

IPIS Due Diligence series

Comparative analysis between cobalt and 3T sourcing from the DRC



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EDITORIAL

IPIS Due Diligence series

Comparative analysis between cobalt and 3T sourcing from the DRC

Antwerp, July 2021

Front cover image: Cobalt mine Kapata, Kolwezi, Photo: EurAc, 2019

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Suggested citation: Hoex, L., Debrier, G. & Arian, H. *Comparative analysis between cobalt and 3T sourcing from the DRC*. (IPIS, Antwerp, 2021), 38p.



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1. TABLE OF CONTENTS

EDITORIAL	2
ACRONYMS	4
EXECUTIVE SUMMARY	5
1. INTRODUCTION	7
2. THE 3T AND COBALT SUPPLY CHAINS	8
2.1. Artisanal and Industrial extractions.....	9
2.2. Logistics.....	11
2.2.1. Logistics in the cobalt supply chain	11
2.2.2. Logistics in the 3T supply chain.....	14
2.3. Comparing the cobalt and the 3T supply chain.....	15
3. RISKS IN SUPPLY CHAINS.....	16
3.1. Conflict financing.....	16
3.1.1. Relevance in the 3T sector	16
3.1.2. Relevance in the cobalt sector	16
3.2. Hazardous working conditions	17
3.2.3. Working accidents.....	17
3.2.4. Child labour	17
3.2.5. Environmental impact	18
3.3. Violent confrontations between artisanal and industrial miners	19
3.4. Corruption and bribery	21
4. COBALT AND 3T DUE DILIGENCE	23
4.1. International regulatory efforts affecting DRC	23
4.1.1. Dodd-Frank Act section 1502	23
4.1.2. OECD Guidance	24
4.1.3. EU Regulatory initiatives.....	24
4.1.4. Lessons learned from 3T that should inspire regulatory measures in the cobalt sector.....	26
4.2. DRC Regulatory measures.....	27
4.2.1. Mining Code.....	27
4.2.2. The Regional Certification Mechanism by the ICGLR	28
4.3. Traceability initiatives	29
4.3.1. 3T sector.....	29
4.3.2. Cobalt.....	31
4.4. Lessons learned from 3T that should inspire the traceability efforts in the cobalt sector.....	32
5. CONCLUSION AND RECOMMENDATIONS.....	35

ACRONYMS

3T	Tin, Tungsten, Tantalum
3TG	Tin, Tungsten, Tantalum and Gold
ABM	Alphamin Bisie Mining SARL
APP	Africa Progress Panel
ARECOMS	Agency for Regulation and Control of Strategic Mineral Substance Markets
ARM	Alliance Responsible Mining
ASM	Artisanal and Small-scale mining
BGR	Institute for Geosciences and Natural Resources
BSP	Better Source Programme
CAHRAs	Conflict-Affected and High-Risk Areas
CAP	Cobalt Action Partnership
CCCMC	China Chamber of Commerce of Metals, Minerals and Chemicals
CMRT	Conflict Minerals Reporting Template
CRAFT	Code of Risk-Mitigated for ASM engaging in Formal Trade
CRT	Cobalt Reporting Template
CTC	Certifying Trading Chains
DRC	Democratic Republic of Congo
EGC	Entreprise Générale du Cobalt
EPRM	European Partnership for Responsible Minerals
EurAc	European Network for Central Africa
FARDC	Armed Forces of the Democratic Republic of Congo
FCA	Fair Cobalt Alliance
GBA	Global Battery Alliance
ICGLR	International Conference for Great Lakes Region
IPIS	International Peace Information Service
ITSCI	ITRI Tin Supply Chain Initiative
KCC	Kamoto Copper Company SARL
LSM	Large Scale Mining
NDC-Rénové	Nduma Defence of Congo- Rénové
OECD	Organisation for Economic Cooperation and Development
PPA	Public-Private Alliance for Responsible Minerals Trade
RCI	Responsible Cobalt Initiative
RCM	Regional Certification Mechanism
RMAP	Responsible Minerals Assurance Process
RMI	Responsible Minerals Initiative
RRA	Risk Readiness Assessment
SAEMAPE	Small-Scale Mining Support and Guidance Service
SAKIMA	Société Aurifère du Kivu et du Maniema
SMB	Bisunzu Mining Company
ZEA	Artisanal Mining Zone (Zone d'Exploitation d'Artisanale)

EXECUTIVE SUMMARY

In the early 2000s the demand for 3Ts increased as a result of the 'digital revolution' and the growing demand for electronics. Concurrently, the first reports came out linking 3T to war economy. From 2010 onwards, this resulted in both international guidelines, responsible sourcing initiatives and mining reforms in the 3T sector in the DRC. The 3T sector has hence years of experience in responsible sourcing that can be useful for the cobalt sector in which responsible sourcing initiatives have only started recently. Before lessons learned can be applied, this report analyses the similarities and differences between the 3T and cobalt supply chains in the DRC.

Both 3T and cobalt are extracted in the DRC through either ASM or LSM and both supply chains contain a smelting process linking the upstream with the downstream segment. A first important difference is that artisanal and industrial extraction of cobalt often occur at the same place, whereas 3T extraction takes place in more remote locations, removed from LSM concessions. Furthermore, there is a greater LSM activity in the cobalt sector than in the 3T sector. For the latter, except Alphamin Bisie and the Société Minière de Bisunzu (SMB), LSM actors do not extract 3T despite owning vast and various mining concessions. Further down the supply chain, 3T and cobalt need to be processed. In Haut-Katanga and Lualaba, there are several modern refineries for cobalt. In eastern Congo, 3T treatment entities exist, but their capacities cannot be compared with those of cobalt. Finally, despite a similar landlocked position rendering the transport difficult, cobalt is relatively easier to export because of the proximity between cobalt mines, the local trading depots, and the cobalt refineries; whereas 3T are generally speaking extracted in remote mines further removed from the export point in DRC.

The specific features of each supply chain have important implications for the responsible sourcing risks in the cobalt and the 3T supply chains. The cobalt sector has been involved in many largescale corruption scandals; the most documented ones being linked to businessman Dan Gertler working for Glencore for which the loss for the Congolese state is estimated in billions of dollars. In the 3T sector, corruption appears at smaller scale and closer to the extraction point, namely the mine. Child labour has frequently been reported in the cobalt sector and is also a reality in some 3T mines, albeit it received less media attention. The larger LSM presence explains the bigger environmental impact of the cobalt sector, and its negative effect on health of the population neighboring the refineries. In the 3T sector, deforestation and water pollution are the main environmental damages. Finally, violent confrontations between ASM and LSM miners are more common in the cobalt sector.

While the cobalt and 3T mining sector in the DRC are often differentiated by the associated risk of conflict financing, IPIS studies have shown that the risk of conflict financing in the 3T sector has dramatically decreased in the last 10 years, despite the on-going insecurity around the coltan mines in Rubaya (North Kivu). Moreover, the most recent regulatory measures for responsible sourcing have expanded to not only focus on conflict financing but also include human rights risks.

The similarities and differences of the risks involved in the cobalt and the 3T supply chains respectively are decisive for the effectiveness of responsible sourcing efforts. Lessons learned from the 3T sector are relevant and interesting for the cobalt sector, while special attention should be paid to specific risks in the cobalt sector.

A decade of experience of regulatory measures in the 3T sector has taught us that there is a risk that economic actors disengage from conflict-affected and high-risk countries and/ or disengage from the ASM sector. The ASM sector will be excluded from formal trade, especially in high-risk areas, if no incentives for companies to source from ASM are created. Furthermore, the regulatory measures on 3T have shown the importance to engage producing countries from the start of the drafting process. A top-down approach risks to be unaligned with existing regulations and state structures in producing countries. The involvement of producing countries from the start will ensure a buy-in which is indispensable in the implementation of regulatory measures.

Another lesson learned from the 3T experience is that responsible sourcing initiatives are only sustainable when ASM miners benefit from it. One of the most important criteria in this regard is the selling price offered to artisanal miners for their production. This must be competitive, especially considering

that most traceability initiatives only work with a single buyer. In the 3T sector, producing countries have recently denounced supporting the ITSCI traceability price. For now, in the recently developed initiatives to trace cobalt, there were doubts that EGC could match international prices. Given that it has become the only legal buyer of artisanal cobalt, it is likely that artisanal miners will feel deceived and there is hence a risk they will not join the project.

Finally, the effectiveness of both regulatory measures and responsible sourcing programs hugely depends on the capacity of the people implementing it on the ground. In the past, initiatives have been too focused on improving the transparency of the mineral value chain, rather than on the governance of the mineral sector as a whole which would potentially have a larger positive effect on the mining communities.

1. INTRODUCTION

The global demand for cobalt has increased rapidly in the last years and will continue to rise in the near future. Cobalt is an essential mineral in the lithium-ion batteries that are promoted as the key to a zero-carbon emission energy.¹ The Copperbelt region in the Democratic Republic of the Congo (DRC) can benefit from this increasing demand, as the majority of the world's total supply of cobalt is found in this region, namely 67% of the global cobalt production. At the same time, the increased production of cobalt in the DRC has raised questions about the circumstances under which cobalt is being extracted and NGOs are raising awareness on the human rights violations taking place in the mines.

Two decades ago, the tin, tungsten and tantalum (3T) mines in the DRC sparked international attention in a similar way. The increased demand for 3T and the emerged 'conflict minerals' narrative resulted in a wave of national and international guidelines, regulations and initiatives with the aim to avoid that 3T mining would contribute to conflict and human rights violations in the DRC. While the attention for 3T has been translated into voluntary and mandatory due diligence regulations a decade ago, this is just starting to evolve in the case of cobalt. Yet, between 2017 and 2019 cobalt was the third most scrutinized mineral, after gold and copper.² Although this does not necessarily mean that more incidents took place in the cobalt sector, it does indicate the increased attention for the risks associated with cobalt sourcing.

In this report we compare the cobalt supply chain with the 3T supply chain in the DRC. We will first start with a comparison of the supply chains, the logistics and the risks involved, and then continue with a comparison of the regulatory measures and due diligence efforts in the cobalt and 3T supply chains respectively. Although the minerals have their unique features and there is no 'one size fits all' solution for responsible sourcing, 3T and cobalt supply chains share similarities that make a comparison relevant. This year we are passing the ten-year anniversary of the OECD Due Diligence Guidance. Ten years in which we have learned from both failures and successes in 3T due diligence. It is time to take a look at the extent to which we can build on these failures and successes of responsible sourcing efforts in the 3T supply chain and how cobalt due diligence efforts can be improved.

This analysis is based on IPIS' long experience in the 3T sector in DRC, literature review and interviews with experts. Data from 2019 and 2020 on cobalt mines and trading depots in Haut-Katanga and Lualaba gathered by BGR and its Congolese partners³ has also been used for this report and can also be found on the IPIS interactive webmap⁴. Interviews conducted by EurAc in September 2019 in Kolwezi and Lubumbashi are used as illustration.

1 Arian, H., de Brier, G., Hoex, L. Reducing the carbon footprint at the expense of a mineral footprint? IPIS Briefing, May 2021, <https://ipisresearch.be/weekly-briefing/ipis-briefing-may-2021-reducing-the-carbon-footprint-at-the-expense-of-a-mineral-footprint/>

2 OECD, Trends in stakeholder reporting: mineral supply chains, April 2021, p. 29.

3 BGR, *Mining conditions and trading networks in artisanal copper-cobalt supply chains in Democratic Republic of Congo*, April 2021, p. 8-9.

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

2. THE 3T AND COBALT SUPPLY CHAINS

The DRC produces both cobalt and 3T, but the minerals are extracted in different regions. 3T is mainly found in eastern DRC, in the provinces of Maniema and North and South Kivu, and to a lesser extent, in Tanganyika (but mostly coltan, from which tantalum and niobium are extracted), Haut-Lomami and Haut-Katanga. Cobalt, on the other hand, is found in the southern provinces Haut-Katanga and Lualaba, also known as the Copperbelt. Cobalt is mostly a by-product of copper processing and refining and the two minerals are hence often referred to jointly as the 2Cs. In this report we will however only focus on cobalt.

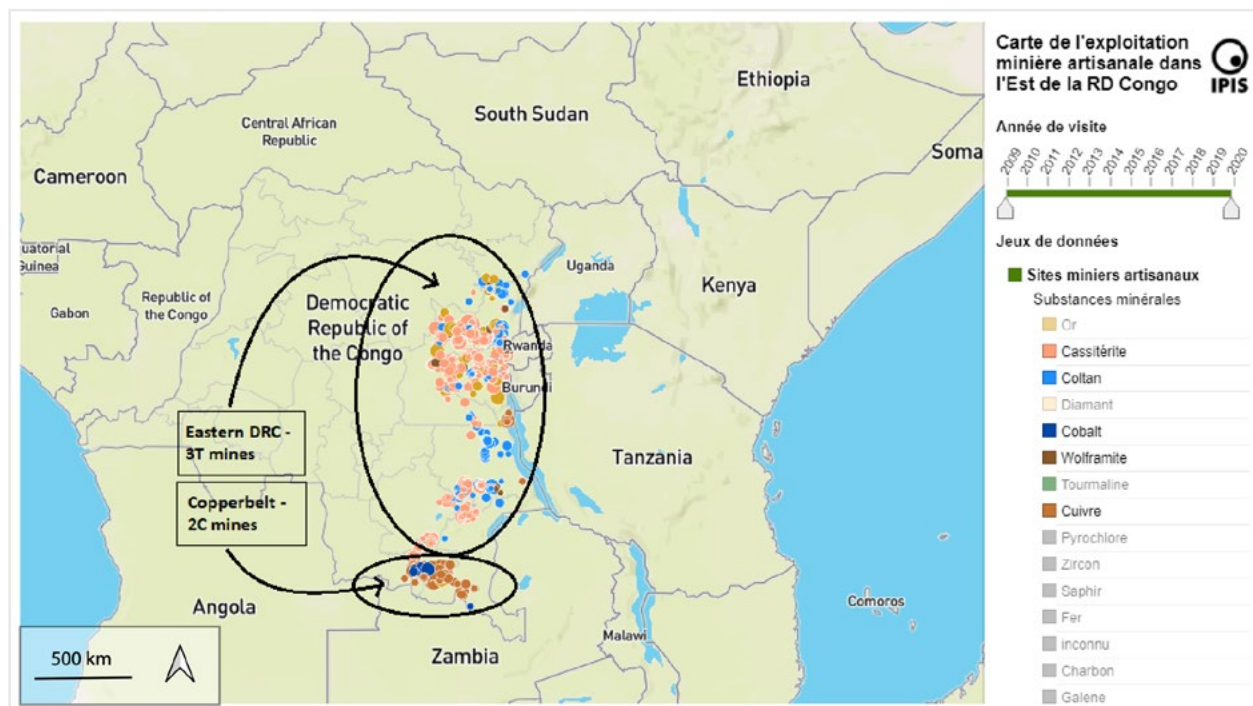


Figure 1: Screenshot of the IPIS webmap showing the geographic zones of the 3T and the cobalt and copper (2C)

Both 3T and cobalt supply chains are divided in an upstream and a downstream segment. The upstream segment refers to actions of extraction, washing, transport and rough refining of the ore. Upstream actors and actions are usually located in the producing country. The downstream segment includes the large-scale trader which will sell to fine refiners, which will sell it on its turn to producers and manufacturers that will process the minerals and integrate it in a product sold to end-users. To execute an effective due diligence, downstream companies must be capable to trace their cobalt or 3T supply chain to their fine refiner. This latter actor must show that its supply chain has been audited by a third-party audit (Step 4 of the OECD Guidance).

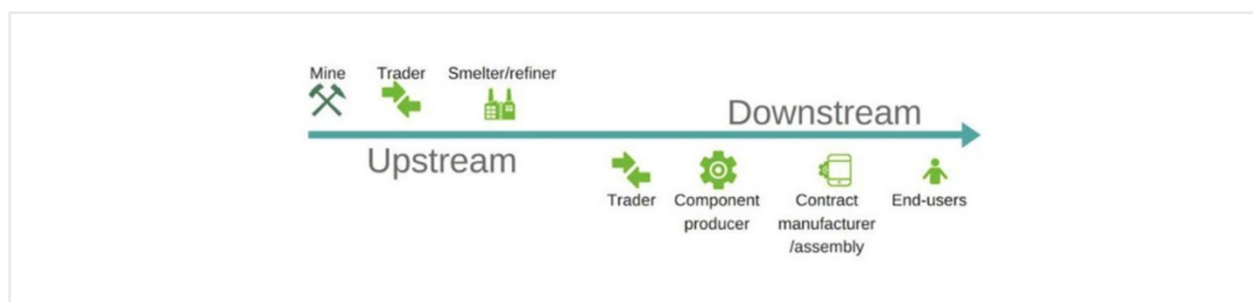


Figure 2: the cobalt and 3T supply chains are divided in an upstream and a downstream segment

It is important to note that the above explanation and figure 2 hide the complexity of a typical mineral supply chain. It is common that downstream actors are several tiers removed from their fine refiner.⁵ For example, technology company Apple traced their products and identified approximately 100 metal smelting facilities feeding their product supply chain (12 for tantalum, 43 for tin, 13 for tungsten, and 41 for gold).⁶ In the case of cobalt, an academic mapping of cobalt has demonstrated the important position of companies with high betweenness. A disruption at these companies can affect the functioning of the overall supply chain.⁷

This risk of disruption is multiplied by the concentration of the cobalt market in few hands. DRC represents 50% of the worldwide cobalt reserves, and 67% of the worldwide mine production in 2020,⁸ and China represents 80% of the world's cobalt chemical refining capacity⁹. In the 3T sector, only DRC's coltan (tantalum in the 3T acronym) shares this dominating position on the world market, as it represents 39% of the global production in 2020¹⁰. Officially, neighbouring country Rwanda has produced 16% of the worldwide production in 2020,¹¹ however, the UN Group of Experts for the DRC has reported that Rwandese coltan was extracted in and smuggled out of DRC.¹²

Table 1: Comparison cobalt and 3Ts production globally and in DRC

Metals	Proportion of Congolese production compared to Worldwide production in 2020 (USGS, 2021)	Main other producing countries (USGS, 2021)	Number of producing countries
Cobalt	67%	Other countries (4,6%), Russia (4,5%), Australia (4%)	21 ¹³
Coltan	39%	Australia (21%) Rwanda (16%), Nigeria (9%)	At least 24 ¹⁴
Tin	6%	China (30%), Indonesia (24%), Burma (12%),	35 ¹⁵
Tungsten	1,4% (in 2017) ¹⁶	China (82%) Vietnam (5%)	At least 25 ¹⁷

2.1. Artisanal and Industrial extractions

Both cobalt and 3T minerals are extracted artisanally (Artisanal and Small-scale Mining -ASM) and industrially (Large Scale Mining- LSM). ASM refers to a largely manual mode of extraction, practiced by individuals, groups or communities. LSM refers to a mechanized mode of production, practiced by large, often international, companies.¹⁸ An important difference in the cobalt and 3T supply chain is the inter-

-
- 5 OECD, Interconnected supply chains, a comprehensive look at due diligence challenges and opportunities sourcing cobalt and copper from Democratic Republic of Congo, Paris, 2019, p. 34.
- 6 Young, S. B., & Dias, G. (2011). LCM of Metals Supply to Electronics: Tracking and Tracing 'Conflict Minerals'.
- 7 Van den Brink, S. & al, Identifying supply risks by mapping the cobalt supply chain, Leiden University, Resources, Conservation and Recycling, Elsevier, 2020, p. 1.
- 8 US Geological Survey, Mineral Commodities Survey: Cobalt , January 2021, p. 1.
- 9 OECD, Interconnected supply chains, a comprehensive look at due diligence challenges and opportunities sourcing cobalt and copper from Democratic Republic of Congo, Paris, 2019, p. 5.
- 10 US Geological Survey, Mineral Commodities Survey: Tantalum , January 2021, p. 1.
- 11 US Geological Survey, Mineral Commodities Survey: Tantalum , January 2021, p. 1.
- 12 UN Group of Experts for the Democratic Republic of Congo, S/2020/1283, para. 42, and S/2020/482 para.106.
- 13 Van den Brink, S. & al, Identifying supply risks by mapping the cobalt supply chain, Leiden University, Resources, Conservation and Recycling, Elsevier, 2020, p. 2.
- 14 <https://www.tanb.org/about-tantalum/production-of-raw-materials>
- 15 <https://www.usgs.gov/centers/nmic/tin-statistics-and-information>
- 16 USGS, Yearbook 2017, Advanced release, table 15, p. 24.
- 17 USGS, Yearbook 2017, Advanced release.
- 18 Stoop, N., M. Verpoorten, P. van der Windt, Artisanal or Industrial conflict minerals? Evidence from Eastern Congo, World Development, Antwerp, 2019, p. 3.

connection between ASM and LSM.¹⁹ In the case of cobalt, the artisanal and industrial extraction often take place at the same location.

« La présence de mineurs artisanaux se retrouve sur tous les sites, qu'il s'agisse de concessions industrielles ou artisanales. Le fait que vous ne voyez pas de creuseurs sur les sites industriels pendant la journée ne signifie pas qu'ils ne sont pas là »²⁰

Interestingly, BGR found that none of the concession owners where the artisanal mines are located was identified as buyers of artisanal production. This leads to the conclusion that industrial concessionaires are not benefiting from the commercialisation of the ores extracted within their licences.²¹

Further down the chain, ASM and LSM cobalt are refined together. Since the share of artisanal material is not indicated when exported, it is not possible to trace them separately.²² The OECD has managed to detail formal and informal supply chains of cobalt extracted in the DRC. Around 70 to 80% of cobalt is extracted through LSM, mainly owned by Chinese companies, and around 20-30% of cobalt originating from the DRC is mined through ASM, which represents between 140,000 and 200,000 artisanal miners.²³ Data analysis by BGR between cobalt and copper mines visited in 2019 and 2020 shows that the ASM sector has become less important in terms of size and economic relevance, especially with regards to the overall supply of cobalt from the DRC in 2020.²⁴

It is hazardous to calculate the proportion of LSM and ASM of the total 3T production originating from DRC, due to smuggling and a lack of data. But the balance would be in favour of the industrial sector due to one big LSM site, the mine site Mpama-North in Bisie from Alphamin Resource, which alone produces 3% of globally mined tin.²⁵ In 2017, the artisanal production of cassiterite (tin ore) was estimated at 19,000 tonnes, employing nearly 100,000 people in eastern DRC.²⁶ Coltan is produced by an estimated 25,000 people in Eastern DRC, who produced, according to official data, 2,174 tonnes in 2017.²⁷ The tungsten sector is thought to employ nearly 8,000 miners, and officially produced 251 tonnes in 2017.²⁸

While both cobalt and 3T are mined by the ASM and the LSM sector, it is notable that the cobalt sector is more developed and has more LSM exploitations compared to the 3T sector. In order to understand this difference, it is useful to recognize the historical context. During the colonization, Belgium invested heavily in the industrialization of the Katangese mining sector,²⁹ while eastern DRC was dedicated to agriculture, notably coffee and tea growing.³⁰ A second reason for this development gap is the security situation. Katanga has enjoyed a stable situation since 1963³¹ that has been conducive to industrial development and the arrival of foreign companies. The eastern DRC, on the other hand, has never enjoyed this stability, and the long conflict that began in the mid-1990s has only served to repel investment by foreign industrialists. Alphamin's establishment in North Kivu had a difficult start, and its success today remains an exception.

19 For more information on this, see: <https://mneguidelines.oecd.org/Interconnected-supply-chains-a-comprehensive-look-at-due-diligence-challenges-and-opportunities-sourcing-cobalt-and-copper-from-the-DRC.pdf>

20 EurAc, Interview with NGO, September 2019.

21 BGR, Mining conditions and trading networks in artisanal copper-cobalt supply chains in Democratic Republic of Congo, April 2021, pp. 13-14.

22 BGR, Mining conditions and trading networks in artisanal copper-cobalt supply chains in Democratic Republic of Congo, April 2021, p. 4.

23 OECD, Interconnected supply chains: a comprehensive look at due diligence challenges and opportunities sourcing cobalt and copper from the Democratic Republic of the Congo, Paris, 2019, p. 11-12.

24 BGR, Mining conditions and trading networks in artisanal copper-cobalt supply chains in Democratic Republic of Congo, April 2021, p. 38.

25 Information used to present the Alphamin Resources on <https://alphaminresources.com/> (website visited on 20 June 2021)

26 IPIS Webmap DRC 2021; Delve DRC Country Profile, 2020.

27 IPIS Webmap DRC 2021; Cellule Technique de Coordination et de Planification Minière (CTCPM), 2018.

28 IPIS Webmap DRC 2021; Cellule Technique de Coordination et de Planification Minière (CTCPM), 2018.

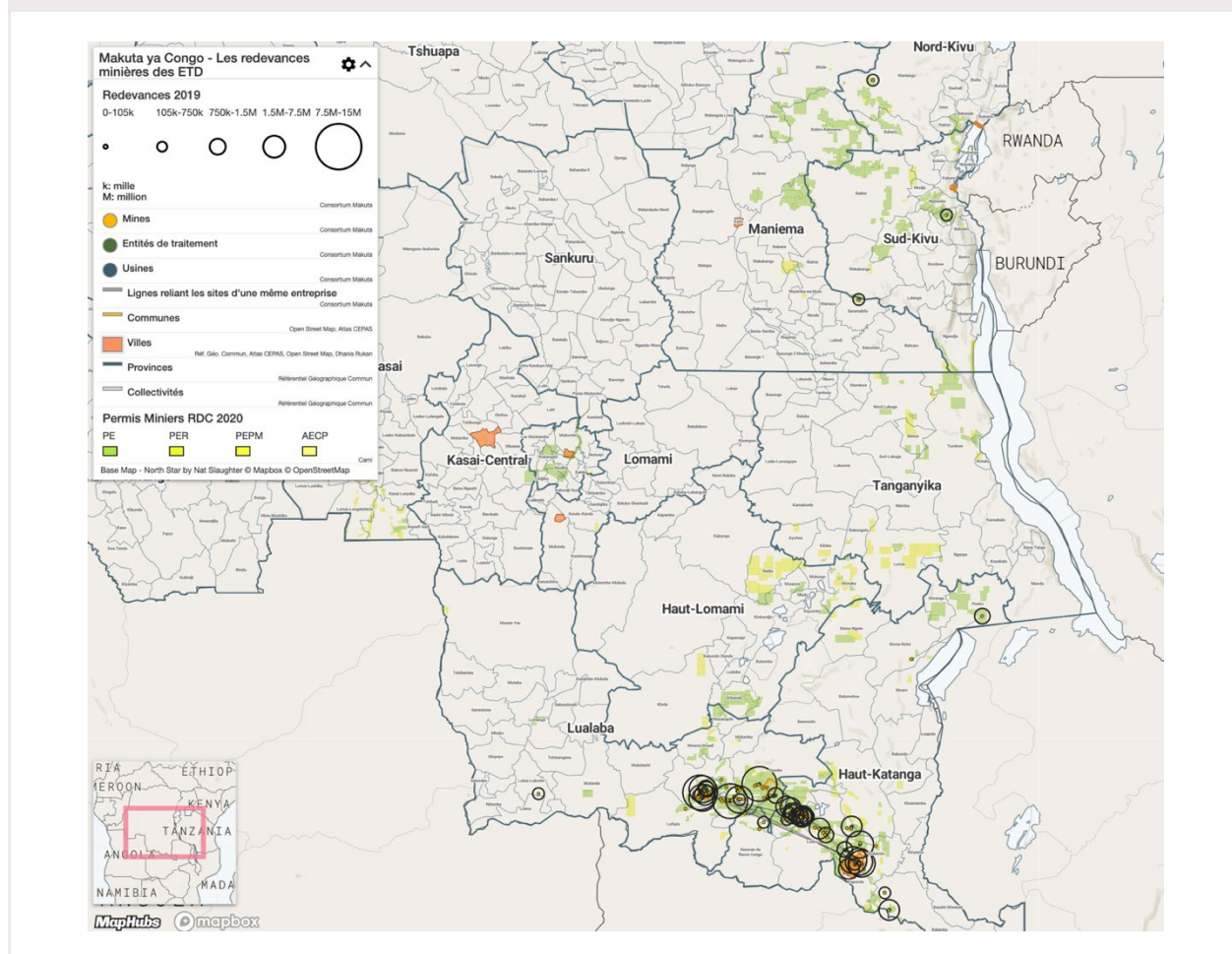
29 Marthoz, A. L'industrie et métallurgie au Congo belge, Académie royale des Sciences coloniales, Bruxelles, 1955, p. 5

30 De Failly D., L'économie du Sud-Kivu, 1990-2000: Mutations profondes cachées par une panne, L'Afrique des Grands Lacs, 1999-2000, p. 175.

31 If we except the Shaba wars in March-May 1977 and May 1978.

The Resources Matters map below identifies the areas where companies paying the mining royalty are located. The concentration of these companies in Katanga only amplifies the near absence of large-scale companies in eastern Congo.

Figure 3: Screenshot of the map made by the Consortium Makuta ya Congo³²



As infrastructure construction goes hand in hand with industrialization, this development difference also has an impact on the logistics, discussed below.

2.2. Logistics

2.2.1. Logistics in the cobalt supply chain

Considering the size of the DRC and its geography, the zones of cobalt and 3T exploitation can both be considered as landlocked. That being said, the infrastructure for cobalt is more developed, hence easier to transport than 3T minerals. Logistics for cobalt are also facilitated by the proximity between cobalt mines, the local trading depots and the cobalt refineries, hence transport within DRC is much easier than for 3T (see below).

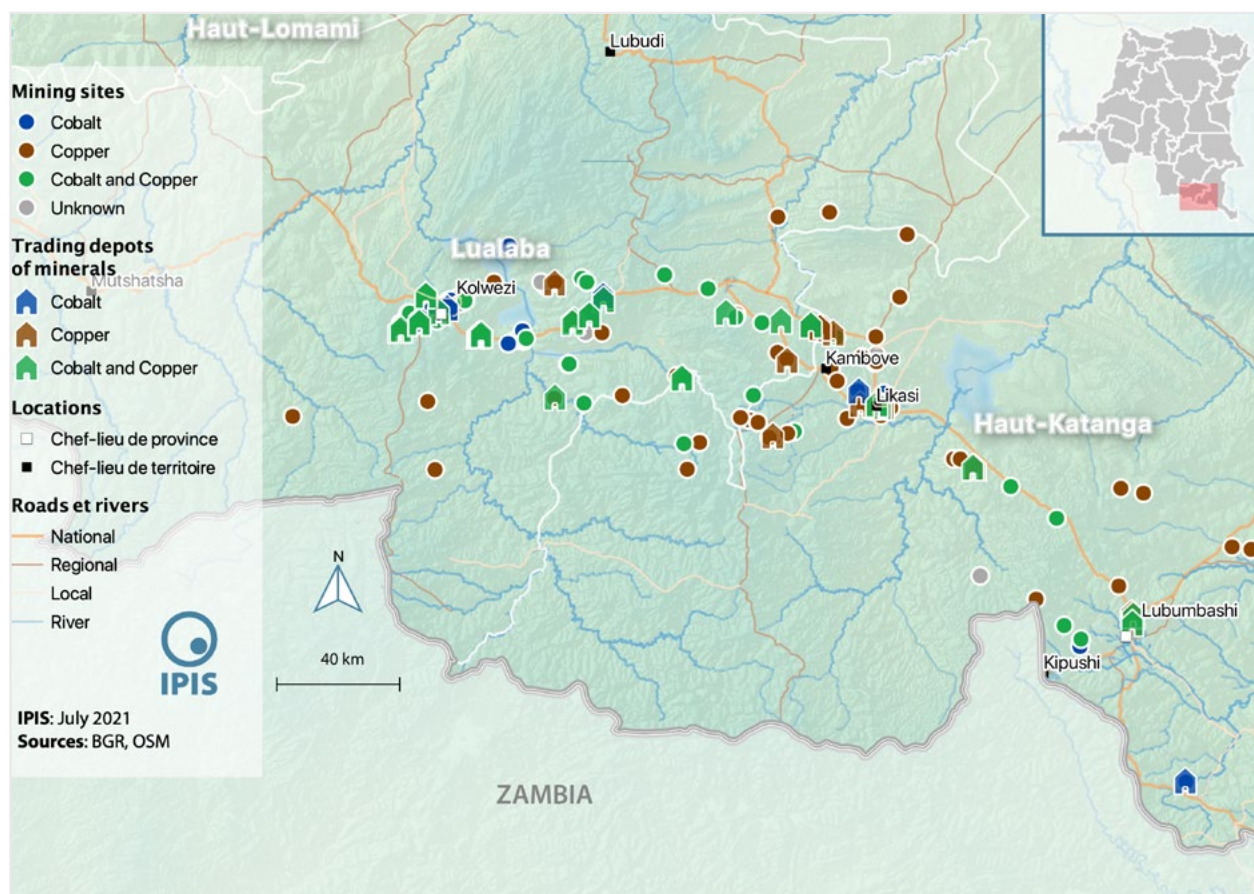
The local cobalt trading depots buy raw materials produced by hand-pickers and artisanal miners and sell this on to local refiners or exporters. The official owners of the trading depots are often informal representatives for foreign buyers in the background, as only Congolese nationals are allowed to trade commodities at the depot level.³³ Many depots are located either in the towns of Kolwezi, Likasi or Lubum-

³² <https://resourcematters.org/redevances-mini%C3%A9res-destin%C3%A9es-aux-ETD-un-casse-t%C3%Aate-a-resoudre/>

³³ BGR, Mining conditions and trading networks in artisanal copper-cobalt supply chains in Democratic Republic of Congo, April 2021, p. 22.

bashi, in close proximity to the mines that supply them, or near industrial mining concessions where miners pick up ores. An intervention by the FARDC mid-2019 led to changes within the sector and the supply chain. A large part of the local trading depots was destroyed and illegal mines in certain mining concessions were shut down. The main reasons for these evictions were previous accidents in illegal mines, as well as threats to industrial projects by artisanal miners related to such accidents, access denial to the concession, or price disputes with buyers.³⁴

Figure 4: 118 copper and cobalt trading depots identified by BGR in 2020. 54 depots buy both copper and cobalt ores, 45 depots buy only copper ores and 17 depots accept only cobalt ores.



Copper and cobalt are refined in Katanga. Today, there are 14 cobalt refineries in Katanga, of which 8 are owned by Chinese investors.³⁵ Once refined, copper and cobalt concentrates are transported via truck from the DRC to Dar Es Salaam in Tanzania, Beira in Mozambique or Durban in South Africa. This journey takes over two weeks.³⁶ A project to revive the ailing rail network to transport the ore via train from Lubumbashi via Kolwezi to the Angolan port of Lobito encountered various difficulties, including competing interests from truck companies and implementation challenges. In January 2020, Burundi, Tanzania and DRC signed an agreement for a railway liaison along the central corridor that will connect Kindu (Maniema, DRC) to the port of Dar El Salaam in Tanzania. In the DRC, the central corridor will link the cities of Kindu (Maniema)- Kamanyola-Bukavu-Nyantende-Walungu- Kamituga and Pangi to the port of

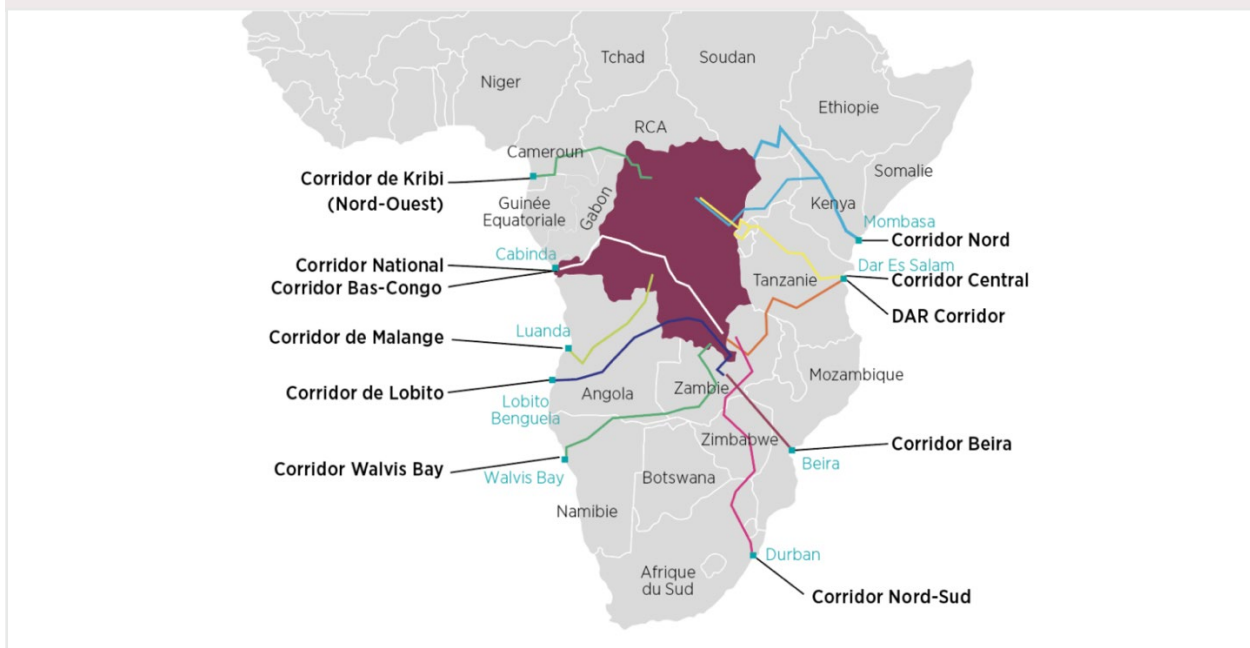
34 BGR, Mining conditions and trading networks in artisanal copper-cobalt supply chains in Democratic Republic of Congo, April 2021, pp 7 and 10.

35 OECD. Interconnected supply chains, a comprehensive look at due diligence challenges and opportunities sourcing cobalt and copper from Democratic Republic of Congo, Paris, 2019, p. 14.

36 OECD. Interconnected supply chains, a comprehensive look at due diligence challenges and opportunities sourcing cobalt and copper from Democratic Republic of Congo, Paris, 2019, p. 14.

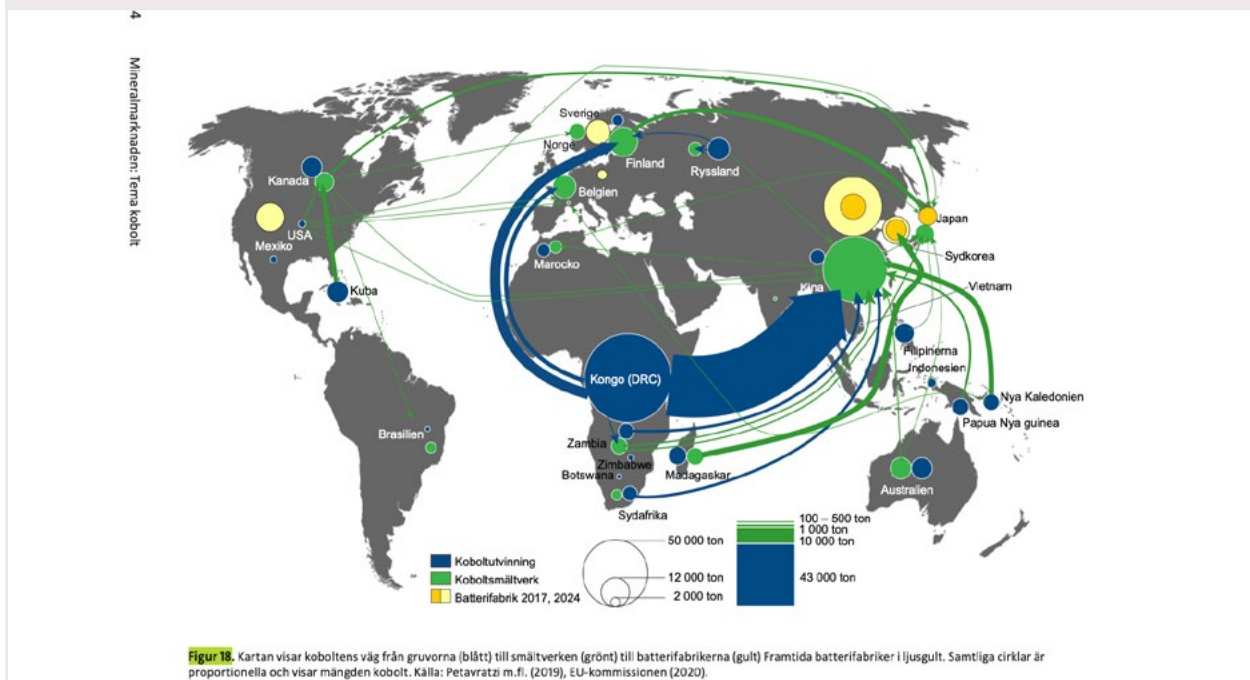
Kalundu (in the city of Uvira, on the shores of the Tanganyika lake).³⁷ While many projects have been proposed, concrete infrastructures liaising the eastern Congo to the Indian Ocean have not yet been built.

Figure 5: International corridors to import to and export from DRC (source: Justin Kamwanya Kalemuna : "Les ports de la RDC")



China is the destination for the majority of the concentrates of cobalt (see figure 6).

Figure 6: Cobalt logistics. Blue: mining, green: smelters, yellow and orange battery factories (2017 and planned for 2024, respectively).³⁸



37 Politico, January 2020, Grands-Lacs: un projet ferroviaire reliant les pays membres du corridor central adopté à Bujumbura, <https://www.politico.cd/encontinu/2020/01/31/grands-lacs-un-projet-ferroviaire-reliant-les-pays-membres-du-corridor-central-adopte-a-bujumbura.html/53599/>

38 <https://resource.sgu.se/dokument/publikation/pp/pp202101rapport/pp2021-1-rapport.pdf>

2.2.2. Logistics in the 3T supply chain

To transport 3T minerals, traders must hire transporters who will carry the 50kg of ores to the nearest village where a truck can load the bags and move them to the processor. As 3T mines can be remote, these transporters can sometimes walk for an entire day.

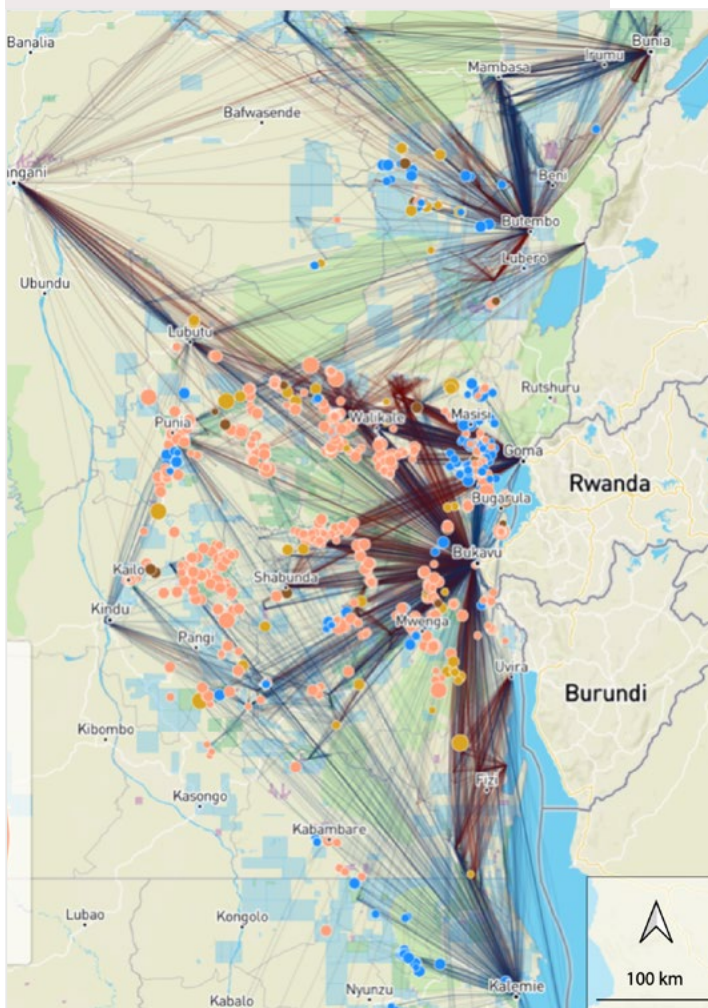
For remote locations inaccessible by road, the 3T minerals are transported by plane to the nearest processing entity.

Most of these processing entities are located in provincial cities or other important cities. The IPIS webmap shows that the final destinations within DRC are Goma (North Kivu), Bukavu (South Kivu) but also Butembo, Kalemie, Uvira and to a lesser extent Bunia and Kisangani (see figure 8)

Figure 7: Cassiterite bags ready to be transported from the mine to an airstrip. Mine in North Kivu (IPIS)



Figure 8: Final Destination 3T minerals in DRC



Once arrived in one of those cities, most of the 3T will take the road of the North corridor to Mombasa (Kenya). The distance between the eastern DRC mines and Mombasa varies between 1,500 to 2,500 km, depending on the available routes.³⁹ From Goma (DRC) it takes between 10 and 20 days for a truck to reach Mombasa (Kenya).⁴⁰ Other minerals will take the direction of the port of Dar el Salaam (Tanzania) via the central corridor. It consists of a network of roads, railways (operated by the Tanzanian Railway Corporation) and Lake ports connecting (for the DRC part) Kigoma and Kalemie and Uvira with the Dar El Salaam port.⁴¹

39 IPIS- TRANSARMS : Supply Chains and transport corridors in East Africa, Antwerp, 2014, p. 36.

40 IPIS- TRANSARMS : Supply Chains and transport corridors in East Africa, Antwerp, 2014, p. 43.

41 IPIS- TRANSARMS : Supply Chains and transport corridors in East Africa, Antwerp, 2014, p. 43.

2.3. Comparing the cobalt and the 3T supply chain

As it has been demonstrated in this chapter, there are important similarities and differences between the 3T and cobalt supply chains. Both 3T and cobalt are extracted in the DRC through either ASM or LSM and both supply chains contain a smelting process linking the upstream with the downstream segment. Furthermore, the complexity that characterizes both supply chains makes the traceability of the ores complicated.

However, cobalt and 3T differ in the level of interconnection between ASM and LSM. Whereas in the case of 3T, artisanal and industrial extraction mainly take place separately, in the case of cobalt this takes place at the same location. Moreover, there is a bigger presence of LSM in the cobalt sector than in the 3T sector (see figure 3). Finally, while both 3T and cobalt are extracted in landlocked DRC, there are important differences in the logistics. From the DRC, 3T are exported before the refining process to smelters and refiners around the world. In the case of cobalt, several refineries are located in the DRC.

The similarities and differences identified in this chapter have essential implications for the responsible sourcing risks in the cobalt and the 3T supply chain. These risks will be discussed in the next chapter. The similarities and differences of the involved risks in both supply chains are on their turn decisive for the effectiveness of responsible sourcing efforts, which are discussed in the last chapter.

3. RISKS IN SUPPLY CHAINS

The DRC mining sector, irrelevant of which specific mineral, is characterized by issues related to the country's weak governance structures, socio-economic issues like extreme poverty, and volatile political and security environment. Risks associated with these issues are therefore present in both the 3T and the cobalt mining sector in the DRC. That being said, each producing region and the specifics of each supply chain are associated with its particular risks. These will be discussed in this section.

3.1. Conflict financing

3.1.1. Relevance in the 3T sector

The interference of (non-)state armed groups in the 3T mining sector has been the main trigger for international attention and following initiatives and regulations. In 2010 the US Congress passed the Dodd Frank Wall Street Reform and Consumer Protection Act, where Section 1502 required manufacturing companies to disclose whether their products contained 'conflict minerals', specified as tin, tantalum, tungsten and gold (3TG) originating from the DRC and neighbouring countries.⁴² The emphasis on 'conflict-free' minerals was limited towards ensuring that the resources did not finance armed groups.⁴³

The introduction of the OECD Guidance in 2011 marked a broadening of scope for the risks to be managed. The Guidance used the concept of 'responsible sourcing' and linked it to risks related to the financing of illegal armed groups, but also other grave human rights abuses and responsible business conduct risks.⁴⁴

After 2011, the interferences that 3T miners had to endure from armed groups and undisciplined FARDC decreased. While 29% of the 221 3T ASM mines visited by IPIS between 2009 and 2011 had an armed presence (including both state and non-state armed groups), this was reduced to 19% of the 322 3T ASM mines visited by IPIS between 2012 and 2014, and further reduced to 14% of the 591 3T ASM mines visited by IPIS between 2015 and 2018.⁴⁵ In fact, IPIS' data reveals that armed conflicts are often not related to interference in the artisanal mining sector. Comparing the IPIS data with available conflict event data suggests that the control over mining sites is not a frequent battle objective for several of the most active conflict parties.⁴⁶ Nevertheless, armed violence between armed groups and security forces still occur in the coltan mines owned by the SMB company, in Rubyaya (North Kivu).⁴⁷

3.1.2. Relevance in the cobalt sector

In contrast to eastern DRC, Haut-Katanga and Lualaba provinces are not considered to be prone to endemic conflict.⁴⁸ That being said, as explained above, the conflict minerals narrative has evolved in the latest years. While two decades ago, the relation between conflict and resources was merely understood in terms of the presence of armed actors, today the focus is on responsible sourcing, with goals beyond conflict-financing. The European Union defines conflict minerals as follows: *"In politically unstable areas, the minerals trade can be used to finance armed groups, fuel forced labour and other human rights abuses, and support corruption and money laundering."*⁴⁹ It is clear from this definition that the risks that compa-

42 Section 4.4.1 on the US Dodd-Frank Act Section 1502, <https://www.sec.gov/rules/final/2012/34-67716.pdf>

43 Kinniburgh, C., Beyond the "conflict minerals": the Congo's Resources curse lives on, Dissent, January 2014, pp. 66-67.

44 OECD, OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas, Paris, 2011.

45 IPIS webmap DRC, 2021, <https://www.ipisresearch.be/mapping/webmapping/drcongo/v6/#>

46 IPIS- DIIS, Mapping artisanal mining areas and mineral supply chains in Eastern DR Congo; impact of interference and responsible sourcing, April 2019, pp. 24-28.

47 UN Group of Experts for the DRC, S/2021/560, para. 61.

48 OECD, Interconnected supply chains: a comprehensive look at due diligence challenges and opportunities sourcing cobalt and copper from the Democratic Republic of the Congo, Paris, 2019p. 11-12.

49 European Commission, The regulation explained, <https://ec.europa.eu/trade/policy/in-focus/conflict-minerals-regulation/regulation-explained/>, website accessed the 15th May 2021.

nies should be aware of go beyond conflict financing. Indeed, the two DRC provinces where cobalt is being extracted, Lualaba and Haut-Katanga, are included in the EU's list of conflict-affected and high-risk areas (CAHRAs) because the trade in 3T minerals in these provinces' risks fueling human rights abuses and support corruption and money laundering.⁵⁰ These same risks are relevant for the cobalt trade in these provinces.

“ Il est vrai qu'ici, il n'y a pas de groupes armés comme à l'Est. Mais n'y a-t-il pas des risques de conflits ? Si vous avez suivi la situation à Fungurume, ou si vous êtes allés à Kapata, vous verrez qu'effectivement, les conflits existent.. »⁵¹

In conclusion, while the cobalt and 3T mining sector in the DRC are still often differentiated by the associated risk of conflict financing, this difference has become less relevant. First of all the interferences of (non-) state armed groups in the 3T mining sector has decreased considerably in the last 10 years. Secondly, the international focus has expanded to responsible sourcing to include not only conflict financing but equally pay attention to human rights abuses and corruption.

3.2. Hazardous working conditions

3.2.3. Working accidents

Both artisanal 3T and cobalt miners face extremely difficult working conditions. This is especially the case for the majority of miners who extract minerals underground, as this is assimilated to tunnel collapses.⁵² BGR recorded in 2020 a total of 59 fatal accidents on 19 different copper and cobalt mines (of the 53 mines surveyed) in a period of twelve months. A total of 851 accidents resulting in injuries were reported on 44 mines (of the 53). A large proportion of the accidents and accident causes can be attributed to working underground.⁵³

“La présence des artisanaux sur certains sites de cobalt se passe surtout la nuit – et c'est aussi à cause de cela qu'il y a beaucoup d'accident, parce que la nuit il est plus difficile de naviguer entre les puits. De plus, comme ce n'est pas eux qui ont creusé les puits, ils n'en connaissent pas leurs emplacements. »⁵⁴

3.2.4. Child labour

Children are working both in cobalt and 3T extraction. IPIS has observed children under 15 on 11% of the 3T mines visited in South and North Kivu and Maniema between 2018 and 2020. In 2012, UNICEF estimated that 40,000 children were involved in mineral extraction in the cobalt mining in DRC.⁵⁵ BGR found child presence or child labour on 30% of the surveyed mines in 2020 (16 out of 53). On two of these

50 Indicative and non-exhaustive list of Conflict Affected and High Risk Areas under the Regulation (EU) 2017/821, <https://www.cahrastlist.net>, accessed on the 14th May 2021.

51 EurAc, Interview with a national NGO based in Lubumbashi, September 2019.

52 For example, in June 2019, at least 43 artisanal miners died when the tunnel they were in collapsed in the Kamoto Copper Company mine in Kolwezi, owned by Glencore.

53 BGR, Mining conditions and trading networks in artisanal copper-cobalt supply chains in Democratic Republic of Congo, April 2021, p. 48.

54 EurAc, Interview with NGO, September 2019.

55 UNICEF, In DR Congo, UNICEF supports efforts to help child labourers return to school, 13 June 2012, <https://reliefweb.int/report/democratic-republic-congo/dr-congo-unicef-supports-efforts-help-child-labourers-return-school>

mines, approximately 80 children were present estimated to be under ten years of age. These mines were located in close proximity to residential areas and the majority of these children were not involved in mining activities. At the 14 remaining mines, where only children over the estimated age of 10 were found, the children were always involved in mining activities, either in mineral processing or mining underground. These activities should be considered as falling under the definition of the worst forms of child labour. Compared to the BGR study in 2019, the estimated number of children either working or present on mines has decreased.⁵⁶

Despite being present in both sectors, it is clear that child labour in the cobalt sector has attracted more attention. An OECD paper on trends in mineral supply chain reporting shows that cobalt, in comparison to other minerals, is linked the most to the risk of child labor: 284 reports linking cobalt to child labour compared to 40 linking tantalum to child labor.⁵⁷ It is worth noting that the emphasis on child labour in the ASM cobalt sector has overshadowed other severe risks characterizing the cobalt mining sector, such as mining pollution and corruption issues.⁵⁸

3.2.5. Environmental impact

The nature of the 3T sector compared to the cobalt sector (see section 2.1 Artisanal and Industrial Extractions) determines the environmental impact in the DRC. The 3T sector in the east is dominated by ASM extraction which has led to deforestation issues with drastic consequences on the landscape and water pollution. Abandoned ASM 3T mines sites are constituted of several holes in the ground with hills of sand made of the waste that was extracted.

Figure 9: Trees are being cut in Shabunda to clear the area for tin mining (IPIS)



The environmental impact of the cobalt sector is similar as it also leads to deforestation and creation

56 BGR, Mining conditions and trading networks in artisanal copper-cobalt supply chains in Democratic Republic of Congo, April 2021, p. 46.

57 OECD, Trends in stakeholder reporting: mineral supply chains, April 2021, p. 15.

58 de Brier, G. Cobalt: Concerns over child labour in Artisanal Mining should not overshadow the corruption in Large Scale Mining, IPIS Briefing, March 2020.

of mountain of waste, but is different in size as the cobalt sector, compared to the 3T sector, has an important LSM sector with a bigger environmental impact. Moreover, the LSM extraction sites are typically close to urban areas. Finally, several cobalt refiners, (see section 2.2.1 on Logistics in the Cobalt). Both cobalt mining and cobalt refining involve extremely polluting processes, which lead to environmental and health risks.⁵⁹ Exposure to cobalt and toxic components in the waste and smoke from processing factories can lead to short term health risks as well as long term health risks, such as the lung disease known as ‘hard metal lung disease’, or ‘cobalt lung’.⁶⁰ Recent research by the University of Lubumbashi has also revealed linkages between cobalt mining activities and cases of malformations and birth defects in Katanga. In villages close to mining sites women are being exposed to mining pollution during the pregnancy, which increases the risk of babies being born with, among other malformations, cleft lip and cleft palate.⁶¹

Figure 10: Mining village near a cobalt mining site in Kolwezi (EurAc)



3.3. Violent confrontations between artisanal and industrial miners

Direct and sometimes violent competition between artisanal and industrial miners has mainly been reported in the cobalt sector. This can be explained by the fact that ASM and LSM activities in the cobalt sector are happening concurrently in the same location (see section 2.1 Artisanal and Industrial extractions). The interactions between the LSM operator’s personnel and ASM workers are generally characterized by confrontation.⁶² In the most hostile settings, artisanal miners have been reported harassing or targeting large-scale mine operators’ employees or damaging equipment, using weapons such as metal bars when confronted.⁶³ Violence has also been used against artisanal miners. The presence of the FARDC, which continues to guard industrial projects that are under particular pressure from illegal artisanal miners, contributes to the fact that these conflicts are not always resolved peacefully.⁶⁴

In June and July 2019, the national security forces evicted artisanal miners encroaching on two of the

⁵⁹ EurAc, Interview with Police Service in Kapata, September 2019.

⁶⁰ Amnesty International, “This is what we die for” Human rights abuses in the Democratic Republic of Congo power the global trade in cobalt, 2016, p. 22-23.

⁶¹ Aljazeera video 2021 <https://www.aljazeera.com/program/people-power/2021/4/1/the-cost-of-cobalt>

⁶² Africa Intelligence, Illegal Miners vs security forces: an exasperating game of cat and mouse, 3 May 2021.

⁶³ OECD, Interconnected supply chains, a comprehensive look at due diligence challenges and opportunities sourcing cobalt and copper from Democratic Republic of Congo, Paris, 2019.

⁶⁴ BGR, Mining conditions and trading networks in artisanal copper-cobalt supply chains in Democratic Republic of Congo, April 2021.

country's largest industrial cobalt mining sites.⁶⁵ In addition to deaths and injuries, the expulsions caused more than 10,000 artisanal miners to lose their only means of generating income.⁶⁶ Cobalt companies involved in violent relations with ASM include KCC, owned by Glencore and China Molybdenum, the owner of the the Tenke Fungurume Mining concession.⁶⁷ It is good to note that in most cases, the existence of artisanal mines is tolerated by concession holders and there is no push to close them down in order to avoid conflict and possible risks to their own mining operations.⁶⁸

A related issue in the cobalt sector is the displacement of local populations without proper compensation when an industrial company starts its operations. Operating in a densely populated area, with mines often operating in close proximity to local town and villages, thousands of people have been exposed to forced relocations.

« Ayant une densité de population important, il est pratiquement impossible de commencer des nouveaux travaux sur un site sans vraiment déplacer des gens. »⁶⁹

While legally compensation must match and repair the loss of communities, this is rarely the case.⁷⁰ Moreover, often the resettled population is not consulted in the relocation process and hence is not provided a choice for where to move.⁷¹ Communities have for example been moved to remote areas with poor soil, no clean water, no health care, no schools and very few jobs in the area.⁷²

Figure 11: Commercial activity near a cobalt mining site Kapata, Kolwezi (EurAc)



65 For more details on the use of the FARDC to expel ASM, see OECD, *Interconnected supply chains: a comprehensive look at due diligence challenges and opportunities sourcing cobalt and copper from the Democratic Republic of the Congo*, Paris, 2019, p. 42.

66 International Crisis Group, *Mineral Concessions: Avoiding Conflict in DR Congo's Mining Heartland*, 2020.

67 OECD, *Interconnected supply chains: a comprehensive look at due diligence challenges and opportunities sourcing cobalt and copper from the Democratic Republic of the Congo*, Paris, 2019, p. 42.

68 BGR, *Mining conditions and trading networks in artisanal copper-cobalt supply chains in Democratic Republic of Congo*, April 2021, p. 14.

69 EurAc interview with civil society organization, September 2019.

70 EurAc interviews with local civil society organizations, September 2019.

71 J. Napoleon Bamenjo, *Cobalt and Copper Mine Displaces Kishieba Community in Congo*, Presbyterian Mission, 2016.

72 F. Scheele F., de Haan, E. and Kiezebrink, V., *Cobalt blues: Environmental pollution and human rights violations in Katanga's copper and cobalt mines*, SOMO, 2016, <https://www.somo.nl/cobalt-blues-2/>

While less pertinent, the 3T sector has also known confrontations between artisanal and industrial miners. The most emblematic dispute occurred on the hillside of Bisie, in the Walikale territory (North Kivu) between the company Alphamin Bisie Mining SARL (ABM) and the local artisanal miners, sometimes supported by Mai-Mai NDC Sheka (then NDC Rénové), as it lasted nearly 15 years (2002-2016).⁷³ In 2017, the dispute between the two parties was completely solved through the signature of an accord that foresaw voluntarily transition to a new location or vocation for Bisie's miners.⁷⁴

The history of the conflict between the Société Minière Bisunzu (SMB) and the artisanal miner's cooperative COOPERAMMA in the 3T sector is an important lesson learned for the cobalt sector as it switched from a dispute on the land ownership into a dispute related to prices. As soon as SMB (at the time called Etablissements Mwangachuchu Hizi International, MHI) acquired the exploitation permit for its concession in Rubaya (Masisi Territory, North Kivu), COOPERAMMA claimed to own this land. In 2013, an agreement between the two parties was found that COOPERAMMA was allowed to continue working under the condition that SMB held the monopsony on the entire production. However, artisanal miners have complained that the sale price obtained at SMB was too low and their demonstrations sometimes led to violent incidents.⁷⁵

3.4. Corruption and bribery

The numerous linkages between politics and business have raised questions about the mining sector in the DRC, irrelevant of the minerals that are being extracted.⁷⁶ Both LSM and ASM operations can be exposed to corruption risks. Corruption risks related to ASM concern illegal payments to government officials and beneficial ownership of cooperatives and buying houses.⁷⁷ This is both prevalent in the 3T and the cobalt trade.⁷⁸

Large scale corruption issues, concerning how mining rights were acquired or negotiated, typically take place in the LSM sector and are mainly reported in the cobalt sector. Again, the nature of the cobalt extraction in the DRC explains this higher prevalence: global cobalt reserves have a high concentration in the DRC, the interests in cobalt have boomed in the last five years and finally, compared to the 3T sector, the cobalt sector has an important LSM presence.

Between 2017 and 2019 cobalt was the mineral that was most reported on being linked to issues of bribery and corruption: 79 articles linked corruption to cobalt, compared to 23 reports on tin, 19 on tantalum and 16 on tungsten. The higher number of reports on corruption in the cobalt sector is mainly a result of the case of Gecamines and Gentler (see box below).⁷⁹ In 2017 Global Witness revealed that from the \$10 billion copper and cobalt revenues that is being extracted yearly, in 2014 \$750 million was held back by tax agencies and mining companies and this money never reached the Congolese treasury.⁸⁰

In the last decade no high-profile corruption cases have been revealed in the 3T sector that led to a similar amount of attention as the Gertler case on corruption issues in the cobalt sector. Until such cases are brought to light, the lack of fiscal transparency in the DRC makes it difficult to check business activities of powerful actors and to report where corruption is and where it is not taking place.⁸¹ Moreover, Research Matters and Sciences Po found that corruption risks are barely reported on by companies. This is striking in contrast to the efforts companies have made to report on human rights violations and risks in their cobalt supply chain related to health, safety and the environment. Whereas the majority of the companies do recognize the risk of corruption as it is included in the OECD Guidance, they currently lack incentives to report on this risk.⁸²

73 de Brier, G., Third Party Review of the Bisie Security Report, IPIS-CFSI, Antwerp, July 2016.

74 Falhey, D., Mutumayi, B., The transition from artisanal to industrial mining at Bisie, Democratic Republic of Congo, 2019, p. 1.

75 Pole Institute and IPIS, Suivi des incidents dans les chaînes d'approvisionnement artisanales dans la zone minière de Rubaya, territoire de Masisi, province du Nord Kivu, Les Voix du Congo, Goma-Anvers, Novembre 2020, p. 21

76 Congo Research Group and Pulitzer Center, All the president's wealth. The Kabila Family Business, 2017, p. 9.

77 OECD, Interconnected supply chains, a comprehensive look at due diligence challenges and opportunities sourcing cobalt and copper from Democratic Republic of Congo, Paris, 2019, p. 44.

78 IPIS webmap DRC 2021, via <https://www.ipisresearch.be/mapping/webmapping/drcongo/v6> and <https://ipisresearch.be/wp-content/uploads/2020/10/1904-IOM-mapping-eastern-DRC.pdf>

79 OECD, Trends in stakeholder reporting: mineral supply chains, April 2021, p. 23.

80 Global Witness, Regime cash machine, 2017, pp. 11-12.

81 Congo Research Group and Pulitzer Center (2017). All the president's wealth. The Kabila Family Business, p. 2.

82 Research Matters (2019) See no evil speak no evil – poorly managed corruption risks in the cobalt supply chain.

Box 1: Corruption scandals in the cobalt supply chain

Israeli businessman Dan Gertler has been a prominent figure in the DRC's mining sector and corruption allegations have followed him for years.⁸³ In May 2013, the Africa Progress Panel (APP) published a report that highlighted the enormous sums the DRC was losing by doing business with Gertler's offshore companies. The APP reported that deals for five prized copper and cobalt concessions from Gécamines to Gertler had resulted in a loss of \$1.36 billion to the DRC state.⁸⁴ Using new data, civil society coalition 'Le Congo n'est pas à vendre' estimated in May 2021 that the total loss to the Congolese state from Gertler's deals has, so far, come to at least \$1.95 billion.⁸⁵

Gertler was put under US sanctions for "corrupt and opaque deals" in 2017, which were further broadened in 2018.⁸⁶ DRC's state-owned mining company Gécamines has been at the heart of many deals Gertler has done in DRC, and most of those were referred in the US sanctions notice. In at least three of its most important mining projects, Gécamines transferred the right to collect royalties to companies affiliated with Dan Gertler. However, royalties are revenues that typically accrue to the state or a state-owned company, and are paid as a share of the mining project's production.⁸⁷

State-owned Gécamines has also been the focus of numerous corruption scandals. The Carter Center calculated that nearly two thirds of the \$1.1 billion in revenues that Gécamines was contractually entitled to between 2011 and 2014, cannot be reliably traced to its accounts.⁸⁸ Global Witness estimated that more than \$750 million of mining revenues paid by companies to Gécamines and tax agencies from 2013 to 2015 had not reached the public treasury.⁸⁹

According to the civil society coalition 'Le Congo n'est pas à vendre', the DRC risks facing future losses of at least \$3.71 billion from suspect mining and oil deals with Gertler. It estimates that if Gertler's present rights are not reviewed and rescinded, Dan Gertler will receive at least \$1.76 billion in future royalties between 2021 and 2039.⁹⁰

83 Global Witness, Controversial billionaire Dan Gertler appears to have used suspected international money laundering network to dodge US sanctions and acquire new mining assets in DRC, 2 July 2020.

84 Africa Progress Panel, Equity in Extractives, APP Report 2013.

85 Le Congo n'est pas à vendre, Billions lost, a financial investigation into Dan Gertler's mining deals, May 2021.

86 US Department of the Treasury, US Sanctions Human Rights abusers and corrupt actors across the globe, 21 December 2017, <https://home.treasury.gov/news/press-releases/sm0243>

87 Le Congo n'est pas à vendre, Billions lost, a financial investigation into Dan Gertler's mining deals, May 2021, page 9.

88 The Carter Centre, A state affair: privatizing Congo's copper sector, November 2017, accessible here: https://www.cartercenter.org/resources/pdfs/news/peace_publications/democracy/congo-report-carter-center-nov-2017.pdf

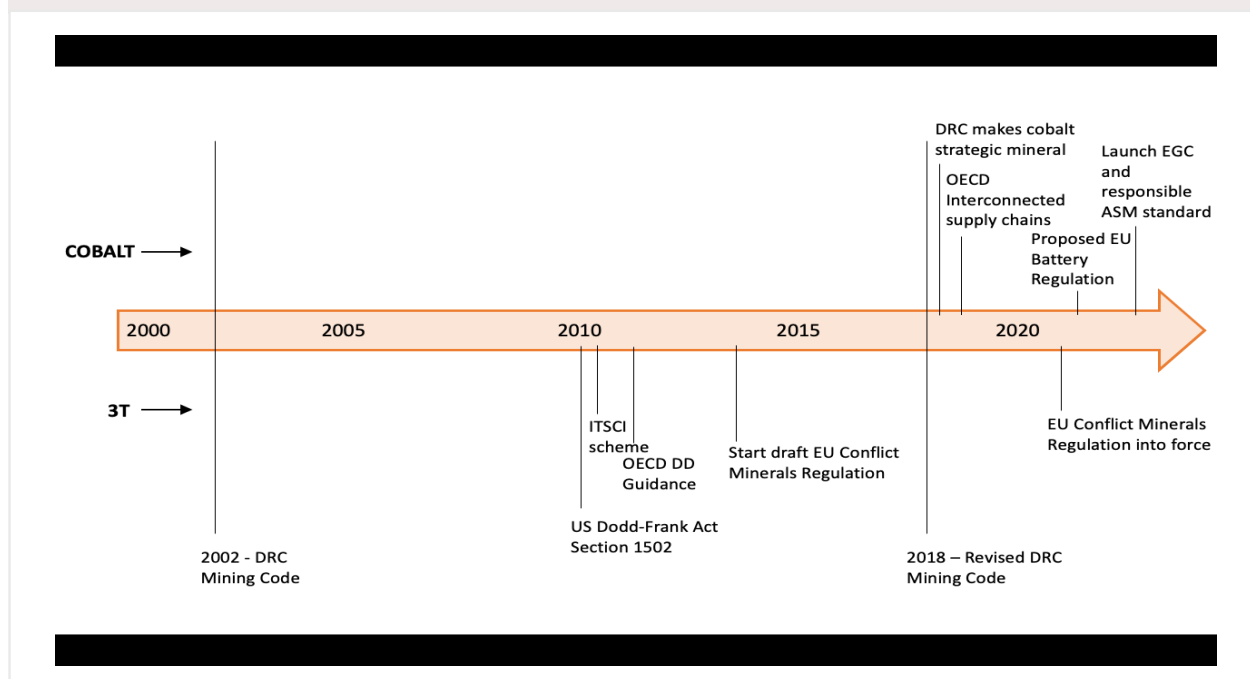
89 Global Witness, Regime cash machine, 21 July 2017.

90 Le Congo n'est pas à vendre, Billions lost, a financial investigation into Dan Gertler's mining deals, May 2021.

4. COBALT AND 3T DUE DILIGENCE

The different time span of international demand on the one hand and the call for due diligence on the other hand have resulted in varying degrees of regulation between the 3T and cobalt supply chains. In the early 2000s the demand for 3Ts increased as a result of the 'digital revolution' and the growing demand for electronics. Concurrently, the first reports came out linking 3T to war economy.⁹¹ From 2010 onwards, the debate on the 3T conflict nexus resulted in both international guidelines and legislations on conflict minerals as well as mining reforms in the DRC. Cobalt was only being put on the international agenda around 2016 after the report on child labour published by Amnesty International,⁹² coinciding with the 'green revolution' and the increased demand for rechargeable batteries.⁹³ Figure 12 below gives a summary of the timelines of important regulatory events in both supply chains.

Figure 12: Timeline of the different regulations and programmes enforced to develop a responsible sourcing supply chain for 3T and cobalt



4.1. International regulatory efforts affecting DRC

As media and NGOs brought attention on the risk of conflict financing through the 3T trade and of child labour in the cobalt trade, the international call to hold industry actors accountable for their behavior in producing countries increased, resulting in international due diligence standards.

4.1.1. Dodd-Frank Act section 1502

The first 3TG regulation that came into force was the US Dodd Frank, section 1502, in 2010. The Dodd-Frank act requires publicly traded companies to disclose whether they use 3T and gold originating from

91 See for example: Cuvelier, J. Supporting the war economy in the DRC: European companies and the coltan trade, IPIS, Antwerp, 2002.

92 Amnesty International, "This is what we die for" Human rights abuses in the Democratic Republic of Congo power the global trade in cobalt, 2016.

93 Arian, H., de Brier, G., Hoex, L. Reducing the carbon footprint at the expense of a mineral footprint? IPIS Briefing, May 2021, <https://ipisresearch.be/weekly-briefing/ipis-briefing-may-2021-reducing-the-carbon-footprint-at-the-expense-of-a-mineral-footprint/>

DRC and neighbouring countries in their products.⁹⁴ The Dodd Frank 1502 has had both positive and negative consequences for the 3T and gold mining communities, which cannot be analyzed in isolation of other developments in the last ten years. At the time the law came into force, increased scrutiny led to socio-economic consequences as most international mineral traders abstained from sourcing minerals from the DRC in 2010. This was the so-called *de facto* embargo. Consequently, an estimated 2 million people have indirectly experienced these difficult socio-economic consequences. At the same time, Dodd-Frank 1502 created momentum to increase efforts to address conflict financing from mineral exploitation and trade, and efforts to increase the volume of responsible mineral trade. The development and implementation of several other initiatives have been accelerated as a consequence of Dodd-Frank 1502.⁹⁵

4.1.2. OECD Guidance

In 2011, the first edition of the OECD Guidance was adopted by the OECD Council and endorsed by the ICGLR, with the objective of breaking the link between the extraction and trading of 3T minerals and gold and the financing of conflict as well as the illegal exploitation of natural resources.⁹⁶ In 2015, the China Chamber of Commerce of Metals, Minerals and Chemicals Importers & Exporters (CCCME) followed with launching the Chinese Due Diligence Guidelines for Responsible Mineral Supply Chains, which were in line with the OECD Guidance.

While originally the OECD Guidance was focused on the responsible sourcing of 3T and gold, in 2016 the OECD published the third edition of the Guidance, in which the scope of the concerned minerals was broadened to all minerals, thereby including cobalt.⁹⁷ In 2019 the OECD published a report focusing on copper and cobalt from the DRC in which it stated that although there is no supplement for copper and cobalt, stakeholders can refer to the 3T supplement due to the similarities between the supply chains.⁹⁸

The due diligence standards set out in the OECD Guidance have been translated to mandatory regulations aiming to make 3T sourcing more responsible. This has not yet been the case for regulatory measures on due diligence in the cobalt supply chain.

4.1.3. EU Regulatory initiatives

In 2011 the EU started taking action towards an EU legislation making 3T and gold due diligence mandatory. This resulted in the EU Regulation 2017/821 laying down supply chain due diligence obligations for EU importers of tin, tantalum and tungsten, their ores, and gold originating from conflict-affected and high-risk areas.⁹⁹ This EU Regulation became law in 2017 and allowed for a transition period for concerned companies until January 2021, when it has fully entered into force. Cobalt is not included in this regulation but the EU is working on two regulations that could fill this gap.

In December 2020 the new EU Battery Regulation was proposed by the European Commission. The EU Battery Regulation is meant to update the EU Batteries Directive, which was implemented in 2006 and evaluated in 2019. This update is in line with the EU Green Deal, aiming at a circular economy and making the battery chain sustainable.¹⁰⁰ Article 39 of the proposed Regulation focusses on environmental and human rights due diligence. This proposal explicitly addresses cobalt sourcing and the social and

94 US Dodd-Frank Act Section 1502, <https://www.sec.gov/rules/final/2012/34-67716.pdf>

95 IPIS, Regulating responsible sourcing of 3TG minerals, in IPIS Insights on Due Diligence on Mineral Sourcing, 2020, p. 18-19.

96 OECD, OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas, Paris, 2011.

97 OECD, OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas: Third Edition, Paris, 2016.

98 OECD, Interconnected supply chains, a comprehensive look at due diligence challenges and opportunities sourcing cobalt and copper from Democratic Republic of Congo, Paris, 2019.

99 Regulation (EU) 2017/821 of the European Parliament and of the Council of 17 May 2017 laying down supply chain due diligence obligations for Union importers of tin, tantalum and tungsten, their ores, and gold originating from conflict-affected and high-risk areas: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02017R0821-20201119&from=EN>

100 European Commission, Communication from the Commission to the European Parliament, the European Council, the Council, the European, Economic and Social Committee and the Committee of the Regions, COM (2019) 640, Brussels, the 11th December 2019 https://ec.europa.eu/info/sites/default/files/european-green-deal-communication_en.pdf

environmental impact of cobalt mining.¹⁰¹

In 2020 the European Commission started consultations on cross-sectoral mandatory due diligence for EU companies. The Commission is currently drafting a legislative proposal for a directive on sustainable corporate governance to be published in the fourth quarter of 2021. According to the inception impact assessment, the issues to be regulated include a duty of environmental and human rights due diligence in companies' own operations and value chains.¹⁰²

Up until now the strong call to address the social consequences of cobalt sourcing in the DRC has not yet resulted in the same status for cobalt in international guidelines and regulations as the 3Ts. However, similar measures to improve cobalt due diligence are now starting to evolve.

Box 2: Responsible sourcing initiatives by multi-stakeholder actors in the cobalt sector

The Global Battery Alliance (GBA), founded in 2017, is an alliance of companies, government organizations, NGOs and universities. The GBA is developing the Battery Passport as a mean of proving the responsible and sustainable production of lithium-ion batteries and the raw materials required for them. The GBA collaborates with RMI and RCI (see below) and engages locally in ASM cobalt mining through the CAP (see below). In collaboration with the FCA (see below), the focus is set on the development and piloting of a standard for ASM cobalt.

The Cobalt Action Partnership (CAP) is a public-private coalition, established by the GBA, willing to enable and support responsible cobalt supply chains. The activities carried out in light of this goal include creating a common ASM Cobalt Framework.¹⁰³ The ASM Cobalt Framework is aligned with the CTC certification system and has added one supplementary principle: trade transparency and fair prices for miners. The key implementing organizations include the Responsible Minerals Initiative, CSR Europe, Fair Cobalt Alliance, IMPACT, IIED, NYU Stern and UNICEF. The CAP is further supported by over 70 members of the GBA.

The Fair Cobalt Alliance (FCA)¹⁰⁴ is a platform where partners along the supply chain come together to take action and increase the availability of responsibly mined cobalt from ASM in the DRC. The platform was launched in 2020 by the Impact Facility, Fairphone, Signify and Huayou. The partners consist of industry players, governments and civil society organizations (in)directly involved in the cobalt supply chain. Together they aim to achieve the goal of increasing the availability of responsibly mined cobalt through three main objectives: mine improvement, child labour eradication and increasing household incomes. In their call to action the FCA highlights the gap between the attention artisanal cobalt mining has received from international media, and the actual effect of efforts on the ground. To close this gap the FCA aims to create a collective cohesive agenda and thereby better coordinate the efforts on the ground. In line of this approach the FCA collaborates with RCI and RMI (see below).

101 https://ec.europa.eu/info/sites/default/files/european-green-deal-communication_en.pdf

102 European Parliament Research Service, Towards a mandatory European system of due diligence for supply chain, Briefing, PE.659 299, October 2020.

103 See <https://www.asm-cobalt.org>

104 <https://www.theimpactfacility.com/commodities/cobalt/fair-cobalt-alliance/>

The Responsible Minerals Initiative (RMI)¹⁰⁵ has also put in effort to make cobalt sourcing more responsible. RMI has created Responsible Minerals Assurance Process (RMAP) standards that can be used to assess if companies source responsibly in line with the OECD Guidance. RMI has also developed the Cobalt Reporting Template (CRT), which can be used by downstream companies to carry out due diligence in line with the OECD Guidance.

The Responsible Cobalt Initiative (RCI)¹⁰⁶ was launched in 2016 by China Chamber of Commerce of Metals, Minerals and Chemicals Importers & Exporters (CCCME) and OECD. Through this initiative, the 32 companies involved work together with the DRC government to make the whole cobalt supply chain more transparent, in line with the OECD Guidance. Volvo and BMW are amongst the companies involved with RCI. Eradicating child labor is one of the priorities of RCI.

Box 3: Responsible sourcing initiatives by multistakeholder actors in the 3T sector

The Public-Private Alliance for Responsible Minerals Trade (PPA) is a multi-stakeholder initiative with civil society, industry, and government actors that supports projects in the DRC and the surrounding Great Lakes Region of Central Africa that improve the due diligence and governance systems needed for ethical supply chains. The funded projects complement government initiatives, with a focus on developing tools and building civil society capacity to support responsible minerals sourcing and trading.¹⁰⁷

The European Partnership for Responsible Minerals (EPRM) is an accompanying measure to the EU 3T and gold Regulation. Since the legislation alone cannot make the needed improvements in producing countries, the EPRM is supporting ASM mine sites in CAHRAs. The aim of this support is to enable more ASM mines to comply with the standards required under the OECD Guidance. This in turn will enable companies to source minerals from the mines confident that they will be able to comply with relevant regulations.¹⁰⁸

Founded in 2008 by members of the Responsible Business Alliance and the Global e-Sustainability Initiative, the Responsible Minerals Initiative (RMI) is an important resource for companies from a range of industries addressing responsible mineral sourcing issues in their supply chains. Through the Responsible Minerals Assurance Process, RMI identifies 3T smelters that produce responsibly sourced materials. The audit standards used by RMI are developed according to global standards including the OECD Guidance.¹⁰⁹

4.1.4. *Lessons learned from 3T that should inspire regulatory measures in the cobalt sector*

Ten years of experience with international regulatory measures in the 3T sector has taught us several lessons which should be considered for legislation in development and future legislation regulating the cobalt sector.

Firstly, it is important to explicitly integrate the ASM sector in the regulatory measures. The ASM sector will be excluded, especially in high-risk areas, if no incentives for companies to source from ASM are created. Even without mandatory measures, many major companies sourcing cobalt from the DRC, like

105 See RMI website for more information: <http://www.responsiblemineralsinitiative.org/minerals-due-diligence/cobalt/>

106 See RCI website for more information: <https://respect.international/responsible-cobalt-initiative-rci/>

107 See website PPA for more information: <https://www.resolve.ngo/site-ppa/default.htm>

108 See website EPRM for more information: <https://europeanpartnership-responsibleminerals.eu>

109 See website RMI for more information: <http://www.responsiblemineralsinitiative.org>

Umicore, claim not to source from ASM mines.¹¹⁰ There is a risk that legislation will only reinforce this trend in the sector.

Regulatory measures on 3T have shown that there is an important risk that economic actors will disengage from conflict-affected and high-risk countries and/ or disengage from the ASM sector. While the EU Regulation has taken into account lessons learned from the Dodd Frank Act and the *de facto* embargo that followed its implementation,¹¹¹ the risk of economic disengagement is still very pertinent.¹¹² The so-called accompanying measures of the EU Regulation are specifically intended to support responsible mineral sourcing in conflict-affected and high-risk areas.¹¹³ The priority area for support is the sustainable development of the ASM sector leading progressively to its formalisation. Although these measures have led to success at a local level, more structural measurements, like economic incentives, are needed in order to overcome the disengagement challenge.

Secondly, the regulatory measures on 3T have shown the importance of engaging producing countries from the start of the drafting process. This is first of all important because regulatory measures will have a stronger impact if they are building on and aligned with existing regulations and state structures in producing countries. Moreover, the involvement of producing countries is important to enable a proper preparation for implementation and facilitate a correct application of the law. In the case of cobalt this is, compared to 3T, relatively easy because the cobalt production has a high concentration in one producing country, the DRC.

4.2. DRC Regulatory measures

4.2.1. Mining Code

Both artisanal cobalt and artisanal 3T mining in the DRC are regulated by the DRC Mining Code. The first version introduced in 2002 clearly aimed at attracting LSM to invest in the country, while the current version, enforced in 2018, aims to rebalance the benefits in favour of the Congolese state and the responsibility of the LSM towards environmental issues.¹¹⁴

The mining code states that artisanal mining is only allowed on Zones for Artisanal Exploitation (Zone d'exploitation artisanale; in short ZEA), which are designated and authorized by the DRC government.¹¹⁵ The enforcement has however been difficult. Firstly, the number of ZEA's is limited. To illustrate this, only 4% of the 3T mines in Eastern DRC lie in a ZEA.¹¹⁶ IPIS webmap projects a similar situation for cobalt: artisanal cobalt mining occurs outside of the ZEAs which remain in many cases empty. Only 5% of the copper and cobalt mines (3 out of the 53 mines) visited by BGR lie in a ZEA.¹¹⁷

« C'est un cercle vicieux: pas de coopérative, pas de ZEA. Mais si le gouvernement ne crée pas de ZEA où les travailleurs peuvent creuser légalement, pourquoi devraient-ils se formaliser en coopérative? »¹¹⁸

110 Umicore, Umicore confirms its commitment to ethical and sustainable cobalt, 17 December 2019, <https://www.umicore.com/en/newsroom/news/umicore-confirms-its-commitment-to-ethical-and-sustainable-cobalt/>

111 Koch, D. J. and Kinsbergen, S, Exaggerating unintended effects? Competing narratives on the impact of conflict minerals regulation, Resources Policy, 2018.

112 Hoex, L., Potential Risks to a successful implementation of the EU conflict minerals regulation, IPIS Briefing, December 2020.

113 The EU has adopted other accompanying measures aimed at addressing broader and systemic problems throughout mineral supply chains, see: http://publications.europa.eu/resource/ellar/38d9dbaf-a55d-11e3-8438-01aa75ed71a1.0001.04/DOC_1

114 Smith, A., Code minier en RD Congo: les enjeux de la réforme, Justice et Paix, 2019.

115 IPIS, PRG, SFR, and Ulula, Evaluating Due Diligence Programs for Conflict Minerals: A Matched Analysis of 3T Mines in Eastern DRC, Los Angeles and Antwerp, 2020, p. 10.

116 IPIS dashboard database, Webmap DRC 2021.

117 BGR, Mining conditions and trading networks in artisanal copper-cobalt supply chains in Democratic Republic of Congo, April 2021, p.13.

118 EurAc interview with civil society organization, Kolwezi, September 2019.

It is uncertain whether there are any cobalt resources on the existing ZEAs as no geological surveys have been conducted and because they are often located far from large concessions with proven resources.¹¹⁹ However, a local independent journalist argues that the few ZEAs that exist are located on very low production sites, leading to artisanal miners searching for cobalt on industrial sites. This seems similar to the situation in the eastern DRC.¹²⁰ According to 3T ASM miners' testimonies, ZEAs are located in poor-mineralized areas whereas rich-minerals underground lie on mining title concessions held by LSM companies.

IPIS webmap visualizes that the vast majority of 3T and cobalt artisanal mines lie on exploitation permits (PE) and to a lesser extent research permits (PR).¹²¹ This is specially the case in Katanga (for the cobalt) and South and North Kivu (for 3T, but also gold) where LSM concessions already cover an important part of the land, which makes the establishment of ZEAs more difficult. Legally, ASM activities are forbidden on PR and PE concessions unless the title owner signed his/ her agreement in an MOU with a cooperative.

In the case of 3T, SAKIMA, a Congolese state-owned company without capacity to invest in industrial exploitation, has authorized numerous ASM 3T miners in its concessions in return for a fee on the production. In fact, the majority of validated "green" mining sites and sites that are part of the ITSCI programs often lie into concessions owned by the SAKIMA, not in ZEAs (see below). For cobalt, none of the artisanal mines operates under a contract between the mining cooperatives and the concession owner according to the national Ministry of Mines, as of February 2021. That being said, in most cases, the presence of artisanal miners is tolerated by license holders in order to prevent conflicts and to prevent them from jeopardising their own industrial projects.¹²²

The revised mining code has not yet proven to benefit artisanal miners, partly due to lack of ZEAs and the non-resourceful location of the few ZEAs that do exist. Moreover, a civil society representative mentioned the lack of trust in the incentive to adequately implement the mining code:

«Le code minier existe; il y a des bonnes règles, c'est un bon texte. Mais est-il appliqué? Probablement pas, parce que son application nuirait aux personnes qui bénéficient de la situation actuelle.»¹²³

4.2.2. The Regional Certification Mechanism by the ICGLR

The Regional Certification Mechanism (RCM) is one of the six tools of the International Conference for the Great Lakes Region (ICGLR) Regional Initiative to fight against the Illegal Exploitation of Natural Resources (RINR).¹²⁴ The ICGLR Mine Site Inspection and Certification Standards are designed to ensure that tin, tantalum, tungsten and gold (3TG) are sourced only from mine sites that are conflict free and meet minimum social standards compliant with the OECD guidelines. One of the most visible measures is the qualification and the validation of the mine sites in three categories: green (validated: authorized to exploit and export minerals), yellow (minor measures should be taken, nevertheless the mine can export its minerals) and red (serious abuses on the mine, minerals from a red mine cannot be legally extracted and exported). In the DRC, 3T minerals from ASM mines can only be legally exported if they are sourced from validated mines and if the exporter can show the mine of origin and trade route of a mineral batch, the latter is done via a traceability system (see section 4.3.1 on Traceability initiatives in the 3T sector).

119 World Economic Forum, Making Mining Safe and Fair: Artisanal cobalt mining in the Democratic Republic of the Congo, White paper, September 2020.

120 EurAc interview with independent journalist, Kolwezi, September 2019.

121 See IPIS webmap DRC: <https://www.ipisresearch.be/mapping/webmapping/drcongo/v6/#-2.535613440582523/27.792563807385704/7.583707913874145/4/1,4/2.1lfu9s>

122 BGR, Mining conditions and trading networks in artisanal copper-cobalt supply chains in Democratic Republic of Congo, April 2021, p.13.

123 EurAc interview with an NGO Kolwezi, September 2019.

124 ICGLR, Regional Certification Mechanism (RCM), [http://www.icglr-rinr.org/index.php/en/certification#:~:text=The%20Regional%20Certification%20Mechanism%20\(RCM,of%20Natural%20Resources%20\(RINR\).](http://www.icglr-rinr.org/index.php/en/certification#:~:text=The%20Regional%20Certification%20Mechanism%20(RCM,of%20Natural%20Resources%20(RINR).)

This system has however demonstrated its limits as the vast amount of artisanal production still takes place at unregistered and non-validated sites. This is largely due to weak government capacity and the slow progress of mine site validations under the RCM.¹²⁵ Out of the 1000 3T mines identified by IPIS between 2009 and 2020, 409 were qualified (390 green; 18 yellow; 1 red).¹²⁶ Interestingly, very few of the green mines lie on a ZEA. Whereas some green mines lie on unregistered land (which is contradictory to the mining code), most of them are located in mining concessions owned by SAKIMA. For ASM, the authorization of working on SAKIMA concessions remain less advantageous than working on ZEA. Firstly, SAKIMA requests a royalty (varying between USD 0,1 and 0,3 per kilo of cassiterite extracted or exported) to the miners. Plus, miners are obliged to exclusively sell to a processing entity with whom SAKIMA has signed an agreement. These fees, plus the monopsony on the mineral trade, has led to tensions between ASM miners and SAKIMA in South Kivu.¹²⁷ Furthermore, working on a ZEA gives miners a better legal basis, and hence more certainty for investments whereas investing on someone's land is riskier and could lead to further disputes.

The second version of the RCM has integrated a fourth category: the blue mine. This newly introduced status is the default for all legally registered mine sites where no verification has taken place or where a verification has been requested but has not been carried out within the timeframe specified in the RCM. Blue status continues to require appropriate checks and balances in line with OECD Due Diligence Guidance, placing the responsibility for due diligence on companies.¹²⁸ There is currently no blue mine or blue exporter in DRC but the Madini project aims to pilot this regulation for targeted 3T mining sites.¹²⁹

The establishment of ZEAs for artisanal miners is essential to guarantee the rights and duties of ASM miners to work formally. At the same time, this policy has shown its limitations in eastern DRC for the 3T sector: ZEAs have been too rare and are commonly located in unattracted zones for ASM. The cobalt sector is likely to experience the same difficulties with expanding the number of ZEAs as most of the ASM cobalt mines lie on industrial concessions, and it is unlikely that LSM owners accept a ZEA in their concession. Agreements between ASM and LSM similar to the ones of SAKIMA and cooperatives are an option but as it has been described above, it can lead to conflicts, especially when the negotiations of the ASM miners on royalty and exclusive rights of sales are at stake.

4.3. Traceability initiatives

Besides the above DRC regulatory measures, non-state actors also play an important role in increasing due diligence. In the last decade, several initiatives have emerged that aim to increase traceability of minerals in the DRC. These initiatives do not replace government action in respecting human rights but can complement human rights due diligence regulations.¹³⁰ They can provide the tools and services necessary to carry out the implementation of existing and future due diligence regulations. In this section we will focus on ITSCI initiative in the 3T sector, and the recently launched Enterprise Générale du Cobalt in the cobalt sector.

4.3.1. 3T sector

The current system of 3T certification centers around two competitors, ITSCI and the Better Sourcing Program (BSP), both aligned with international frameworks such as the OECD Due Diligence Guidance and satisfying industry standards such as the RMI RMAP (see box 3).¹³¹ The cost of the monitoring and

¹²⁵ This is especially true for the gold mines: in 2019, only 132 out of 1892 gold mines had been inspected by mine site validation team. Data from IPIS webmap. <https://www.ipisresearch.be/mapping/webmapping/drcongo/v6/#-3/28/5/4/1/2.1nxbao,6.u>

¹²⁶ IPIS dashboard database, Webmap DRC 2021.

¹²⁷ De Brier, G., Analyse de contexte de conflit dans les régions minières du Sud Kivu et de l'Ituri et cartographie des parties prenantes, IPIS- Madini, Antwerp, Avril 2021, pp. 23- 28

¹²⁸ Levin Sources. Madini Project: Advocating for an improved enabling environment for the production, trade and export of OECD DDDG-conformant minerals from eastern DRC.

¹²⁹ Loch, M., Rolfe, A., Removal of Progress criteria and removal of the independent mineral chain and the the RCM manual, September 2020.

¹³⁰ D. Baumann-Pauly and L. Trabelsi, Complementing Mandatory Human Rights Due Diligence: Using Multi-Stakeholder Initiatives to Define Human Rights Standards, NYU Stern School of Business Forthcoming, 2021.

¹³¹ Deberdt, R. Le Billion, P.: Conflict minerals and battery material supply chains: A mapping review of responsible sourcing initiatives, The extractive industries and society, Elsevier, April, 2021.

traceability programs is constituting a significant limitation at the upstream level to the implementation of ITSCI and to a lesser extent BSP.¹³² In 2014 the cost of ITSCI implementation was estimated to be around 2 to 4 % of the mineral export value. In 2019, the traceability costs were estimated between USD130 to USD180 per ton.¹³³ More recently, the DRC, Rwanda, Burundi and Uganda, consider that the charges they have to meet to comply with the (ITSCI) certification mechanism are too high. They pay the equivalent of 82% of the cost of the organisation's traceability system, principally for the labelling of sacks of ore, compared with 18% for foreign buyers. Yet it is the buyers who obtain most of the profit from the sale of the ores.¹³⁴

Better Sourcing Program has been operational since 2014 and is working on more than 30 mine sites across tin, tantalum, tungsten, gold, and cobalt in Rwanda and the DRC.¹³⁵ BSP is being implemented by the company RCS Global.¹³⁶



Figure 13: Tagging of 3T minerals

The ITRI Tin Supply Chain Initiative (ITSCI) represents the largest program for 3T mines. It is a global supply chain program that supports companies to increase due diligence and responsible trade. ITSCI was formalized in 2011 and is now active in four countries, monitoring almost 2,500 mining sites, of which over 1,200 pits are across eastern DRC,¹³⁷ constituting a labour force of over 35,000 miners.¹³⁸ Out of the 711 3T mining sites monitored by IPIS between 2016 and 2018 in Eastern DRC, 38% were ITSCI sites and 62% were non-ITSCI sites.¹³⁹ ITSCI implements traceability by providing printed labels to SAEMAPE agents,¹⁴⁰ which they can use to tag 3T minerals produced at the mine site and along the trade route to allow for the verification of origin of the minerals further down the supply chain. The NGO Pact is in charge of incident reporting and risk management. Comparing ITSCI sites with non-ITSCI sites, IPIS concluded that responsible mineral sourcing initiatives in Eastern DRC have had a positive impact on the security of certain artisanal mining communities and have made the sector less 'disorganized' than before.¹⁴¹ However, the study also found that the due diligence programme did not significantly change the mining extraction conditions, including child labour.¹⁴²

132 Deberdt, R. Le Billion, P.: Conflict minerals and battery material supply chains: A mapping review of responsible sourcing initiatives, The extractive industries and society, Elsevier, April, 2021.

133 Deberdt, R. Le Billion, P.: Conflict minerals and battery material supply chains: A mapping review of responsible sourcing initiatives, The extractive industries and society, Elsevier, April, 2021.

134 Africa Intelligence, Producers and foreign buyers clash over mineral traceability costs, 22 April 2021.

135 Website of RCS Global [https://www.rcsglobal.com/upstreamdata/#:~:text=Better%20Sourcing%20\(BSP\)%20is%20RCS,of%20%22conflict%20minerals%22%20legislation.](https://www.rcsglobal.com/upstreamdata/#:~:text=Better%20Sourcing%20(BSP)%20is%20RCS,of%20%22conflict%20minerals%22%20legislation.)

136 See the website for more information: <https://www.rcsglobal.com/bettersourcing/>

137 ITSCI, Overview Q3, 2020.

138 IPIS dashboard database, Webmap DRC 2021.

139 Matthysen, K., Hoex, L., Spittaels, S. and Schouten, P., Mapping artisanal mining areas and mineral supply chains in eastern DR Congo Impact of armed interference & responsible sourcing, IPIS, 2019, p. 14.

140 http://www.saesscam.cd/SAESSCAM_New/ (website visited in April 2021).

141 Matthysen, K., Hoex, L., Spittaels, S. and Schouten, P., Mapping artisanal mining areas and mineral supply chains in eastern DR Congo Impact of armed interference & responsible sourcing, IPIS, 2019, pp. 53-54.

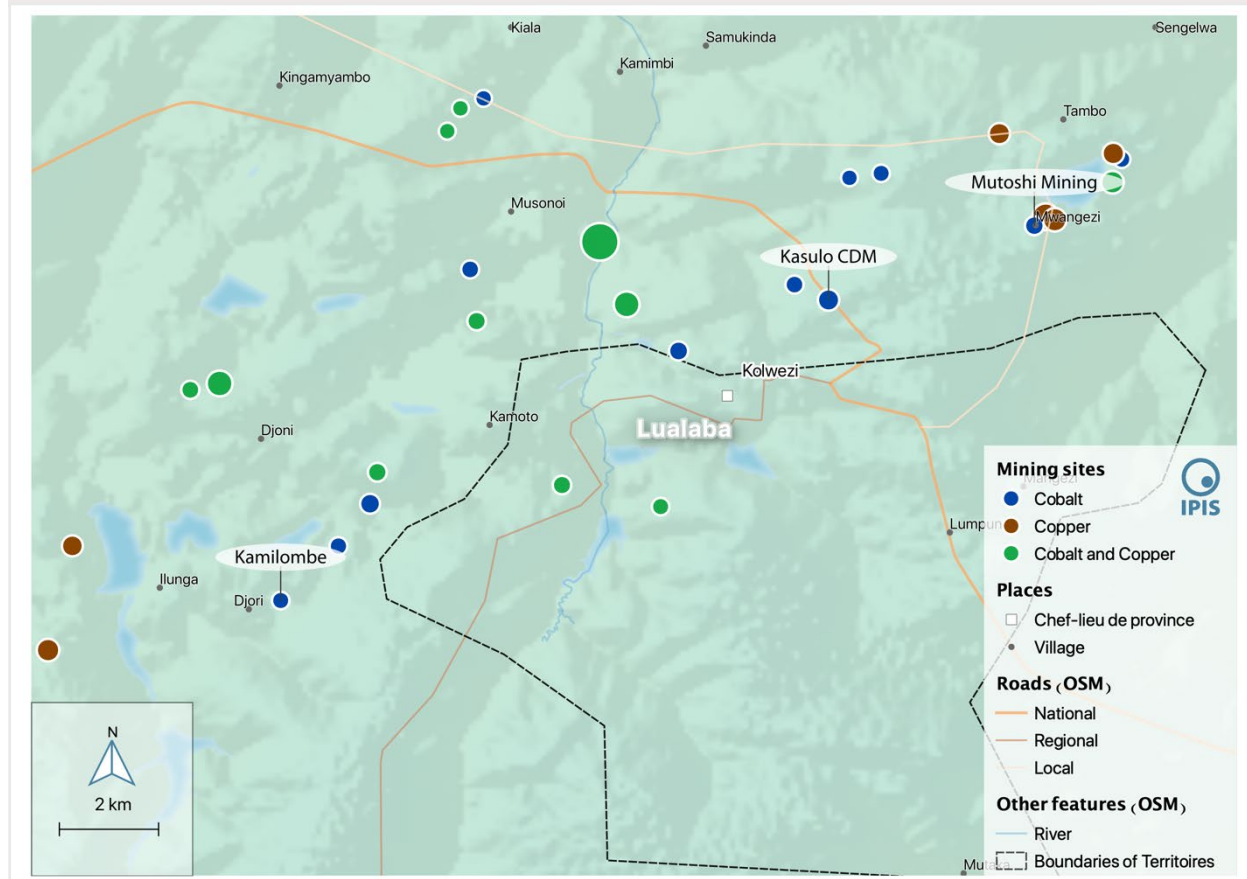
142 IPIS, ULULA, PRG, SFR, Evaluating due diligence programs for conflict minerals: a matched analysis of 3T mines in Eastern Congo, Los Angeles and Antwerp, p. 28

4.3.2. Cobalt

While only two actors are involved in tracing the 3T supply chain in DRC, a multitude of initiatives have emerged in the cobalt sector in DRC in recent years, albeit at a much smaller scale for the moment. For this research, we have identified at least 3 pilot projects all initiated by private companies willing to ensure that their cobalt supply chain does not engage with child labour.

The most ambitious programme, in terms of mines monitored, is the 'Better Cobalt' pilot implemented by RCS Global. Started in March 2018, "Better Cobalt", focused on 7 ASM or semi-mechanised sites validated against standards on ethical sourcing as set by the OECD while also specifically focusing on child labor and human rights abuses.¹⁴³ RCS hopes to monitor 12 cobalt ASM mines across DRC by 2023.¹⁴⁴ Amongst others, RCS monitors Kasulo and Kamilombe mines, where an estimated 4,500 miners are working.¹⁴⁵

Figure 13: Screenshot of the IPIS webmap locating mining sites



The second pilot identified is "Cobalt for Development". It is a cross-industry initiative from German companies BMW, BASF, Volkswagen, and also Samsung SDI and Samsung Electronics. The German cooperation aid GIZ is involved in the project, and the implementers on the ground are the Canadian NGO Impact and the Congolese NGO The Good Shepherd. The project "Cobalt for Development" intends to strengthen legal compliance, improve health and safety conditions, environmental management as well as economic and social well-being.¹⁴⁶ Building on Impact's experience of its gold monitoring project in Ituri¹⁴⁷, "Cobalt for Development" searched for mining sites where ZEA could be requested and with suf-

143 RCS Global, Launch of Better Cobalt, March 2018, <https://www.rcsglobal.com/launch-of-better-cobalt/>. The number of sites has been updated, after a call with RCS Global (May 2021)

144 <https://www.rcsglobal.com/better-mining-asm-monitoring-program-successfully-scales-announces-partnerships/>

145 Reuters, Huayou temporarily suspends purchases of cobalt from two Congolese mines, 12 August 2020.

146 BASF, Cross-Industry partnership to enhance sustainable cobalt mining, 2020 <https://www.basf.com/global/en/who-we-are/sustainability/we-source-responsibly/cobalt-initiative.html> (website visited on 17 May 2021)

147 Impact: The Just Gold project: Lessons learned for the future of gold artisanal mining in the Democratic Republic of Congo, March 2021.

ficient cobalt deposit. The site of Kisote was selected.¹⁴⁸

A third pilot initiated by commodity trading company Trafigura started in February 2018, at the Mutoshi concession, in collaboration with mining company Chemaf. The NGO Pact, which gained experience by implementing the ITSCI programme, was in charge of executing the pilot on the ground, together with the cooperative COMIAKOL. This pilot opted for a closed pipeline. Around 5,000 miners had registered and been provided with protective equipment to work on the Mutoshi site where machines have opened the pits, which allows extraction to take place without dangerous tunnel constructions or deep pits.¹⁴⁹ The Mutoshi project was however put on hold in March 2020, due to the Covid-19 epidemic,¹⁵⁰ and finally closed in December of the same year.¹⁵¹ Besides the decision of Chemaf to develop industrial mining on Mutoshi, another reason to close the project was that by law, all ASM cobalt production must be marketed through Entreprise Générale du Cobalt (EGC).¹⁵² That being said, the EGC is building on the lessons learned and follows the same approach of the Mutoshi pilot project.¹⁵³

EGC, a Congolese mining company and a subsidiary of Gécamines (see box 1), was launched in March 2021. In its announcement, EGC declared its goal to formalize the ASM cobalt sector in order to promote economic development and social and environmental responsibility with its partners Pact and trading company Trafigura.¹⁵⁴ Also in March 2021, EGC published its Responsible Sourcing Standard, which is aligned with DRC Mining law and the OECD Due Diligence Guidance.¹⁵⁵ The standard mentions international frameworks such as ARM's CRAFT standard and RMI's Risk Readiness Assessment (RRA) as references, while at the national level, EGC standards were aligned with the CTC certification system. The DRC's Agency for Regulation and Control of Strategic Mineral Substance Markets (ARECOMS) enforces this through certifying cooperatives that apply the EGC standard. EGC can in turn only buy from certified cooperatives.

The arrival of EGC is a game changer as it holds a de facto monopsony on artisanal cobalt in the DRC. The EGC standard has been proclaimed as being the first responsible sourcing standard for artisanal cobalt. This raises questions about the legality of ASM cobalt extracted in mining sites from the other initiatives mentioned above. Moreover, other initiatives such as the Global Battery Alliance - Cobalt Action Partnership (see Box 2) have been actively working on setting up responsible principles as well. The CAP has done an internal benchmark exercise of the ASM Cobalt Framework against the EGC standard and has reported that albeit some differences, there is a lot of alignment.¹⁵⁶ That being said, the co-existence of different initiatives has created an uncertain situation for miners and traders, especially since it will take some time to see the effects of the implementation of the EGC standard. EGC is currently in the phase of developing its first site, it does not currently have the financial means and the technically necessary processing capacities to purchase the entire ASM cobalt production and to ensure responsible artisanal mining on a broad scale.¹⁵⁷

4.4. Lessons learned from 3T that should inspire the traceability efforts in the cobalt sector

In this section, we will look at the characteristics of the programmes identified in the section above and analyse how the experience of the 3T traceability programmes in DRC can serve for the success of a

148 Automotive World, BMW Group: "Cobalt for Development" project started training for mining cooperatives in Kolwezi, Democratic Republic of Congo, 30th October 2020, <https://www.automotiveworld.com/news-releases/bmw-group-cobalt-for-development-project-started-trainings-for-mining-cooperatives-in-kolwezi-democratic-republic-of-congo/>

149 World Economic Forum, Making Mining Safe and Fair: Artisanal cobalt mining in the Democratic Republic of the Congo, White paper, September 2020, p. 10.

150 World Economic Forum, Making Mining Safe and Fair: Artisanal cobalt mining in the Democratic Republic of the Congo, White paper, September 2020.

151 Reuters, Trafigura's Congo artisanal cobalt project to end, replaced by industrial mining, 7 December 2020.

152 Trafigura, Trafigura update on the Mutoshi ASM formalisation pilot project, December 2020, <https://www.trafigura.com/responsibility/responsible-sourcing/trafigura-update-on-the-mutoshi-asm-formalisation-pilot-project/>

153 <https://www.trafigura.com/responsibility/responsible-sourcing/our-agreement-with-entreprise-generale-du-cobalt/>

154 <https://www.egcobalt-rdc.com>

155 EGC, EGC Responsible Sourcing Standard, March 2021, p. 3.

156 CAP Consultation Meeting, Meeting notes, Framework Overview and Objectives, 24 June 2021.

157 BGR, Mining conditions and trading networks in artisanal copper-cobalt supply chains in Democratic Republic of Congo, April 2021, p. 53.

transparent and fair supply chain in the cobalt sector. With the announcement of EGC as the sole legal buyer of the ASM cobalt, the lesson learned will be specifically targeting this programme. Ten years of experience with traceability efforts, dominantly ITSCI, has taught us several lessons which we can build on in order to improve emerging cobalt traceability mechanisms. Based on what we know now of EGC, it risks repeating some of the caveats in the ITSCI program that have limited its effectiveness.

The first caveat identified is the monopsonic position given to one traceability programme. When ITSCI launched its programme, it appeared there was no other alternative through which 3T minerals could legally enter the market. This created mistrust amongst ASM miners as they could not bargain the prices. As IPIS has recommended in a previous report, having more traceability programs increases the negotiation power of artisanal miners, which will in turn incentivize them to integrate in the legal supply chain.¹⁵⁸

EGC though holds, under the terms of decrees 19/15 and 19/16 (2019)¹⁵⁹, the monopoly for the purchase, treatment, transformation, sale and export of cobalt extracted by artisanal miners or artisanal mining companies in the DRC.¹⁶⁰ Being the sole legal buyer of ASM cobalt, it risks facing the same resistance from the miners. Officially, the due diligence price seems to lie on the exporter, but in reality, the exporter often passes on the costs to the miners, who are obliged to sell to traceability programs. Chemaf, the mining operating company at Mutoshi, admitted paying a lower price for ASM cobalt than those paid by public depots in order to recoup some costs of its project.¹⁶¹ Doing so, Chemaf believed that miners from outside would not “contaminate” its supply chain.¹⁶² Furthermore, analysts doubt of the capacity of the government to match the price offered by existing buyers. If it fails to match this price but tries to enforce its monopoly nonetheless, this will lead to more mineral fraud and smuggling.¹⁶³

Paying the miners less than public depots is precisely the reason why ASM miners tend to choose informal (hence illegal) trade. The ITSCI experience has shown that cooperatives and miners distrust the monopsony system because it shrinks their negotiation position. The Mutoshi project combined a monopsony system (Chemaf is the sole buyer) and a lower price than informal trade. This combination creates a high risk of confrontation between ASM and LSM, and of parallel trade of cobalt extracted in mines benefitting from the project.

The EGC standard stipulates that mining cooperatives shall be registered and either operate within an artisanal mining area (ZEA) instituted by ministerial order and assigned to the cooperative, or in a designated area within a private concession that has been assigned for this purpose by the concession title holder.¹⁶⁴ The section above on Regional Certification Mechanism has highlighted the risk of tension between ASM working on LSM concessions when the question of royalties is raised. Implementers of the Trafigura-EGC-Kumi project should be aware that the multiple costs (lower price given for the cobalt plus the royalties fees) is a strong disincentive for miners to join the project, or to accept its regulations and standards.

Another risk for disruption is the use of tags for sealing the 3T mineral bags. The tags are used as a source for the black market. IPIS surveyors reported to have seen ITSCI tags sold to traders who use them to seal production coming from mines outside of the program. Moreover, it is not uncommon that tagging is done at a distance from the mine, for example in a village where also minerals from other mines are assembled. Both challenges can result in the “contamination” of the supply chain. Since EGC will trace

158 De Brier, G., Jorns A., Geray M, Jaillon, A. IPIS (2020), How much does a miner earn? Assessment of Miner's revenue & Basic Needs study in the DRC, IPIS, Antwerp, March 2020, p. 50.

159 Ministère des Mines, Décret N°19/15 du 05 Nov 2019 portant sauvegarde des activités relatives aux substances minérales stratégiques d'exploitation artisanale. <https://www.leganet.cd/Legislation/Droit%20economique/Code%20Minier/decret.19.15.pdf> and Décret N°19/16 du 05 Nov 2019 portant création, organisation et fonctionnement de l'autorité de régulation et de contrôle des marchés des substances minérales stratégiques. <https://www.droitcongolais.info/files/753.11.19.1-Decret-2019-16-autorite-regulation-substances-minerales.pdf>

160 EGC, EGC Responsible Sourcing Standard, March 2021, p. 3.

161 World Economic Forum, Making Mining Safe and Fair: Artisanal cobalt mining in the Democratic Republic of the Congo, White paper, September 2020, p. 10.

162 World Economic Forum, Making Mining Safe and Fair: Artisanal cobalt mining in the Democratic Republic of the Congo, White paper, September 2020, p. 10.

163 Africa Confidential, Congo- Kinshasa: Jockeying for positions, 7 January 2021.

164 EGC, EGC Responsible Sourcing Standard, March 2021, p. 6.

the cobalt minerals through the use of traceability tags, similar to ITSCI¹⁶⁵, EGC should be aware of this practice and implement measures to mitigate the risk of contamination.

A third lesson learned from the ITSCI programme is the importance of transparency. KUMI, a sustainability consultancy specialized in helping organizations to implement and assess responsible practices, will assess every EGC site on a quarterly basis. The findings and recommendations will be provided to the EGC technical committee and to the buyers. The reports for the EGC technical committee will not be made publicly available. EGC's lack of transparency could impact its credits for progress potentially made because participating mining sites are selected based on certain criteria (being accessible, no presence of armed group, presence of a legal cooperative, etc.). But these mines are more likely to improve over time compared to those that did not comply, making it difficult to evaluate if improvements are thanks to due diligence programs or if these mining sites were already more prone to change.

¹⁶⁵ EGC, EGC Responsible Sourcing Standard, March 2021, p. 12, <https://www.egcobalt-rdc.com/app/uploads/2021/03/20210326-EGC-Responsible-Sourcing-Standards-English.pdf>

5. CONCLUSION AND RECOMMENDATIONS

This report compared the supply chains and traceability of 3T and cobalt ores in order to identify similarities, differences, and lessons learned from the decade of 3T experience in responsible sourcing, for the new emerging cobalt initiatives. Looking back at the history of the 3T and cobalt traceability measures and initiatives respectively, it is notable that they were both the result of growing concern on the part of consumers that their purchases were linked to human rights abuses, and on the part of private sector companies that their brand was linked to these bad practices. In the case of 3T, this public focus was on financing of armed groups; in the case of cobalt, this focus was on child labour.

As flawed as these narratives were, they did attract attention, and gradually gave way to analysis and field research that has moved beyond the stereotypical discourses which implied a need for disengagement. The first regulatory measures, like the Dodd-Frank act, were geographically limited to the Great Lakes region and the 3Ts because their objective was to end the conflict in eastern DRC. New legislation, such as the EU 3TG Regulation, became geographically emancipated, covering the entire world, with the stated goal of ending conflict financing and ending human rights abuses. This switch of paradigm reflects how legislation has evolved from a vision that unintentionally stigmatized the sourcing of minerals from the DRC, in favor of a strategy of risk mitigation in conflict affected and high-risk areas.

While many companies claim not to source cobalt from the ASM sector, DRC's dominant global position in cobalt reserves makes this disengagement strategy in the long term more difficult. Thus, in order to secure their supply, private companies launched their own responsible cobalt initiatives, limited to their own mining zones of supply. In the case of the 3Ts, the initiative came from the International Tin Association (ITRI), which facilitated the dialogue between the various partners (government, international partners, civil society) for the implementation of its ITSCI programme and the agreement of its standards. The result today is a homogeneity in due diligence standards in the 3Ts (RMI standards based on the OECD Guidelines) that contrasts with the confusing current cohabitation of EGC and the other initiatives in the cobalt chain.

While this report welcomes the shift towards risk mitigation in the 3T and cobalt sector, the difficult but fundamental question of due diligence cost distribution has still to be raised in the cobalt sector. It has been a major challenge in the 3T sector to ensure that the formal trade also benefited to the miners while keeping the mineral price competitive on the global market. The experience in the 3T sector has taught us that (i) buying price was the most important criteria for miners to sell to either formal or informal traders, and (ii) that LSM monopsonic position imposed to ASM has created conflict between miners and LSM companies.

While analyzing the initiatives, especially in the cobalt sector, it is striking to note the lack of interest in sharing and providing access to data to outsiders, including civil society, local and provincial authorities. Trafigura, being part of the EGC project, has already indicated that quarterly reports will not be shared and that only a summary in the annual report will be accessible to the public. It is however essential to provide full transparency to allow other researchers or partners the opportunity to evaluate the project. The cobalt sector should be all the more transparent as it has already demonstrated its permeability to corruption.

In fact, it is striking that responsible sourcing and traceability initiatives do not pay special attention to corruption. The companies that recently announced their monopoly position on the ASM cobalt in DRC have a serious corruption record while the initiatives do not have the fight against it explicitly on their agenda. It is important to stress that neither ASM nor LSM cobalt will be sourced responsibly if the corruption issue is not tackled. On the same note, it is worrisome that there are no (public) criteria to become a member of consortia that promote themselves as champion of responsible cobalt sourcing, allowing member companies to diffuse positive public relations communication on their so-called corporate social responsibilities.

Finally, the effectiveness of both regulatory measures and responsible sourcing programs depends on the capacity of the people implementing it on the ground. In the past, initiatives have been too focused on improving the transparency of the mineral value chain, rather than on the governance of the mineral sector as a whole which could potentially have a larger positive effect on the mining communities.

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