020, the presence of mining police had decreased slightly (see table 6), and they were no longer checking respect of Covid-19 protective measures. In some mines, people also reported that harassments by the mining police had decreased after the height of the Covid-19 crisis. Nevertheless, in general, illegal taxation by these agents is still regularly reported at various mining sites.

Moreover, the interference of **FARDC** units had been reported at many mining sites, as is the case in our baseline data. For example, in Beni area an FARDC regiment was levying illegal taxes at 7 out of the 11 mines that had been surveyed. The gold mine Kaibomba (near Bikenge, Maniema province) offers another deplorable example. People reported that mining and mineral trade had recovered in the wider area, but not at Kaibomba. Two competing FARDC units interfered in a conflict over access to the mine between two customary chiefs (each unit protected the interest of another chief), which has led to insecurity and harassment of miners. Consequently, a lot of miners and traders were not yet willing to return to the site.

7 CONCLUSION

The economic impact of Covid-19 hit ASM communities immediately in March 2020. DRC's borders with neighbouring countries were closed, exporting facilities ('*comptoirs*') experienced great difficulty to export and many ceased to pre-finance traders. Consequently, mineral traders ran low in cash and were no longer able to buy significant volumes, which had a devastating impact on miners' revenues.

The lack of liquidity among local traders pushed down mineral prices, which hit rock-bottom in March-April 2020. Price levels for both cassiterite and gold slowly recovered from May 2020 onwards, and even surpassed pre-Covid-19 levels in July and August 2020. However, when comparing cassiterite prices at the level of the mine with world market prices in October 2020, miners still got a slightly smaller part of the market value of tin compared to the period prior to Covid-19.

Besides the recovery of gold prices, and partial recovery of cassiterite prices, the number of traders had also largely recovered in most areas in October 2020. However, serious trade issues persisted across the study area. Cash flow problems prevailed, as several '*comptoirs*' in Kindu (Maniema) and Bukavu (South Kivu) still had difficulty to export and to acquire funds from their international partners. In most places mineral traders were circulating again in October, but they often did not have the same purchasing power as prior to the Covid-19 crisis.

As traders are traditionally key actors to prefinance mining activities in eastern DRC, their cash flow problems have also created a lot of difficulties for artisanal miners, and mining activity since March 2020. At the selected mining sites of our survey, the median number of miners per site decreased from 200 at the time of the baseline, to 109 miners early May 2020. By October 2020, mining activity seems to have recovered to a certain extent. Of course, locally there are variations and some sites have not recovered while others exceeded the baseline levels in October 2020.

Alongside the impact of Covid-19, additional factors should be considered to explain fluctuations in miners' numbers. These factors include seasonality, levels of security, discovery of new mineral deposits, local conflicts, and operational challenges.

To conclude, the ASM sector in eastern DRC was hit hard in the first months of the Covid-19 crisis. On the medium term (in October 2020), six months after the first Covid-19 cases, the sector had recovered to a great extent. It however still struggled with serious challenges. Covid-19 created cashflow problems, which lingered on in October 2020, and hampered pre-financing and investments in mining activity. It is precisely these investments that are needed to deal with challenges such as seasonality and operational issues: e.g. draining a flooded mine pit, or treating the hard rock containing the gold deposits. The lack of investment pushed several miners to migrate to other, more productive mining sites.

8 APPENDIX

8.1 SOUTH KIVU

Table 7: Number of miners estimated per reference period, Cassiterite

Data collection round	Total number of mine workers	Med	Avg	Min	Max	SD	0 workers
Baseline (17 mines)	2,816	170	166	50	300	89	0
Round 1 (15 mines)	1,433	97	96	20	155	45	0
Round 4 (15 mines)	1,893	86	126	20	596	139	0
Round 5 (15 mines)	1,619	70	108	22	350	92	0

Cassiterite production decreased considerably, and did not yet recover by October 2020. Especially in **Walungu** territory, around the cassiterite trading hubs of **Nzibira** and nearby **Luntukulu**, a slowdown of trade has been observed. This seems to be mainly due to decreasing production levels, not always directly linked to Covid-19. This includes new discoveries in other mines (especially Chosho/Tchoncho and Luhihi), rainfall, and in some cases insecurity.

Section 4 discussed the impact of the surrender of Raia Mutomboki chief Maheshe, and the defection of rebel leaders Shabadeux Mazi and Shagalu in Walungu and Kbare territory.

Around the cassiterite mines in **Mwenga** territory (Kashwa, Misela and Mayengo in our survey), trade recovered carefully and production had slowly increased by October 2020. However, interviewees complained that a local trade monopoly by the cooperative retarded a full recovery of mineral trade.

At the cassiterite mines around the trading hubs in the north of **Shabunda**, notably Nzovu, Tchonka and Nyambembe, the situation was mixed in October 2020. As elsewhere, in the province cash flow problems and a lack of pre-financing still existed, hence no recovery had been observed at the mines covered near Nyambembe and Tchonka. On the contrary, around Nzovu, mining activity increased progressively.

Table 8: Number of miners estimated per reference period, Gold

Data collection round	Total number of mine workers	Med	Avg	Min	Max	SD	0 workers
Baseline (12 mines)	9,262	300	772	50	2,238	772	0
Round 1 (13 mines)	9,093	200	699	17	5,000	1,338	0
Round 4 (12 mines)	12,820	420	1,068	42	7,550	2,085	0
Round 5 (13 mines)	12,375	405	952	30	8,500	2,282	0

Compared to cassiterite, the decrease in **gold** mining activity observed in round 1 (May 2020) was not as strong, and it had already recovered by late June 2020 (round 4). It is noteworthy that the total number of miners is heavily influenced by Kadumwa gold mine (more detail below), as it employed 2,238 workers in the baseline, and respectively 5,000, 7,550 and 8,500 workers in early May, late June and October 2020.

In **Mwenga** territory mineral trade had largely recovered in October 2020, and money was circulating. This was also the case around the gold trading hub of **Kamituga**. Gold traders were going around the different mines in the area, and mainly bought small quantities through the 'lottery' system (see text box in section 3.1.1). For important gold volumes, miners went to the trading hub of Kamituga themselves, to sell their production.

The number of gold miners, however, did not increase in the area in October 2020. For the 7 mines of our survey located around Kamituga, the total number of miners even decreased between round 4 and 5, from 4,840 to 3,595 miners. It seems the rainy seasons partly explains this decrease, as well as the lack of pre-financing, that miners observed in some sites. The Kazibe gold mine for example saw a decrease in number of miners from 1,500 in the baseline, to 900, 550 and 250 miners in rounds 1, 4 and 5, respectively. A lack of electricity, flooding of the largest pits and a lack of pre-financing (e.g. to empty the flooded pits) have pushed miners to other sites. The number of miners at the nearby gold mine Golgotha, on the other hand, increased from 200 to 800 miners between May and October 2020.



Kyendekutu or Mapipi gold mine, Shabunda

The **Kadumwa** gold mining site in the north-east of **Mwenga**, on the contrary, rose between May and October 2020 from 5,000 to 8,500 miners. The high number of miners is largely due to several factors related to Covid-19. Section 4 already discussed that following school closures teachers, pupils and students started digging for gold in Kadumwa. Additionally, parents started working in the mines to prepare for the reopening of schools, and unemployed staff of the industrial mining company Banro ("*congé technique*") worked in the mine.

In the gold mines near **Shabunda** town (4 in our survey), people still reported serious cash flow problems, which continued to affect gold trade. Number of miners increased slightly from 166 to 253 miners between May and October 2020 but it remains well below the 570 miners reported in the baseline.

8.2 MANIEMA

Table 9: Number of miners estimated per reference period, Cassiterite

Data collection round	Total number of mine workers	Med	Avg	Min	Max	SD	0 workers
Baseline (24 mines)	3,819	115	159	60	500	112	0
Round 1 (23 mines)	2,649	71	115	12	518	113	0
Round 4 (23 mines)	3,967	106	172	20	650	162	0
Round 5 (23 mines)	4,907	185	213	41	513	144	0

In Maniema, the number of workers and mineral production at **cassiterite** mines increased strongly, and even exceeded pre-Covid-19 figures. Nevertheless, interviewees felt that cassiterite trade recovered rather slowly.

Section 3 and 4 illustrated this, explaining that mining sites around **Kalima** produced minerals in October 2020, but that local traders' cash flow problems continued to affect mineral trade. Some Kindu-based *comptoirs*, had not yet resumed purchasing from Kalima and Kailo in October 2020. While cassiterite prices had increased, miners experienced difficulty to sell their production

Also in **Punia**, number of miners and cassiterite production had recovered, but trade was only slowly restarting in October, as money was not yet circulating

Table 10: Number of miners estimated per reference period, Gold

Data collection round	Total number of mine workers	Med	Avg	Min	Max	SD	0 workers
Baseline (12 mines)	5,329	295	444	165	1,650	411	0
Round 1 (12 mines)	2,497	152	208	0	650	172	1
Round 4 (12 mines)	3,319	209	277	82	800	200	0
Round 5 (12 mines)	5,227	432	436	143	762	203	0



Kangumbu cassiterite mine, Maniema province

More southward, Maniema also holds some important **gold** deposits, around **Kampene** and **Bikenge**. Gold trade in Maniema reportedly recovered a bit quicker compared to cassiterite. Interviewees testified that the situation is seriously improving, with increasing production levels and numbers of buyers. Nevertheless, people also explained that the number of traders was not yet at the pre-Covid level. Many traders coming all the way from Bukavu did not yet return.

Finally, in the north of Maniema, close to Lubutu, gold mines (three in our survey) experienced production increases.

8.3 NORTH KIVU

Table 11: Number of miners estimated per reference period, Gold

Data collection round	Total number of mine workers	Med	Avg	Min	Max	SD	0 workers
Baseline (11 mines)	1,358	102	123	75	244	52	0
Round 1 (11 mines)	1,749	150	159	15	400	144	0
Round 4 (11 mines)	1,162	35	106	5	450	144	0
Round 5 (11 mines)	1,522	120	138	55	450	109	0

In Beni territory, interviewees claimed that Covid-19 never had a significant impact on production levels. Miners live from day to day, and continued producing, despite lower prices and a slowdown in trade. Increasing levels of insecurity were mentioned as a much bigger concern than Covid-19.²¹

A decrease in number of miners can be observed in June 2020 (round 4), which was however not related to Covid-19. Heavy rains seriously hampered gold production around Beni, and consequently temporarily stopped gold trade.

In October 2020, interviewees in Beni talk about a 'net improvement' of the situation, as mineral prices have increased again, and food prices decreased (see section 5). Mineral trade has revived and minerals are no longer stockpiled. Nevertheless, some minor cash flow issues persisted in October 2020. Traders were

²¹ IPIS, Armed groups challenging opportunities for responsible gold mining in Beni, IPIS Briefing January 2021, <https://ipisresearch.be/weekly-briefing/ipis-briefing-january-2021-armed-groups-challenging-opportunities-for-responsible-gold-mining-in-beni/>

not always immediately able to buy all gold production, while the gold sector is typically characterized by money being readily available, which usually enables quick transactions.

8.4 ITURI

Table 12: Number of miners estimated per reference period, Gold

Data collection round	Total number of mine workers	Med	Avg	Min	Max	SD	0 workers
Baseline (12 mines)	9,038	388	753	106	2,500	843	0
Round 1 (12 mines)	2,839	155	237	25	1200	316	0
Round 4 (11 mines)	3,305	100	300	15	1,650	484	0
Round 5 (12 mines)	3,189	51	266	0	1,900	531	3

The figures in table 12 need to be interpreted with caution. The different territories within Ituri have followed different trends (see below). In general, interviewees explained that since the peak of the crisis, in the first half of 2020, mineral trade had actually seriously improved. In October 2020, there was a lot of activity and minerals were no longer being stockpiled. Some traders allegedly still struggled with cash flow but very little problems had been reported for the mines studied in this survey. Traders were once again buying large volumes of gold.

Section 4 discussed the positive impact of increasing levels of security on gold production in **Djugu** territory. Nevertheless, the armed group CODECO still operates in the area.

The number of workers in the mines that have been surveyed in **Irumu** territory decreased between May and October 2020. Despite this decrease, interviewees explained that the area had recovered from Covid-19. This production decrease is due to some other factors, notably heavy rainfall and the arrival of some semi-industrial investors. At the three mining sites Manzanza, Cartusi and Murondo, there were no more miner in October 2020. During the peak of the Covid-19 crisis, when production, trade and prices plummeted, Chinese investors acquired access to these three mines and reportedly depleted them.

At the trading hub **Nia-Nia**, in **Mambassa** territory, gold production and trade had already largely recovered from the crisis by July 2020. However, in September 2020, due to the rains, Ituri river flooded Mangodo and Mambo Bado mining sites, and in October 2020, almost all miners had left these sites.

