



Digging for Change

Towards a Responsible Cobalt Supply Chain

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Digging for Change

Selected Findings and Analysis from a Review of the State of ASM cobalt Mining Working Conditions, Children's Rights, and Economic Opportunity in Two Cobalt Mining Communities in Lualaba Province, Democratic Republic of the Congo.

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Published: June 2020

Funded by the The Netherlands Enterprise Agency (RVO)

In partnership with: Fairphone , Signify & Huayou

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Executive Summary and Research Conclusions

Commissioned by smartphone brand Fairphone, lighting company Signify and the international cobalt refiner Huayou Cobalt (parent company of Congolese subsidiary: Congo Dongfang International Mining [CDM]), and made possible with a grant from the Netherlands Enterprise Agency (RVO), a multidisciplinary team of experts from The Impact Facility for Sustainable Mining Communities carried out research in March 2019 in the mining zones of Lualaba Province, Democratic Republic of the Congo (DRC) to review and assess the working conditions at the Kasulu and Kamilombe artisanal cobalt mining sites, the state of children's rights in the associated mining communities, and the livelihood activities and opportunities in the local economy.

The purpose of the project was to gather information on and gain insight into the situation in the cobalt mining communities in the region to inform the programme design for a multi-year effort to systemically address environmental, social and governance-related challenges associated with artisanal cobalt production, as well as community-wide efforts to support child labour remediation and mitigation. This programme forms a central part of a supply chain-wide call to action – the Fair Cobalt Alliance (FCA). FCA is a bold attempt to broaden industry acceptance and support for responsible artisanal mining (ASM) of cobalt by starting an inclusive action platform, inviting companies, large and small, up and down the supply chain to do their part to make Fair Cobalt the default, not the exception. An overview of FCA is provided in section three of this report.

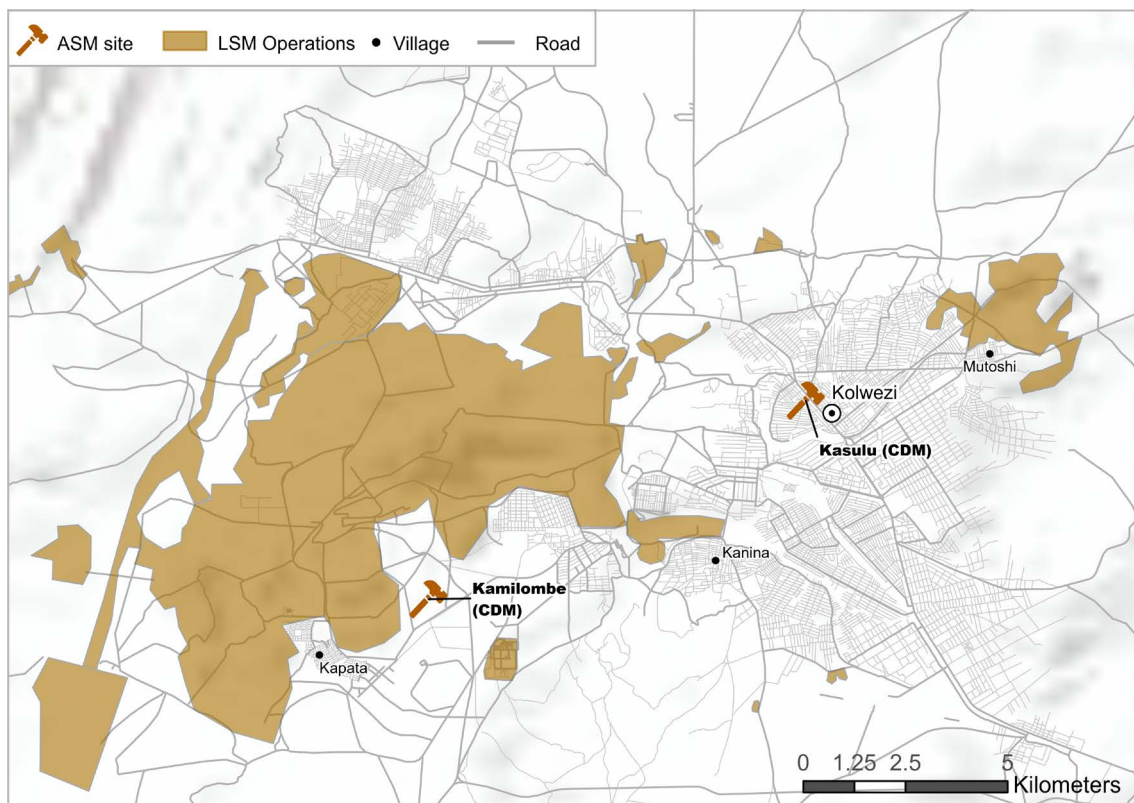


Figure 1 - Map of Kolwezi indicating the location of ASM operations Kasulu and Kamilombe

While it was not the aim of this project to publish and broadcast a research report or white paper on the artisanal cobalt mining in Lualaba, the research team and the sponsoring consortium decided to make public a summary of the more detailed 100+-page assessment as a response to requests by many industry actors for a more up-to-date situational analysis. It is also hoped that by so doing further need for resources being spent unnecessarily on fact-finding missions can be avoided and instead be allocated to programmes to foster direct action on the ground. While attempting to paint a holistic picture, this report should be understood as a qualitative assessment of a wide range of often complex challenges. It should be noted too that the project was limited in scope and that this published report selects and distils some of its findings, but not all. There are some topics associated with artisanal cobalt mining in the Lualaba Province of the DRC that have been covered in other public reports and newspaper articles in recent years that are not covered in this document, such as resettlement of communities to make way for mining, the practices at and flow of material to and from so called 'open markets' in and around Kolwezi, and the correlation between illnesses associated with radiation and cobalt mining. These are important topics and deserve to be given the appropriate depth of research, analysis and discussion that the research team felt it was not able to provide here in this shortened presentation of the project's research results.

The overall findings of the project are as follows:

Working Conditions at Mine Sites

The assessment focused on the artisanal mine sites known as Kasulu and Kamilombe, which provide employment to thousands of artisanal miners. Kasulu, a designated artisanal site known locally as a ZEA, operates on a concession that used to be a residential area. Kasulu stood at the centre of Amnesty International's 2016 report "This is what we die for". Investing millions of dollars, Huayou Cobalt has since supported the professionalisation of the independently operated ASM site, putting in place a wall and management measures to exclude children from the operations. Working closely with the cooperatives managing the sites, occupational health and safety has much improved, as is corroborated by independent monitoring companies. Yet, both Kasulu and the close-by Kamilombe site are often hazardous places to work and require significant investments and further professionalisation before the operations could reasonably be described as meeting acceptable standards.

The current mine pit structure at both sites undoubtedly poses the biggest risk for workers' health and safety. Not only do tunnels exceed legal maximum depth of 30 meters (by more than 100%), but also diggers have been excavating 'terraces' (mid-depth horizontal tunnels) destabilising the entire area around the shafts.

Only through addressing structural hazards can the health and safety of the diggers be protected. Past injuries and fatalities are not only a tragedy for the diggers' families and friends but also lead to the destabilisation and financial challenges for families relying on ASM and further contributing to the risk of occurrences of child labour in the surrounding communities.

Child Labour, Education & School attendance

It is important to note that, according to a study by the Center for Effective Global Action (CEGA) of the University of California, Berkeley, most instances of child labour occur in a non-commercial context, supporting household activities, such as cooking, cleaning, nursing or collecting and transporting water by hand. The incidents of children working at mines alone, therefore, is not an indicator that can be used to reliably to measure the scale of child labour in mining communities in the region.

Interviews with mothers working at the mines as washers and community representatives confirmed that child labour among children below the age of 15 occurs to a large extent to ease the pressure on low household incomes. Mothers repeatedly pointed out that school fees and costs for school uniforms are prohibitively high given their low incomes, and children often miss a few days of school or even weeks at a time to help pay the fees. With school being limited to just a few hours of classes per day, another reason why young children might end up 'working' at mine sites, is the lack of after-school activities, often leading to children accompanying older household members to their work. Offering adequate after-school care programmes mitigates the need to oversee children by taking them to work.

With more than half of local schools being privately run, students and their families find themselves responsible for paying teachers' salaries, despite the government's commitment announced in late 2019 to deliver free primary education through its public school system. This dependency on private education has led to a situation where some schools - especially those that are located in more remote areas that are difficult to access - are stuck in a vicious cycle as low student numbers result in insufficient funding leading to the school being unable to hire qualified staff, and thus further spiraling to decreases in student attendance. Various grant-funded school programmes have invested in school infrastructure and materials, but have not allocated funding to secure longer-term funding for teachers' salaries. One way to symptomatically address this issue is to cover school fees and associated costs for children from low-income households at high risk of child labour.

Child labour experts agree, however, that many youths (ages 15+) are working voluntarily at mine sites across and around the city, as well as in other sectors, to gain not only financial independence from their parents, but also social status among peers. An awareness-raising campaign, coupled with vocational training could be one solution to engage at-risk youth.

Lack of Economic Alternatives

Lualaba is the victim of a localised Resource Curse: non-mining economic activities are underdeveloped and unable to compete and the local economy remains undiversified and truly dependent on cobalt mining. The combination of the international price surges for cobalt in 2018, the (mis)perception that plentiful deposits of the ore lie just beneath the

surface of every household garden or public place, and the easy flow of comparatively inexpensive agricultural produce from Zambia, mean that the potential of the region's agricultural sector has been neglected. This is astounding when considering the richness and fertility of the soil in the region and its history as a major agricultural producer. Furthermore, the many foreign-owned large-scale mining companies, employing a significant number of expat workers and importing most of the inputs needed to run their operations, including food, have helped to fuel inflation locally, further distorting the local economic reality. Added to that, bureaucratic hurdles and a severe lack of access to capital, make it difficult for local entrepreneurs to start the businesses that would bring the significant number of jobs needed in the community.

Please note that while the project researched and explored the possibilities for and attractiveness of economic alternatives to mining, and investing in economic alternatives and entrepreneurship is a planned activity for FCA, this public summary of the research focuses on profiling mining activities and reflecting on the challenges around addressing child labour issues in the region, and does not include the analysis performed on economic alternatives. The research team and FCA will publish their plans for programme activities for economic alternatives in the future, however.

Key Insights informing FCA's overall strategy

Reflecting on the challenges highlighted in the full assessment, FCA has been established based on the following key insights:

1. **The imperative to make ASM sites safer**

The priority should be on improving working conditions at ASM sites. The only way to engage ASM constructively is by addressing safety and security issues in the sector through a systemic overhaul of production practices at mine level. Currently, people working at the mines are at risk of serious injury or even death by mine collapse. Downstream cobalt users have a moral obligation to engage with upstream producers where the situation is most dire; until diggers are reasonably safe, any efforts to address development issues in the mining communities might be disregarded as 'green washing'.

2. **Focus on market transparency, rather than wage levels**

While worker income is of great concern to workers on the ground, it appears difficult to impact worker income from mine-site remuneration directly due to the volatility of the international cobalt price as well as the complexity of compensation schemes, which are often based on production sharing agreements. The Impact Facility believes that workers' terms of employment and trade can be supported through the provision of transparent and fair buying practices at the trading stations (or depots). Measures should include but not be limited to the provision of independent purity and weight measurements and potentially guidelines for pit-owners regarding the minimum welfare workers shall receive.

3. The importance of buy-in from critical actors in the cobalt value chain

A systemic value chain approach is needed to incentivise and catalyse sustained positive change of ASM cobalt mining practices in and around Kolwezi. To achieve improvements at the mine level, the responsibility to finance, implement and monitor should be spread along the cobalt supply chain from operators of ASM sites, to manufacturers, and, ultimately, to retail brands. Huayou Cobalt has already invested substantial amounts and has committed to allocate more funds if others in the supply chain are willing to share the responsibility and contribute financially. It should be noted that although Huayou Cobalt has attracted much international media attention, it is only one of several crude refineries that are competing to buy cobalt ore from ASM sources in the region. To bring about systemic change, it is necessary to adjust the system as a whole, not just one of its parts. Any strategy going forward should seek to involve as many supply-chain entities as possible in order to make a lasting impact.

Aiming at child labour-eradication in the region and pursuing the goal of ensuring that the region prospers and benefits from its resource endowments, a landscape approach is needed, expanding the activities of FCA to the entire mining community rather than focusing exclusively on on-site mine improvements.

4. Fostering access to education for children & vocational training for youth at risk of or in child labour

As long as the region is characterised by widespread poverty, child labour will remain an issue. At mine sites, children can and should be banned from entering the premises, by implementing systems that control ingress of workers to ensure child labour-free cobalt production. This does not help to solve the systemic issue of widespread child labour, however.

FCA has long-term ambitions to contribute to a thriving, diversified economy, boosting workers incomes and reducing the need for children's financial contribution to household incomes. In the short term, FCA will support local organisations' efforts to identify children in (hazardous) child labour and support them to (re)join formal primary and/or secondary education. At-risk youth will be targeted through offers of vocational training and be supported in finding formal employment upon reaching the age of 18.

5. Weaning Kolwezi off its dependency on ASM

Due to advances in the recycling of cobalt, because deeper deposits are best recovered mechanically, and because the price of cobalt has a history of fluctuation and creating uncertainty for the price of cobalt ore, the long-term future of recovering cobalt in Katanga region is unlikely to be through ASM. Rather, industrial mining is more likely to expand its market share of extracting the raw material. Despite the expectation for strong demand growth for cobalt, the long-term forecast for cobalt prices is difficult to predict as Recycled cobalt is likely to come on to the market in the next 10–15 years; at the same time, investment grows

into finding functional substitutions for cobalt in batteries (now nearly half of the market for cobalt). Uncertain prices and depletion of easy to reach deposits, as well as intensifying pressure on eliminating 'unethical' sources, might eventually render ASM financially unattractive. LSM will likely continue, using highly mechanised production techniques and economies of scale. LSM offers significantly less direct employment at mine level and mostly to skilled workers, many of whom come from overseas. Former ASM workers will need to find economic alternatives. Therefore, although artisanal mining of cobalt will be a feature of the sector for some time to come, it is timely to start thinking about what a 'just transition' of ASM workers to other economic activities should look like, to avoid the shock of mass unemployment.

6. Supporting entrepreneurship as the path forward

The Impact Facility suggests a strong focus on exploring options for and fostering access to economic alternatives in the artisanal mining communities of the region. One opportunity to highlight is the agricultural sector. The history in the region is one of agricultural abundance and soils known for their deep and fertile growing horizon, yet ironically the region currently depends heavily on imported food. It is noted, however, that mine workers have developed a culture that embraces the immediacy of cash payments as a central advantage of mine work, and many interviewees doubted that the average mine worker would 'go back' to subsistence farming with uncertain and only delayed returns on investment. For this reason, we believe that a well-planned programme that fosters local entrepreneurship and offers employment in sectors that have comparable financial prospects is the best way to offer safer, and child labour-free working conditions in alternative sectors. Which specific sectors this could involve, and the time it will take and the investments needed to grow such opportunities, warrants further investigation.

The goal of FCA, therefore, is to make ASM working conditions better, to improve household incomes in the region and to protect children's rights, while putting in place the lodestone for the longer-term 'just transition' to alternatives to ASM.

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Project Consortium

This report presents findings from an independent assessment conducted by a multidisciplinary team of experts from The Impact Facility for Sustainable Mining Communities, a nonprofit established to bring economic development and impact investing to mining communities. The research project was funded by a public grant from the Netherlands Enterprise Agency (RVO), as part of a government programme supporting Dutch companies to address the risk of child labour in their supply chains. This work was carried out with the full cooperation of two Dutch consumer electronics companies, Fairphone and Signify, as well as Huayou Cobalt, a Chinese cobalt producer, and by extension its Congolese subsidiary CDM, which is actively involved in artisanal and small scale mining (ASM) formalisation efforts in the Lualaba province of the DRC.

All three companies' policies were reviewed by The Impact Facility for their suitability to address environmental, social and governance risks in their supply chains and to meet international expectations for corporate responsibility, and in particular for avoiding and mitigating child labour.



The consortium's downstream members, *Fairphone and Signify*, act as project ambassadors for the programme, actively recruiting other downstream cobalt consumers as financial supporters and cobalt offtakers of the FCA programme. For Fairphone and Signify, it is most important to establish a credible, yet inclusive, responsible source of ASM cobalt anchored by the social and economic reality on the ground, showing measurable impact and bringing about positive economic and social change for the most vulnerable in the ASM cobalt sector in the Kolwezi area.



In 2019, *Huayou Cobalt* has been one of the biggest buyers of ASM cobalt ore in the region. Given the importance of Huayou Cobalt's subsidiary, CDM's, direct sourcing relationship with two artisanal mine sites covered in the research, this report has dedicated sections analysing these relationships. To offer its clients responsibly produced ASM cobalt¹ and to address concerns highlighted by the international community, the company has invested significantly both with human resources and money in improving conditions at two ASM sites from which it sources. CDM has been working with the government to formalise the ASM mining site at Kasulu and has since expanded its efforts to the second ASM site included in this study, Kamilombe. By participating

¹ As this report suggests, Huayou has already made significant improvements to two ASM sites, but also that to advance its goal to be known as a source of responsible ASM cobalt, the company requires collaboration, broad support and co-investment from downstream purchasers of cobalt and development agencies.

in this project, Huayou Cobalt and CDM are seeking active input of downstream cobalt users to help co-shape its activities and find solutions that meet the challenges on the ground, while satisfying international sourcing standards.



The Impact Facility has been set up specifically to support mining communities in their effort to turn their operations and businesses into thriving SMEs while contributing to the local economy, respecting the environment and striving for positive social impact, and offering downstream users of metals and minerals a source of responsibly produced minerals. To achieve this goal, The Impact Facility develops and implements long-term engagement strategies ensuring mining communities enjoy access to capacity building, access to capital and productive equipment and access to fair terms on international markets. The Impact Facility runs a lean operation and a collaborative and catalytic intervention strategy to ensure resources and outcomes are grounded in the mining communities it aims to support. To that end, the Impact Facility leverages existing programmes and capacity on the ground to avoid duplication of efforts.

Research Approach

The original assessment, along with the selected findings presented in this report, was not intended as a due diligence assessment, a forensic audit, or a statistical analysis of the circumstances of children and mine workers in the Kolwezi area. Instead, the assessment's goal was to paint a landscape of the issues associated with cobalt ASM and their possible solutions, and to gather sufficient data with a reasonable level of confidence and reliability to design and develop a programme of work that has ultimately resulted in the establishment of the FCA (see Section 3).

The Impact Facility fielded a multidisciplinary team of five experts, interviewing stakeholders in and around selected ASM mining areas. Research built on mostly qualitative methods, including:

- Literature review of expert reports and studies on child labour and mining practices at the ASM sites;
- Expert Interviews with international organisations with relevant knowledge and experience of working in the area, carried out before visiting the mining communities, and with development agencies, local NGOs, government agency specialists, and academics, completed during the field visit; and,
- Field-based data generation directly from engagement with government officials, artisanal cobalt diggers, cobalt traders, the cooperatives managing cobalt mining sites, farmers' organisations, community members, school teachers and students and the management of cobalt processing companies.

Stakeholder Engagement

The team received official approval for its work in Kolwezi as part of an introductory meeting with the Governor of Lualaba Province. Other public authorities were engaged through meetings and interviews, including the Ministry for Humanitarian and Social Affairs and the local Service for Assistance to Artisanal Small-scale Mining (SAEMAPE).

The team conducted visits to the two mine sites at the centre of this report, Kasulu and Kamilombe. For one of the visits the researchers were accompanied by CDM personnel, while later visits were carried out independently. The team also visited Chemaf's ASM formalisation project in Mutoshi. During mine visits, the team engaged with mining cooperative leaders and members, artisanal diggers, traders, cobalt ore-washing women, and security guards, as well as SAEMAPE and Divimines agents.

Moreover, local technical institutes were visited, such as the Technical Institute of Mutoshi (ITM) and the National Institute for Professional Preparation (INPP) in Kolwezi. Several local human rights organisations were interviewed both in Kolwezi and Lubumbashi. The team also visited the village of Samukinda to which twenty households formerly living in Kasulu were delocalised by the Provincial Government.

Following a value chain approach, the focus of this research project went beyond ASM mine-site perimeters to include the wider affected community in the two ASM sites from which CDM is currently sourcing: Kasulu and Kamilombe-Kapata. Given the project's strong interest in children's rights and child labour, special attention was paid to schooling and education as well as after-school programmes that could prevent children from roaming through mining areas outside school hours.

The research included an analysis of alternative livelihood programmes and options, some of which are already practiced, while others were identified for their potential for future introduction. This version of the report, however, focuses on the most requested information on mine-site practices and child labour. Future reports might include the plans of FCA to allocate programme resources to alternative livelihoods.

Setting the Scene

Cobalt in the DRC

The Democratic Republic of the Congo (DR Congo) is the world's largest cobalt producer. It is the largest country in Sub-Saharan Africa and endowed with a wealth of natural resources in almost all sectors, of which the mineral sector is the most prominent. The province of Lualaba (formerly Katanga), located in the south of the country, also known as the Copper Belt, has a long history of industrial copper mining (or Large-Scale Mining [LSM]), often in combination with cobalt mining. These resources are concentrated in and around the cities of Lubumbashi, Kolwezi and Likasi, with total deposits estimated to constitute 51% of global cobalt reserves and currently more than 70% of global production. (USGS, 2020). In their 2015 report *Katanga Calling*, the Dutch NGO SOMO provides a historical perspective of the region's mining sector:

“The mining sector in [Lualaba] has long been a monopoly of Gécamines, the state-owned company that made the DR Congo the world's largest producer of copper and cobalt. In the 1990s, Gécamines faced numerous crises that eventually led to its bankruptcy. International financial institutions such as the World Bank subsequently called for the privatisation of the mining sector. During this period, there was a mining scramble in both the artisanal (informal) and industrial (formal) mining sectors. Exploitation was characterised by rampant corruption. Privatisation of the mining sector did not bring about improvements to the living conditions of the people near these companies, which remain precarious. Most of the local people still have no access to drinking water, health care, education or electricity.” (SOMO, 2015).

A year after the SOMO publication, Amnesty International also published a report: “This is What We Die For” (2016), drawing attention to the systemic spread of child labour in Kolwezi, in particular in the area known as Kasulu, a formerly residential area that has been designated a Zone for Artisanal Exploitation (ZEA), an area dedicated to the recovery of cobalt ore by small groups and individuals using basic manual techniques and rudimentary tools known as artisanal miners or ASM.

While mechanised LSM cobalt operations bring high volumes of cobalt to market, accounting for approximately 80–85% of freshly Mined cobalt production, ASM production has provided flexibility to the battery industry when LSM were not operating. “In the period after the second Congo war (2002) an estimated 90% of all cobalt mining was done artisanally. Back then, up to 120,000 people were involved in artisanal mining. In 2011, it is estimated that 67,000 to 79,000 persons were involved in all-year ASM activities; when additional seasonal mining activities are taken into account, the total number of ASM cobalt miners in 2011 was estimated at 90,000 – 108,000 persons (ÖKo-institut e.v. 2011).” Anticipating the emergence of EV technology, demand for cobalt skyrocketed in 2017–2018, leading to December 2018 when the national government of DR Congo recognised the importance of national cobalt resources by declaring cobalt a ‘strategic mineral’ and raising royalty payments on it from 3.5% to 10%. Today, ASM is said to make up about 20% of Congolese national production, totalling approximately 20,000 tonnes in 2019.

ASM is in no way a cobalt-specific phenomenon, with significant proportions of tin, tungsten, tantalum and gold originating from artisanal and small-scale mining operations, just like diamonds and the majority of coloured gems. It is estimated that the sector employs around 25 million of the poorest people in the world, indirectly creating employment in auxiliary sectors of 40 million people and supporting an additional estimated 150–200 million people. This makes it one of the biggest employment sectors in Africa, second only to farming.

Despite it providing many thousands of jobs directly and contributing to the livelihoods of even more households indirectly, ASM has a particularly complex history, and current practices at ASM cobalt-mining sites do not always meet the expectations of international supply chain actors and brands regarding working conditions, mine site governance and environmental management. ASM is often characterised by hazardous working conditions, child labour and limited access to legitimate, transparent markets, raising the question of whether local workers are receiving a fair share of the wealth generated, before cobalt is traded and processed internationally. Locally, however, artisanal miners have few viable alternative income sources that are as easily accessible or with similar levels of pay and providing ready cash flow.

LSM operations are not free from negative association either, and have come under considerable industry and stakeholder scrutiny. This attention has incentivised the strengthening of health and safety standards and some LSM operators in Katanga apply voluntary sustainability standards, such as the ISO family of certifications or the Responsible Minerals Initiative due diligence assurance programmes. LSM is generally highly capital intensive and mechanised, employing relatively few people, many of whom require specialist technical qualifications and are often recruited internationally. Although jobs in LSM are well paid and generally above national wage averages, proportionally few are available to the local population. Although it would not be appropriate to link LSM with the same social problems encountered at ASM sites, such as child labour, these industrial operations are not necessarily disassociated from the sector's poor reputation, as was the view of a recent report by the OECD:

“The upstream supply chain of 2Cs [copper and cobalt] is often presented as two distinct types: artisanal and small-scale mining (ASM) and large-scale mining (LSM). However, there is extensive interaction and interface between ASM and LSM, both commercially and physically, throughout all segments of the upstream supply chain. Despite the perception of the downstream market, a significant number of the top LSM producers' source ASM material in some shape or form due to technical and commercial requirements.”

Cobalt plays a key role in enabling a transition to a green economy. Nevertheless, public discourse around cobalt has been largely negative, focusing, to a large extent, on adverse impacts of mining activities, creating a dichotomy between cobalt as a key to reach a clean, carbon-free future on the one hand, and its extraction being characterised by strong ties to poverty-driven child labour and human rights issues on the other. The response by many downstream companies to attempt to apply a policy of disengagement, or by excluding ASM sources from their supply chains is problematic, not only for the reasons noted by the OECD, but also because

unilateral disengagement, or even a collective ban, is unlikely to incentivise change to improve the working conditions and operational practices at ASM sites. As has been witnessed in the tin industry in the DR Congo, a too-rapid reaction by downstream markets can lead to harmful effects on the very people and communities that are the subject of concern. Downstream disengagement from, or a ban of, ASM sites does not constructively address the issues leading to child labour and hazardous working conditions in the first place, denying any responsibility of supply chain actors to contribute to jointly developing a viable solution instead.

Research objectives

The purpose of the research project, of which this report is the synthesis of key findings, discussions and conclusions, was to provide a rapid assessment of the state of child rights and associated economic activities at two artisanal cobalt mining communities in Lualaba: Kamilombe-Kapata and Kasulu. The project was made possible by funding from the government of the Netherlands through The Netherlands' Enterprise Agency and by support from the project's private sector consortium, including the Dutch companies Fairphone and Signify, the Chinese cobalt refiner Huayou Cobalt, and the UK-based nonprofit The Impact Facility. It should be noted that it would require very significant resources to study and document the very complex social, economic and political context of artisanal cobalt mining and the scale and severity of the development challenges facing the children and workers of Katanga. While the research aspired to be as thorough and to cover as many development aspects of the two cobalt mining communities in Katanga as possible, it did not set out to be definitive, provide a fully comprehensive examination of the current situation, nor to detail a path forward to remedy all of the problems facing the people of the region. Instead, this report is intended as a strategy paper, based on data gathered from and triangulated with expert sources and grounded in a field visit by a team familiar with development of mining communities, the purpose of which is to develop a robust targeted intervention programme that will have the maximum positive effect with the resources available on the lives of the people who need it the most.

The ASM cobalt sector in Katanga has been the subject of international attention since the publishing of the Amnesty Report on systemic child labour in 2016. Consequently, various national and international NGOs, governmental organisations and private-sector initiatives have started to or have already invested in programmes for child labour-prevention, mine-site occupational health and safety, education, vocational training, and the relocation of displaced families and households. The goal of the research team was to, where possible, identify existing projects and initiatives with a view to avoid duplication of effort and to leverage resources for maximum impact of the resulting intervention programme. An overview of this intervention programme, which is known as FCA, is given in a later section in this report.

This report is a redacted version of a larger work, which was submitted to the sponsors and members of the project consortium in June 2019.

The report is organised in three parts:

1. Mines, diggers and traders
2. Children's rights and mining communities
3. Fair Cobalt

Section 1

Mines, diggers and traders



Much of the reporting on cobalt mining to date zooms in on incidences of hazardous working conditions, reports on child labour, or allegations of corruption and bribery, fueling a negative image of the sector. While acknowledging the very grave circumstances of many people in the mining zone of Kolwezi, one of the objectives of this research was to gain a more rounded perspective of the ASM cobalt sector through researching the organisations, people and practices at two ASM sites and the social conditions and economic activities in their surrounding communities.

In addition to visiting and assessing the selected two ASM sites, the team visited two open market sites buying and selling cobalt without verified origin. Furthermore, the team was provided with the opportunity to visit Chemaf's Mutoshi project, an ASM engagement project facilitated by the international development contractor, Pact, with the support of international commodity trader Trafigura.

With the goal of developing a realistic, replicable and constructive ASM engagement and improvement roadmap, this section of the report:

- Provides a brief overview of the legal framework regulating ASM activities;
- Gives a general description of how ASM sites are organised, and the roles of the different workers on site.
- Profiles in more detail the Kasulu and Kamilombe ASM sites;
- Summarises the prominent environmental, social and governance issues often encountered at ASM sites;
- Presents a snapshot of the prices of the cobalt buying prices at different ASM sites;
- Suggests a model for a responsible ASM mine and its components; and,
- Reflects on the ASM engagement and sourcing strategy of CDM, a major offtaker from the two ASM sites.

1.1 The legal framework regulating ASM activities

Mining in the DRC is subject to a mining code and a number of sector-specific regulations. For any foreign investor wanting to access the mining area, special permits need to be signed by the provincial government as well as by relevant national government agencies. With this in mind, governmental support is critical for the success of any intervention targeting miners and mining communities.

In Lualaba, ASM occurs in a variety of contexts. The mining code generally differentiates between industrial and artisanal mining activities. Artisanal mining takes place in different combinations of independence and interdependence in its relationship with large scale mining — the different modes of which are categorised and summarised below — and varying shades of legal grey. While ASM sites do have legal designation and operators do hold and file official documentation, few if any ASM sites currently hold the full complement of necessary permits, licenses and MoUs that are strictly required under the law. While such informality might be accepted locally, it can leave cooperatives, mine workers and shareholders uncertain about their investments in ASM. Greater confidence would be built to invest securely into mine sites' productivity and safety if there were full legal compliance in the ASM operations.

ASM activities can broadly be categorised by the legal status of the operations:

- ZEA (Zone d'Exploitation Artisanale) are areas designated by the government specifically for artisanal mining. Every ZEA is assigned to a cooperative, which is responsible for the management of the sites. ZEAs are open for artisanal miners and restrict the use of heavy machinery that would qualify as LSM activity. While there are around 60 ZEAs in the region, only one of them (Kasulu) is operational today. There are two main reasons for this: First, most prospective mining zones were registered as exploitation permits (PEs) decades ago by Gécamines, leaving only few viable deposits for ZEAs. Second, even those few ZEAs located on potentially mineralised areas still require exploration and development, which is a very costly process.
- PEs (Permis d'Exploitation) are general mining licenses, most commonly used by LSM operators. Concession holders may sign agreements with ASM cooperatives to authorise artisanal operations on their sites (as Chemaf has done with COMIAKOL at Mutoshi). Any ASM operation on a PE without such an agreement is illegal. The vast majority of today's ASM occurs under PEs without valid agreements and is therefore illegal. Thorough due diligence is essential as many ASM cooperatives either wrongly claim to have such an agreement, possess expired agreements or ones that were issued by entities who had no legal authority to do so.
- PRs (Permis de Recherches) are exploration permits that allow exploration work, both artisanal and industrial. Importantly, they do not allow any kind of exploitation. Therefore, ASM/LSM operations at PRs that mine and sell minerals are illegal.

Royalty payments

In late 2018, the DRC government declared cobalt a strategic mineral, announcing a threefold increase of the existing royalty due on cobalt to 10% of the market value (as announced on Nov. 24, 2018).²

CDM reported paying royalties on the production transported by truck from Kolwezi to Lubumbashi. The payments are calculated by the 'truckload'. The trucks are weighed on weighing bridges located on the mines' premises.

² <https://www.reuters.com/article/us-congo-cobalt/congo-declares-cobalt-strategic-nearly-tripling-royalty-rate-idUSKBN1O220D>

1.2 General description of artisanal mining sites in Kolwezi

Artisanal mining sites, such as the ZEA known as Kasulu, can host thousands of men and women working various roles across the site. The number of workers is largely dependent on the cobalt price attainable locally and the choices that men and women have to generate a cash income. The sheer number of people present on ASM sites, and the diversity of activities can make the system of production seem dizzyingly complex. This section describes the roles and responsibilities of workers and entities involved in artisanal cobalt mining, following the process from when diggers, or *creuseurs*, descend into their tunnels to the moment trucks roll off the mine sites, heading for crude refining.



Figure 2 - Each orange tarpaulin hut covers a mining tunnel leading 30-50 meter underground ground. Kasulu Mine, Kolwezi.

1.2.1 Managing ASM sites

The mining code requires cooperatives to manage ASM operations located on ZEA concessions. Cooperatives are legally distinct entities and are awarded the right to operate by the mining ministry, and the jurisdiction over specific ASM sites by the provincial government, under an 'Arete Ministeriel Number'.

Cooperatives are legally classified as 'not-for-profit' organisations, or Association Sans But Lucratif (ASBL). Their primary responsibilities are to organise and control pit owners, pit supervisors and diggers on the ASM sites, pay any requisite taxes and royalties, and report to SAEMAPE. The cooperative has the right to check contracts between pit owners/traders and diggers and is obliged to ensure that they are reasonable and fair. Cooperatives are often operating various mine sites across the region where they are located, mining under both PE and ZEA licenses.

A common organisation of a cooperative involves three groups: *Assemblée Générale* (General Assembly), *Conseil de Gestion* (Management Committee), and the *Collège de Commissaire au Compte* (Finance and Auditing Committee). The General Assembly is the key decision-making body, operating through a consensus process. Membership of the cooperative applies to all workers on the sites, but on some sites washers and transporters operate independently of the cooperative's mandate. Members pay a fee to the cooperative, either weekly or per 'lot' or bag, being deducted and collected at the point of sale.

While going by the name 'cooperative', the structure and governance of cooperatives in the DRC copper belt should not be mistaken as being similar to community owned organisations with democratic structures that can be found in Western Europe or in some countries in the Americas. Rather, these private operating companies have contractual arrangements more akin to a site management contractor. Cooperatives appear to lack a clear and transparent management structure. The research team found that at some sites, ASM diggers do not have a voice in the organisation; there is no democratic process through which its members can participate. Furthermore, many expert interviewees asserted that many cooperatives are directly linked to high-ranking officials, an assertion that the research team was able to verify through its own investigation, implying that they benefit, albeit indirectly, from ASM cobalt mining.

Nevertheless, cooperatives are managed by Congolese and play an important role in the human resource management at the ASM sites and are responsible for the sites' legality.

1.2.2 Mining Cobalt

Characterised by their low degree of mechanisation, artisanal mines offer a variety of work to individuals and teams collaborating hand-in-hand in a manual system to find, recover, wash, sort and transport the industrial mineral to warehouses buying and aggregating cobalt and copper ore before selling it to crude refineries operating in the province. Every individual's role is needed to get the ore to market and comes with its own risks and rewards. Locally, artisanal cobalt mining is considered an attractive livelihood option for many men and women, as it requires few qualifications and generates immediate cash flow. Hazardous working conditions, however, pose a very real threat to both the physical and mental well being of workers at poorly managed mine sites.



Figure 3 - Illustration of simplified value chain from shaft to warehouse

Pit owners and diggers / creuseurs

ASM sites comprise many – sometimes thousands – of vertical excavations or pits that burrow tens of metres to access cobalt ore. Pits are controlled by individual pit owners either by virtue of ownership rights to the surface land areas from before the mine site opened (as is the case for many of the pits at Kasulu) or because the cooperative at the site has determined the allocation through a process that appears to be reasonably transparent and widely understood. The pit owner's participation in the workings of the pit ranges from an arm's length relationship extracting a fee or rent from the digging team, to being quite involved and providing working capital for a pit team to pay for food and to buy basic equipment and even managing the organisation of the operation itself.

The pit is excavated by a team of 5–7 diggers (locally known as *creuseurs*) that either work inside the pit, carry bags of ore up the shafts to the surface, guard already produced ore, or coordinate the teamwork. These teams generally operate under a profit-sharing agreement with the pit owner. Usually diggers are provided with a small daily compensation for their time, which might be paid in cash or through the provision of food. The cooperative has the responsibility to ensure that agreements between pit owners and diggers are reasonable and fair. The frequency with which the cooperative mediates agreements is generally considered to be low, however.



Figure 4 - Working deep underground, team members trust each other with their lives.

Once sufficient ore has been aggregated at the surface of the pit, the pit owner, or a designated team member, transports the ore to either a trading station inside the ZEA or to independent open trading zones where many traders are assembled alongside arterial roads. Where the pit owners participate significantly in working the pit, they can claim 50–60% of the earnings. Where they are not involved, the pit owner might typically expect 10% of the sales value. The remaining 40–50% of the revenue

is divided between the team members after expenses — such as food, cash advances, and equipment — have been deducted. The split of revenue is evenly distributed among the digger team, except for the team leader or pit foreman who receives a higher share. The unit of sales, and thus also of revenue split, is the bag or 'lot' of cobalt ore.

According to a limited survey that was circulated to about 20 miners by the research team, and interviews carried out with cooperative leadership, the average monthly income for an ASM cobalt digger is between USD 160 and USD 190. When the price of cobalt was higher, diggers reported earning up to USD 450 every two weeks, and sometimes up to USD 1,000 a month. Without a more intensive study it is difficult to validate these figures, but it is important to note that the change in income for diggers in the months around the time of the research was conducted for this report was sudden and the subsequent drop in income negatively affected the mood of workers at the ASM sites.

Transport

Once bags of ore are lifted from the pits, workers use bicycles or small trucks to transport ore from the pit to stations and depots where the cobalt is traded. These transport workers often work in pairs or groups of three to push and handle their bikes, maneuvering the heavily loaded vehicles through often-difficult terrain. Transporters are usually paid per bag of ore transported to its destination. The wage they receive depends on the distance travelled between pit and trading station.

From interviews with transporters and cooperative management, the research team found that for each 25kg bag, the team of transporters collects between USD 0.20 to USD 0.25. They can carry up to 20 bags per person each day, receiving a daily income of about USD 3.50 to USD 5.00, or approximately USD 70 to USD 100 a month. Of course, much depends on the availability of work and on the level of fitness enabling the transports to carry out their physically exacting activity.



Figure 5 - Often operated by at least two people, bicycles are widely used to transport ore from the tunnels to the warehouses.

Washers / Lavages

The task of washing is predominantly executed by women (locally known as *lavages*) receiving payment per bag of ore washed. Washing ore is one further step before hand-sorting ore for sale; washers are able to clean and identify rocks that contain the most ore and their purity through visual judgement, and thus increase the cobalt grade for each bag. The price–purity relationship increases rapidly before plateauing. The incentive is to do all that is economically possible to get the highest grade per bag through hand selection.

The washers usually stand directly in washing ponds using neither gloves or boots. Washers rinse off any dirt, by repeatedly lifting a metal net or a plastic bag lightly filled with ore using their bare feet. Washers operating in standing water, where the water is not changed regularly, and workers commonly report skin rashes and infections caused by exposure to the increasingly dirty water, presumably high in its concentration of heavy metals. When washers have the chance to wash in rivers or have the water replaced regularly, they usually do not encounter this issue, or at least not so severely.

In addition to their 'per-bag' payment, washers usually supplement their income by collecting 'waste rock' or 'fines' that are lost during the washing process, selling these collections of often low-purity material in bags at the trading station.

From interviews with washers and cooperative management, the research team learned that a washer receives about USD 2.50 for each bag, and that two bags is an average number washed per day. A very rough estimate of a washer's income, therefore, is USD 5 a day, and the potential for approximately USD 100 a month.



Figure 6 - Ore washing is predominately done by women workers.

Sorting / Trieurs

Especially when cobalt prices are low, pit owners are incentivised to have their ore washed and sorted, or just sorted if there is not a lot of surplus mud or dirt in the bags. Sorting equally increases the total cobalt grade of the bag, achieving maximum economic return by separating and selling low grade and high grade separately. Such disaggregation can increase overall value. Both cobalt (black) and copper (green) can be identified by a trained eye.



Figure 7 - Manually grading cobalt ore increases the value sellers can achieve substantially.

Traders (Négociants) and depots

Selling and buying of cobalt happens between traders, locally referred to as *Négociants*, at depots buying large amounts of cobalt before selling them on to crude refineries. The role of being a *Négociants* is a designated role overen by cooperatives.

Once washed and sorted, *Négociants* aggregate and sell cobalt ore either to one of the several depots located on site (in the case of various ASM projects) or to an 'open market' outside the ASM site, such as the Musompo or Kapata markets. Traders can be members of pit teams, or independent middlemen offering pit owners and diggers immediate cash, often without measuring the purity of the bags. Diggers can also choose to sell their ore directly to the on-site depots, but since sampling and selling can take quite some time, higher volumes are needed to sell directly.



Figure 8 - Warehouse workers loading bags of ore onto a truck destined for a crude refinery.

Depots, often fronted by Chinese or Lebanese staff, take a sample of the bags that are for sale, assessing batch purity most commonly using an XRF machine, locally referred to as Metorex (a brand name of a particular product). To be accurate, these machines need to be carefully calibrated; there is currently no structured system to easily verify accurate calibration. Many diggers and even SAEMAPE personnel, voiced their concerns regarding the purity and weight assessments made by depots, claiming they were not accurate and implied that the traders were not being transparent about how the measurements are determined.

Once the purity is determined the bags are weighed on industrial scales and the sellers are paid either in cash or using MPESA, a local mobile money-transfer solution. Prices are often identical from one trader to the next. The depots at Kasulu only pay for the cobalt content of the ore, while the depots at Kamilombe pay for both copper and cobalt. Some depots run reward programmes offering premiums for large volumes of ore, which might include bags of baking flour, cell phones or even motorcycles. The depots sell their ore directly to crude-refiners, who organise truck transport from the mine to their facilities.

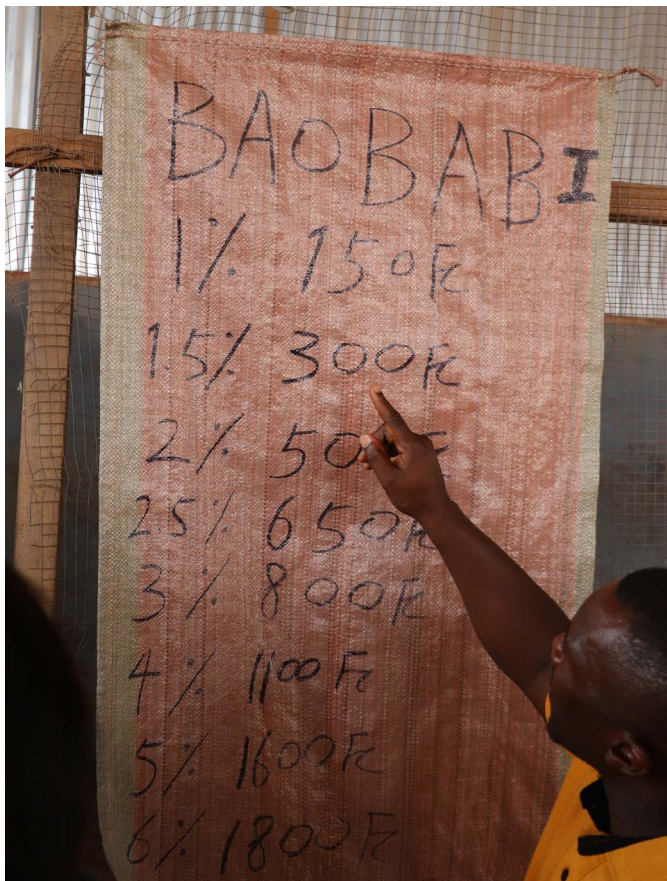


Figure 9 - Depots publish their buying prices in reference to grade.

It was not possible to gain an understanding of the traders' profit margins within the scope of this research, although the price paid for cobalt ore at depots is further discussed in section 1.4. Various interviewees explained that depots have been known to provide loans to pit owners and diggers in need of capital to improve their productive capacity by purchasing machines to pump air into deep pits, jackhammers and winches. These loans are repaid through a discount against the 'lots' sold at the depot. It is not possible to determine the frequency of these loans, but interviewees said that such loans were 'quite common'.

1.2.3 Overseeing ASM sites

The government oversees and supports artisanal sites and miners through the agency SAEMAPE, (Service for Assistance and Supervision of Artisanal and Small-Scale Mining), which was formerly known as SAESSCAM. SAEMAPE deploys extension services and staff and representatives at the artisanal mine sites.

SAEMAPE is responsible for monitoring the safety of artisanal mining pits and for providing technical advice to miners. SAEMAPE also nominates cooperatives for ZEAs. SAEMAPE launched a programme in 2019 to identify and register diggers and to help miner groups formalise as cooperatives.

SAEMAPE staff are deployed at both Kamilombe and Kasulu to work with the cooperatives and train miners on health and safety regulations, including on maximum pit depths. Despite SAEMAPE being present on site at Kasulu and Kamilombe, the research team observed, and the SAEMAPE agents confirmed, that the site currently does not comply with national legislation regarding pit depth.

A single SAEMAPE agent might oversee thousands of diggers. Lacking both resources to invest in safe conditions and any authority within the mine management, their ability to enforce governmental regulation is very limited. One agent interviewed by the research team spoke about an example of a clearly unsafe pit, explaining: “(we) tried to close down the unstable pit, but the pit owner refused and threatened [us]. So, there was nothing we could do.”

Another role of SAEMAPE personnel is ‘dispute resolution’. At times, tunnels coming from different pits might meet and collide and rights over a cobalt deposit becomes obscured. In such cases, SAEMAPE staff are responsible for resolving any dispute that might arise, a service for which they charge USD 100

1.2.4 Police and security

At both the Kasulu and Kamilombe sites, there are a number of state and private security. The mandate of the security and mining police is to ensure that all workers keep the peace and to monitor access to the site. In accordance with national mining regulation, the cooperatives, as mine operators, have to ensure mine safety by funding the presence of mining police at the site. The research indicated that security guards contracted by the cooperatives receive about USD 100 per month.



Figure 9 - Mine security escorting a group of visitors across the mine site.

1.3 ASM site profiles

This section provides a summary profile of the features and information of two sites studied by the research team: Kasulu and Kamilombe. Additionally, it provides brief observations on two other ASM sites: Kapata and Mutoshi.

The two site profiles include basic mine site information, a description of the management of the site, data on the workers on each site, the status of infrastructure and a summary of the environmental, social and governance (ESG) practices.

Information on the ASM sites are from four principal sources. First, from the Impact Facility's team visit to the sites in March 2019, during which the research team used observation, interviews and short surveys to gather data. Second, information solicited from CDM. Third, continued targeted collection of data in May 2019 carried out by the Impact Facility's DRC representative, who interviewed cooperatives, mine workers and officials. Fourth, and finally, a literature review of available published and grey literature. CDM has access to site-level data on environmental and social aspects for each site routinely gathered by the Better Cobalt programme (now known as Better Mining) – a commercial monitoring service offered by the consultancy RCS Global. Although these data are not made public, CDM confirmed that the results from Better Cobalt are broadly supportive of the findings in this report.

1.3.1 ASM site profile: Kasulu

KASULU ASM SITE QUICK FACTS					
Size of site (Km ²):	114,000m ²	No. of Pits/ Shaft:	1,245 active	GPS:	10°41'43"S 25°29'59"E
Legal Status:	ZEA – ZA786	Date of license award:	2017	Validity of License:	Permanent
License holder:	Lualaba Provincial Government	Site owner:	Lualaba Provincial Government	Principal offtaker:	CDM

Table 1 - Kasulu ASM site - Quick Facts

Site overview

Kasulu ASM site is located directly adjacent to Kasulu village on the outskirts of Kolwezi town. Kasulu is under the control of the Provincial Government of Lualaba. After an investigation by the country's ministry of mines, Kasulu was designated a "red zone" and noted for its many and frequent mining accidents. The government was unable to improve the operating conditions in the area and consequently ASM activity was banned and thus diggers on the site considered 'illegal'. In 2017, when the decision was made to designate Kasulu a ZEA, CDM was approached by the provincial government asking the company to play a greater role in the management of the site. CDM and the provincial government agreed to cooperate to convert a part of Kasulu into a 'green area' that would be legal and permitted, where risks are better

managed, and the minerals traded from the area would be tagged and traceable to CDM's processing plant in Lubumbashi. This 'green area' is known as Kasulu 1. Figure 5 is a simplified plan of Kasulu 1. There is a large area outside of Kasulu 1- some of which is targeted for the expansion of the 'green area', the priority zone of which is known as "Kasulu 2".

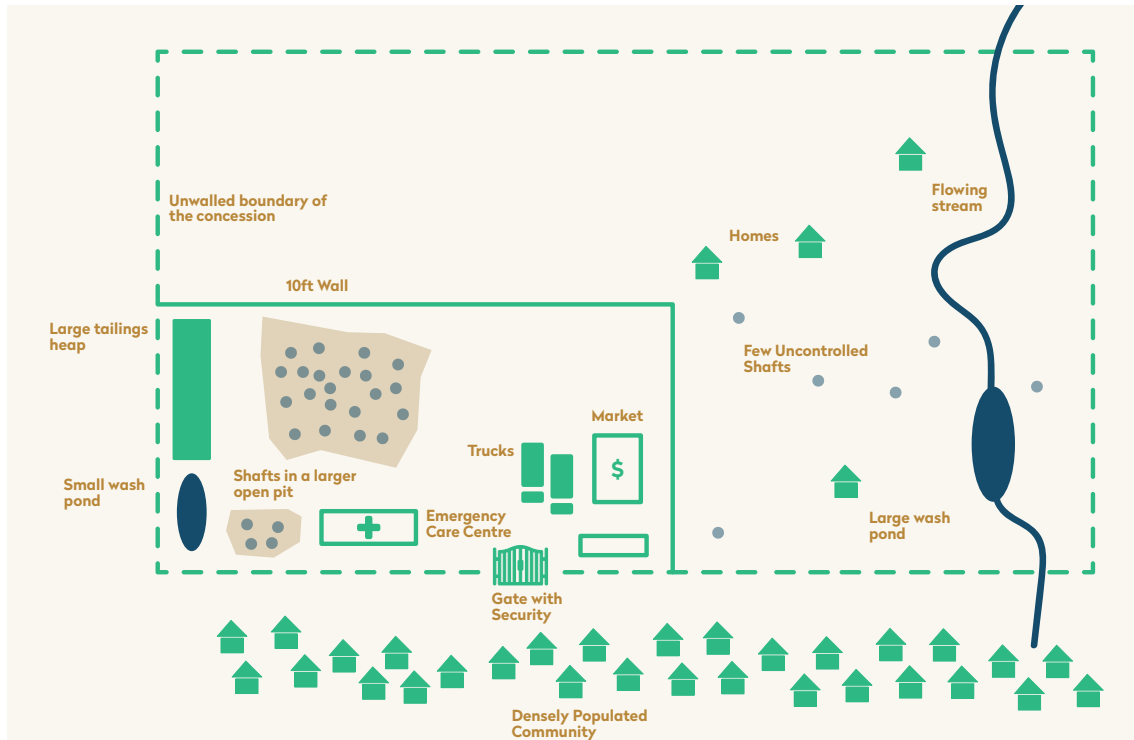


Figure 10 - A simplified plan of the KASULU 1



Figure 11 - Aerial overview of Kolwezi mining area, before and after cobalt was found.
source: <https://www.theguardian.com/global-development/2019/dec/16/apple-and-google-named-in-us-lawsuit-over-congolese-child-cobalt-mining-deaths>

Since September 2017, CDM has collaborated with local authorities to improve conditions at the Kasulu mining area. CDM has made considerable investments in infrastructure in Kasulu 1, including a border wall, a clinic, trading and depot areas and access to clean water, which are detailed further below. During the formalisation process of the ZEA, the government took measures to move households from some of the mining areas. The government compensated displaced households and workers financially or resettled families in a new settlement 7 km from the concession. The re-settlement process and terms have been criticised publicly by local and international social sector organisations. The Impact Facility's reflections on this topic are given further below in this section.

Kasulu is a large ZEA concession operated by the CPEMAL and KOMIKO cooperatives in partnership with CDM, which pays management fees to the two organisations. Under its agreement with the Provincial Government CDM is the principal offtaker from Kasulu 1 and as the buyer of first choice, it has the right of first refusal to purchase all material from the site.

There are over 1200 pits active on the site and working conditions are very poor. The depth (reportedly some pits reach 80m, which exceeds the legal depth by some 45m) of and the lack of structural support for these vertical workings make them very unsafe for the diggers. Since the majority of the pits are clustered in a relatively small area, there is the possibility to convert the workings into an open pit and organise the artisanal miners to consecutively drive shallower shafts – ideally no more than 10m – along the orebody while the top-soil is removed by excavators. It is noted that CDM already has excavators located at the site. This would reduce the risk of pit collapse and the effort and cost of shaft construction for the miners and increase the rate of extraction for CDM.

Site management

Kasulu is managed by two cooperatives that report directly to CDM, which pays the cooperatives a monthly management fee. As noted earlier in this report, cooperatives are similar to an operating contractor business and, although there are members of the cooperative, there is not a democratic governance model that is often associated with cooperatives in other parts of the world.

cooperative names:	Co-Op 1:	KOMIKO	Co-Op 2:	CPEMAL
Co-op members, number:	Co-Op 1:	28 (pit owners)/80 gen assembly	Co-Op 2:	90
Co-op members, type:	Co-Op 1:	Négociants: Yes Diggers: Yes Washers: Yes Other: No	Co-Op 2:	Administration

Table 2 - Cooperatives operating at Kasulu

The two cooperatives are described by CDM as having different mandates: KOMICU manages the *négociants*, diggers and washers, while CPEMAL has responsibility for administration. CDM indicates that the relationship with the two cooperatives is seamless, and effectively it is as if they are one. CDM relies on the cooperatives for the running of the operations at the site and in particular for registration of miners, production improvements, and for policing measures to manage social and human risks, including and in particular, the presence of children and pregnant women on the site.

CDM has a small number of management personnel on the site. CDM reported that their roles fall into three areas: security, principally guarding access to the site; administrative tasks and liaison with the cooperatives; and technical staff to maintain and repair CDM-owned equipment on site. The number of CDM staff changes from day to day between three to six personnel on site at any one time. There are both private (1) and state 'mine' (11) police at Kasulu, which are overseen by the CDM personnel. CDM has historical and current agreements with third parties related to the management of Kasulu. Pact, the development contractor, was hired in the past to review the site's practices, risk management and corrective action plans and advise on potential operating standards to apply at the site. There is no current or planned engagement with Pact.

Better Cobalt (now known as Better Mining), a monitoring business owned by RCS Global, is contracted by CDM to monitor the site against a set of social and human rights indicators that putatively mirror the expectations expressed in the OECD Due Diligence Guidance. The research team was not permitted access to this monitoring information, which can only be accessed by subscription. Senior and line management at the site reported that the presence of Better Cobalt was light and visits infrequent. The cooperative's management were generally found to be collaborating with monitoring efforts and acknowledged that in order to make improvements to meet expectations for corrective actions, considerable investment into mine infrastructure would be needed.

Finally, SAEMAPE is legally required to have a presence on the site. CDM records that there are 21 SAEMAPE agents at Kasulu. Allegedly, CDM 'tops up' the salaries of SAEMAPE personnel to supplement their government wages.

Site workers, support personnel and organisation

Kasulu has a similar organisational profile for the recovery of cobalt ore as the generic model described previously in this section, with workers falling into categories of pit owners, supervisors, diggers, négociants, and washers.

Number of diggers:	2000	men		100%	women		0%	
Number of négociants:	30	men		80%	women		20%	
Number of washers:	60	men		25%	women		75%	
Number of security staff:	Mine. Police:	11	Private:	100	CDM:	0	Other:	No data
Number of CDM staff:	Chinese:	2	Local:	40	Site manag:	N/A	Technical:	No data
Number of SAEMAPE staff:	21							

Table 3 - Kasulu - mine site statistics

According to information provided by CDM, at the time of publishing this report there were about 2,000 diggers active on the Kasulu site, although the total number can vary significantly and is tied directly to the price of cobalt and the perceived possible financial remuneration from a day's work. There are comparatively few women on the site and no women are involved in the excavation of cobalt ore, a data point that was verified by observation during site visits. Washing cobalt ore at Kasulu is carried out exclusively by women.

To work at the site, all diggers have to apply for membership of the cooperative. The cooperative management allocates a work area to diggers who self-organise into one or more operating groups. The cooperatives are mandated to oversee the day-to-day movement of the groups, electing group supervisors who they perceive as having appropriate experience and leadership skills, along with the oversight of SAESCAM agents. The observed reality, and the opinion of the diggers who were interviewed both on and outside of the site, however, appears to be that the groups of diggers act independently, and pit owners have considerable influence over which pits are worked and by whom. The cooperatives are also responsible for enforcing the CDM policy of not allowing workers under the age of 18 or pregnant women on the site, and to ensure that all workers are registered and that there are traceability measures in place from the point of sale to the loading of cobalt ore onto CDM transport. During interviews, managers of the cooperatives claimed that a slightly outdated worker registry exists that aims to capture names and dates of birth of all workers allowed in the mine. The team was unable to verify the existence of this registry, however. Ideally the registry would include a copy of legal ID as well as a passport photo of the respective worker and should be accessible during all hours of operation.

Infrastructure



Figure 12 - In response to reports of child labour, a 10-ft wall was erected to control ingress.

Kasulu boasts a health clinic for occupational injuries, a 10 ft wall to prevent children from entering the site, free access to clean water, toilets and bathrooms, and an area for trading and warehousing cobalt (the depot). CDM has been the principal organisation financing this infrastructure, reportedly at not inconsiderable cost, although the exact level of financial investment was not made available. The team was unable to access any records or statistics regarding health and safety incidents and clinic use.

While there are office facilities and a trading centre and depot to facilitate the sale of cobalt ore, the underground mining pits are poorly equipped and as a result, productivity is very low. Key equipment needed to improve productivity includes pumps to lower the groundwater table below the orebody and electric winches to increase the haul rate and prevent bottlenecks. Secondary equipment that the miners would benefit from include rock breakers and ventilation fans.



1.3.2 ASM site profile: Kamilombe

Kamilombe ASM SITE QUICK FACTS					
Size of site (Km ²):	35-40 KM ²	No. of Pits/ Shaft:	2000	GPS:	10°41'43"S 25°29'59"E
Legal Status:	PE 11599	Date of license award:	N/A	Date of expiration:	Permanent
License holder:	GECAMINE	Site owner:	GECAMINE and KCC (Glencore)	Principal offtaker:	CDM

Table 4 - Kamilombe ASM site - Quick Facts

Site overview

Kamilombe is a large concession in between two large industrial mines, KCC (owned by the global commodities trader and mining house, Glencore) and Zijin Mining. It is operated by CDMS artisanal cooperative in partnership with CDM. CDM pays a monthly management fee to the cooperative through the parent cooperative MEETH MASTER and has invested into the concession's infrastructure.

The concession is currently registered as governed under a PE, the mining permit (PE) held by the state-owned mining company, Gecamines — the cooperatives hold a MoU with the government allowing its operation. The research team received information from the parent cooperative MEETH-MASTER that the site might be in the process of being converted into a ZEA and the authority to manage will be awarded to CMDS. The research team was informed that this management transition would be implemented later in 2019; this has not yet happened (May 2020).

The Kamilombe site (see Figure 14) is not near any significant settlements and it was therefore not possible to effectively identify local stakeholders or to assess the nature of relations with the management and workers at the site. The research team did learn, however, of an invasion by former workers and a protest staged at the site in late 2018 during which earth moving equipment was incinerated. The alleged motivation for the invasion and attack on property was dissatisfaction about the drop in cobalt price, which the workers perceived to be as a result of CDM's recent presence at the site. It should be noted that the dramatic drop in the price for cobalt ore is not restricted to this one site but has affected many operations across the Copper Belt.



Figure 13 - Protestors destroyed excavation equipment.

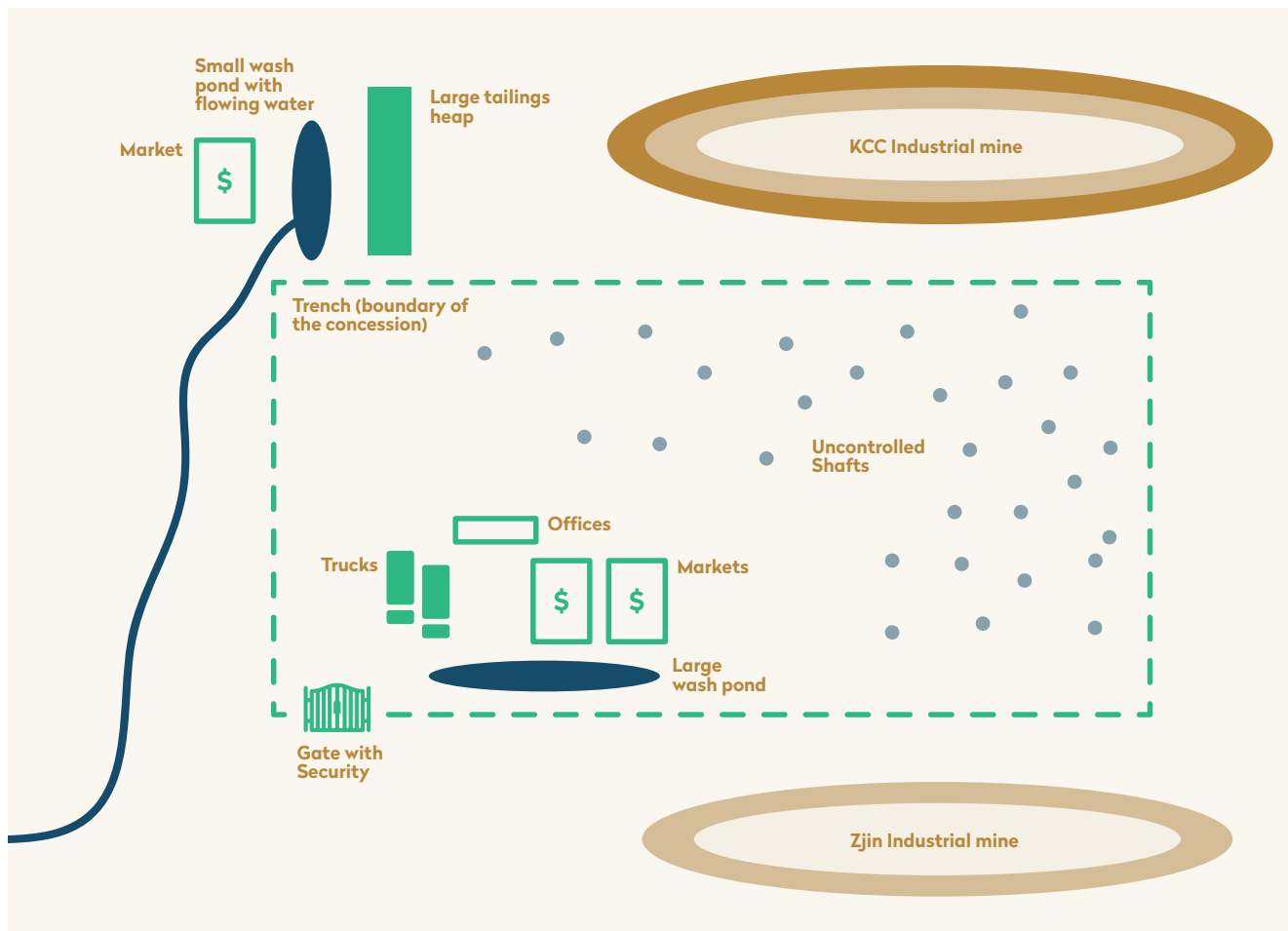


Figure 14 - Simplified plan of Kamilombe

There was no observed, documented or anecdotal evidence recovered to indicate human rights offenses at Kamilombe, or any serious health, safety or security incidents at the time of the field visit³. Border security measures at the site, in the form of a deep trench along the site's boundary, was observed to act as a barrier to prevent minors from entering the site. However, because the site is very large, it is entirely possible that a small number of individuals do manage to enter and work on the site undetected. The research team was not able to access any monitoring data (for example, from Better Cobalt's data repository) to confirm or refute this observation.

Miners have been operating at Kamilombe for at least 15 years, the same period that CDMS has been active in the area. Mine shafts are widely dispersed across the site. The ore body does crop out up to 4m from the surface, but rapidly dips down as it folds in. The deepest shaft on the site is 80m, but the orebody could continue even deeper. The state of the pits is poor and there is a clear risk of ground collapse and material falling on top of miners and the possibility of injury and fatalities.

This deep section of the orebody is best reached using deep shafts, and at these depths the rock is so compacted that even sedimentary seams can provide good stability in which to burrow. However, artisanal miners are not legally permitted to dig at greater depths than 25m from surface, and the water table is also 25-30m from the surrounding surface level, establishing a de facto limit to the orebody that can easily (and legally) be exploited by these artisanal shafts and tunnels.

3 Since the assessment in early 2019, the death of 3 miners has been reported.

Miners extracting ore within this zone (<35m) could be provided with hauling equipment as a first priority, then rock hammers and ventilation fans along with pumps for those shafts that are sunk below the water table. This would increase production from existing shafts. As noted earlier, traders at the trading station are known to provide financing for such equipment with the cooperative brokering the arrangement between traders and diggers.

The shape of the orebody gives CDM the opportunity to increase the rate of extraction by supporting the cooperative to exploit the deposit using a gradually deepening open pit, which would dip in the direction of the orebody. Artisanal miners would be encouraged to extract what they could with a series of mini shafts that would halt at 10m depth and then move towards merging with each other. Then an excavator would strip away the remaining section and maintain an appropriate bench angle. However, there is a limitation to the profitability of such a venture: eventually the very considerable cost to remove the increasing depth of waste rock above the orebody will outweigh the value of the ore itself. To enable this plan, it would be necessary for CDM to complete drilling to understand the ore body and to develop a mine plan for the site.

A notable occupational hazard is the washing pond. Interviewees claimed that, due to washing activity, heavy metals have accumulated in the pond and contamination is widely associated with the washers (mostly women) being affected by a dermal rash. It is possible to remove the contaminated sediments from the bottom of the pond with an excavator, which will also expand the water-holding capacity of the pond. In addition, low-cost techniques should (and can easily) be introduced to reduce contact with the water, such as wearing rubber gauntlets and waders. Together, these changes – replacing dirty water with clean water and providing access to PPE – could eliminate the rashes suffered by washers altogether.



Figure 15 - Standing in the water all day, many washers suffer from dermal irritations.

The added benefit of such practices would be that washers who have historically taken ore off the site and transported it to wash at Kapata (an unregulated site over 2km from Kamilombe) where the conditions are better, would have no incentive to do so. This would increase the volume of ore at Kamilombe that is sold on site, thereby increasing traceability and decreasing the reputational risk associated with sourcing from Kapata, which is known for child labour and extremely hazardous working conditions.

Site management

Kamilombe is operated by CDMS artisanal cooperative in partnership with CDM. CDM pays a monthly management fee to the cooperative through the MEETH MASTER cooperative and has invested in the concession's infrastructure. CDMS is also the cooperative that manages Kapata ASM site. As it is with the cooperatives at Kasulu, so it is with CDMS: cooperatives are similar to an operating contractor business and, although workers are members of the cooperative, there is not the kind of democratic governance model that is often associated with cooperatives in other parts of the world.

cooperative names:	Co-Op 1:	CMDS
Co-op members, number:	Co-Op 1:	28 members
Co-op members, type:	Co-Op 1:	Négociants: Yes Diggers: Yes Washers: Yes Other: N

Table 5 - Cooperatives operating at Kamilombe

The management organisation at Kamilombe is simpler than at Kasulu, and CDM presence is relatively new. Similar to Kasulu, but probably more so, CDM relies on the cooperative for the running of operations at the site and in particular for registration of miners, production improvements on the site, and for policing measures to manage social and human risks, including and in particular, the presence of children and pregnant women on the site.

CDM has a small number of management personnel on the site. CDM reports that their roles fall into three areas: security, principally guarding access to the site; administrative tasks and liaison with the cooperatives; and technical staff to maintain and repair CDM-owned equipment on site. The number of CDM staff changes from day to day, with three to six personnel on site at any one time. There are both private (1) and state 'mine' (11) police, who are overseen by the CDM personnel.

As with Kasulu, Better Cobalt, a monitoring business owned by RCS Global, is contracted by CDM to monitor performance at the site against a set of social and human rights indicators that mirror the expectations expressed in the OECD Due Diligence Guidance. Also at this site, senior and line management at the site reported that the presence of Better Cobalt was light and visits infrequent. CDM described the role of Better Cobalt to monitor activities at the site against the responsible mining standards of CDM and those previously advised by the international development contractor, PACT. Better Cobalt is responsible for recording incidents at the site related to human rights or mine site health and safety and periodically files reports. If an incident is discovered, then Better Cobalt suggests corrective actions and improvements to CDM and monitors the cooperative's plan and actions to make the corrections.

Finally, SAEMAPE is legally required to have a presence on the site and monitors occupational safety and security measures. CDM records that there are nine SAEMAPE agents at Kamilombe. The research team learned from SAEMAPE agents that CDM 'tops up' the salaries of SAEMAPE personnel to supplement their government wages.

Site workers, support personnel and organisation

Kamilombe follows a similar organisational profile for the recovery of cobalt ore as that of Kasulu, with workers falling into categories of pit owners, supervisors, diggers, négociants, and washers.

Number of diggers:	3500		% men	100%	% women	0%	
Number of négociants:	500		% men	86%	% women	14%	
Number of washers:	150		% men	20%	% women	80%	
Number of security staff:	Mine. Police:	15	Private:	100	CDM:	50	Other: No data
Number of CDM staff:	Chinese:	6	Local:	80	Site manager:	86	Technical: No data
Number of SAEMAPE staff:	9						

Table 6 - Kamilombe - mine site statistics

According to information provided by CDM, there are currently approximately 6,000 diggers on the site, although the total number can vary significantly and is tied directly to the price of cobalt and the perceived possible financial remuneration from a day's work. No women are involved in the excavation of cobalt ore, but there are quite a number of women on the concession, who are almost exclusively involved in the washing of cobalt ore. This gender imbalance is yet further evidence that women involved in the washing of ore should be considered a vulnerable population at the ASM sites: they are mostly not members of the cooperatives, are at the bottom of the value chain hierarchy in terms of being able to extract economic rent from cobalt recovery, and do not have access to the equipment and services that other, mostly male, populations have on the ASM site.

Similar to the system at Kasulu, to work at the site all diggers must apply for membership of the cooperative. All workers on site are obliged to be members of the cooperative and pay a fee. The fees are based on production and levied at the point of sale per 'lot' or bag at a rate of USD 1 per bag, and washers pay a flat fee of USD 0.35 per week. The cooperative management allocates a work area to diggers who self-organise into one or more operating groups. The cooperatives are mandated to oversee the day-to-day movement of the groups, electing group supervisors whom they perceive as having appropriate experience and leadership skills, along with the oversight of SAEMAPE agents.

There is an agreement between CDM and CMDS regarding emergency and health provision. If an accident occurs on site that is related to a mine working, such as a tunnel collapse, then CDM will provide first aid on site and, if necessary, evacuate the worker to a clinic to receive treatment. For continued assistance related to occupational health and safety, and where that is needed outside of the ASM site, the cooperative assumes responsibility. Although it was asserted that support is given for some cases of loss of work, neither specific examples of such instances nor the mechanism itself were made available.

Infrastructure

CDM's relationship with the Kamilombe site is relatively recent. There is evidence, however, that infrastructure has been put in place. A small shipping container has been converted into a health clinic for occupational injuries, a trench deep enough to prevent children from entering the site has been dug around some of the more vulnerable areas near to the mine entrance, and there is access to a toilet. Unlike KASULU 1, access to potable water has not yet been provided. There is an area for trading and warehousing cobalt (the depot). There are a number of offices for administrative purposes for the cooperative. The research team's overall impression is that the administrative area has benefited greatly from fresh investment and attention. CDM has been the principal organisation financing this infrastructure, although the size of its investment is not known.

While there are office facilities and a trading centre and depot to facilitate the sale of cobalt ore, the underground mining pits are poorly equipped and as a result, productivity is very low. Similar to Kasulu, the diggers at Kamilombe would benefit from having access to pumps to lower the groundwater table below the orebody and electric winches to increase the haul rate and prevent bottlenecks as priority, with rock breakers and ventilation fans also being needed.



Figure 15 - Many of the more than 1000 tunnels are at the risk of collapse.

1.3.3 Reflections on the environmental, social and governance challenges

Considerable investment has been made into the infrastructure at both Kusulu and Kamilombe. Kasulu has received more investment than Kamilombe, but this might be explained by the short period of CDM's association with the site. Despite this, some priority measures have already been put in place in Kamilombe, such as a deep trench around vulnerable stretches of the site's boundaries to prevent access. It is reasonable to conclude that the controls put in place to prevent children entering the site (a 10' wall has been erected at Kasulu) are meeting their objectives, and the provision of a clinic and access to clean water and sanitation places the conditions at both sites above many nearby informal ASM areas. Likewise, efforts to ensure greater traceability between the ASM sites and CDM's smelter in Lubumbashi were shown to be functioning. Despite these laudable initiatives, the Kasulu and Kamilombe sites cannot be considered to be free from problems associated with poor operating practices

and it would be challenging to present the sites' practices as meeting basic standards expected by even the most risk-tolerant downstream procurement team.

Although Kasulu and Kamilombe meet fundamental ESG expectations, such as the absence of children, there are some significant gaps in performance that should be addressed. In particular, the chief concern is the poor safety record and the startlingly apparent instability and illegal depth of pits worked on the site. It is hard to see how the operating cooperatives can reasonably protect the safety of workers at the site when the pits reach depths of up to 80m, sometimes tunnel horizontally, further weakening their integrity, and are unsupported. That observation notwithstanding, The Impact Facility believes that both operations have the potential to meet all essential cobalt sourcing expectations if efforts to improve performance continue, assistance is provided to guide the cooperatives, and if quite significant financial investments are made into mining infrastructure and mine management. The project's partners should continue sourcing from these operations as long as a commitment to continual improvement and a structured mine improvement plan can be agreed. By doing so, the project will send a strong message of inclusivity and hope through constructive engagement, ultimately transforming lives in the DRC.

Reflections on other sites visited

Kapata

Kapata is an unregulated ASM area on the outskirts of Kapata village. It is widely known as a site at which there is a prevalence of poor health and safety practices and could not be considered to meet even the most basic standards. The area is surrounded by large tailings heaps from the KCC mine (formerly operated by Gecamines). Miners illegally burrow into the tailings heaps, which are extremely unstable and frequently collapse. While no children were seen at the site during the visit, there is a strong likelihood that children are involved in at least part of the production that is fed through Kapata.

At the centre of Kapata is a small lake fed by a natural spring that is used by many people, mostly women, to wash ore. The flow of water from the spring dilutes the heavy metals (and possibly radioactive elements) that are in the ore reducing the incidents of dermal rashes suffered by workers washing ore, and which are commonly associated with prolonged nickel and cobalt exposure. As a result, the site attracts miners from nearby ASM areas, including from Kamilombe.

Traders, clustered in a series of huts, collect ore from the miners. CDM informed the research team that many of these traders had been approached and invited to leave Kapata and relocate their business to Kamilombe. However, there is still a high volume of ore coming from Kamilombe to be washed.

Mutoshi

The Mutoshi project is an ASM engagement project hosted on an industrial mining site operated by Chemaf in partnership with international trader Trafigura, which is a significant investor in the project and the major offtaker. The area is recently developed and highly formalised with organised groups of ASM working in a controlled setting. The concession is hemmed in by the Mutoshi community on two sides. There were no accounts given, or indicators found, of serious human rights abuses or health and safety incidents.

Although Chemaf works with the artisanal miners to sequentially exploit the surface of the orebody to develop an open pit, the purposes of this are simply to explore the orebody for increased resource delineation and make way for a rapid progression into industrial exploitation by 2022. At the point of this transition, the artisanal miners will be moved to a newly designated site a few kilometres away. The site is a 'model' mine in many ways, providing workers with a productive and safe means of extracting the ore. Elements of the "Mutoshi Model" could be replicated at Kasulu and Kamilombe.



1.4. Analysis of local cobalt prices at ASM sites and the open market

As was presented earlier in this report, ASM sites host a complex ecosystem of workers, each of whom carry out activities that play a distinct role in the cobalt value chain, and who are paid or compensated in different ways. The different roles include diggers, transporters, washers and sorters, as well as the négociants and traders which are the final aggregation point before ore is sold on to crude refiners, which is the case of the two sites that were the focus of the research for this report, the Huayou Cobalt subsidiary, CDM.

Remuneration of workers on the ASM sites is very sensitive to the price of cobalt in local markets. A change in the price paid by buyers from the crude refiners is immediately reflected in what the depots can offer on the ASM sites, which in turn swiftly impacts on the revenues received by the teams of diggers and the shares received by transporters, washers, sorters and négociants.

An analysis of more than a dozen depots across several controlled and open-market sites shows a sizeable discrepancy between prices paid across the mining area. This analysis is based on publicly communicated price charts in March 2019. The graph below illustrates prices in relation to the cobalt content at the point of sale, extrapolated to volumes equivalent to one metric ton of cobalt to achieve price comparability across concentration levels. The graph below plots prices on a scale from USD 0 to USD 30,000, the market price per tonne of pure cobalt traded on the world market in April 2019.

The graph illustrates that the informal, open-markets at Kapata and Musompo offer significantly higher prices than any of the controlled ASM sites – Kasulu, Kamilombe and Mutoshi. The price graph for Kasulu ends with a grade of 7% purity, since price tables do not account for higher grades. This can be explained by the fact that most ore in the Kasulu site does not exceed a purity of 7%, while it was reported that people at Kamilombe can achieve purity as high as 15%. Some sites, like Kamilombe, also provide compensation for high copper content in the ore, while people at Kasulu are only paid for the cobalt content of the ore sold.



Figure 16 - One of the depots at Musompo located right along the main road to Lubumbashi.

The price analysis visualises the value created through washing and sorting activities, effectively boosting the price received by diggers and traders per unit of cobalt sold as its grade increases. The lower the price, the higher the incentive to invest in washing and sorting. This can be explained by the fact that cobalt needs to be transported for more than 300km to reach the crude refinery. Doubling the ore's concentration, halves both transportation costs and royalties paid per truckload.

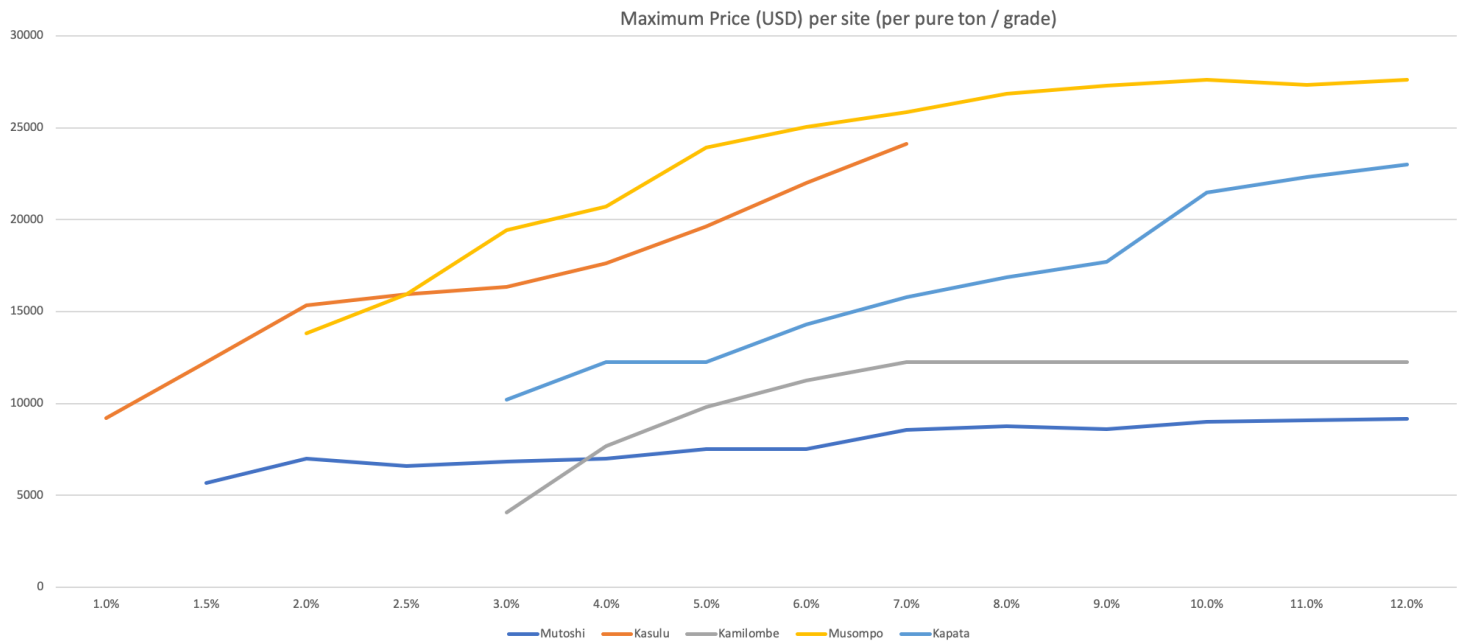


Figure 17 - maximum Prices recorded at buying sites (in USD, per tonne of cobalt content)

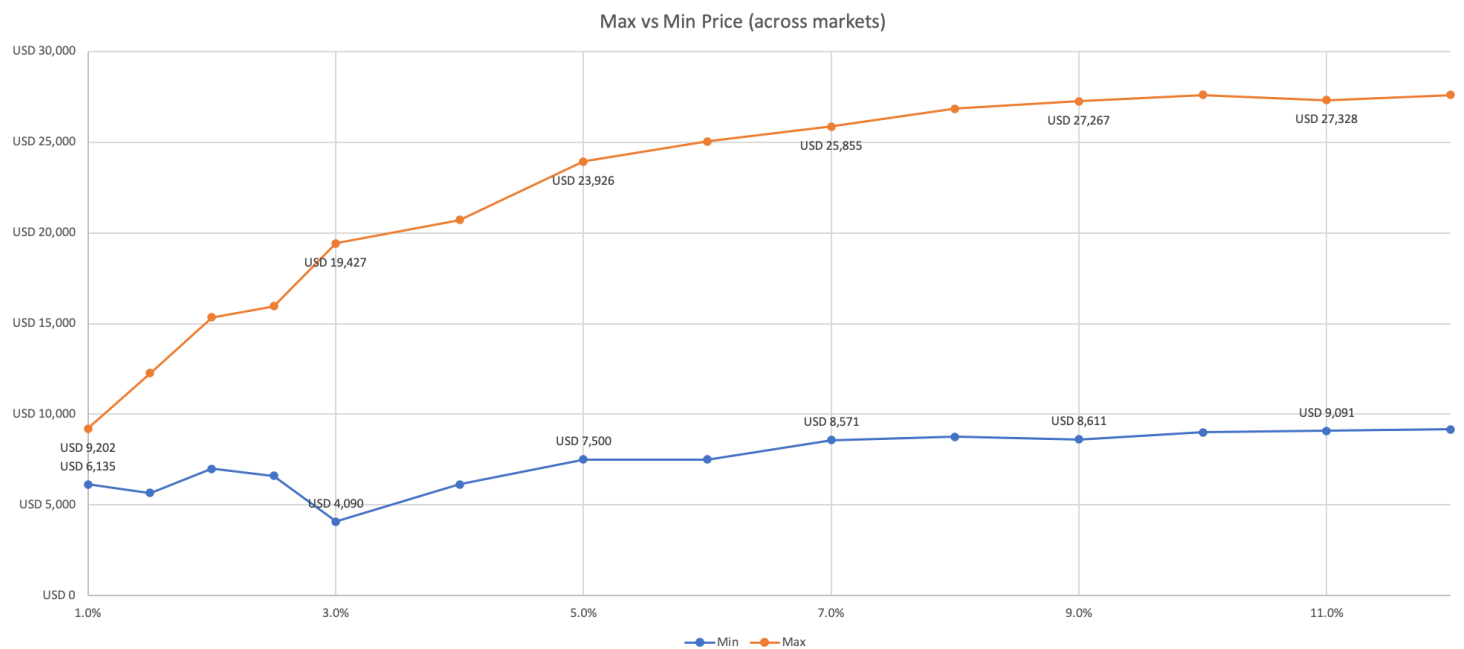


Figure 18 - : price spread between lowest and highest buying price recorded (in USD, per tonne of cobalt content)

There are a number of possible explanations for these price differences. First, the take-home cash amount is based not only on the price, but also the purity and volume of the cobalt material. The prices published at the depots might be high because the traders were able to reduce the total amount paid for cobalt lots by manipulating the system to calculate cobalt ore purity and weight. The traders control the XRF machines and the method for taking samples of cobalt ore when

it comes to the depot. Several people interviewed voiced their concerns about the willingness of depot traders to fairly determine their price based on accurate purity calculations. Such concerns were raised not only by those interviewed from groups of diggers and local aggregators/traders, but even by agents of the government's ASM support agency, SAEMAPE.

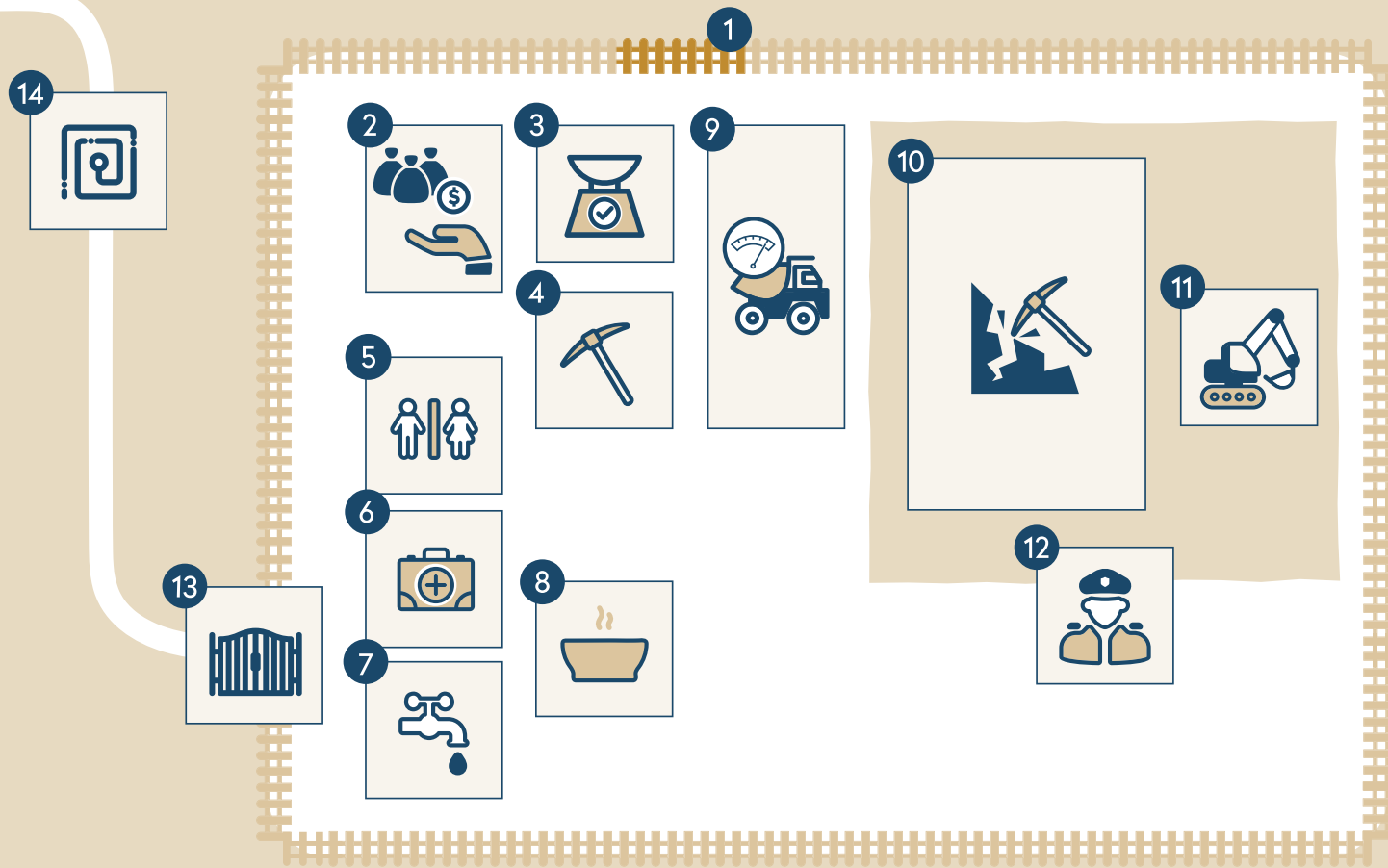
Another plausible explanation offered for the comparatively high prices at the open markets (Kapata and Musompo) is that they have no costs associated with operating any of the mine sites (from where the ore originates), while both Chemaf (Mutoshi site) and CDM (buying from Kasulu and Kamilombe) have made significant investments in the infrastructure and staffing of mine sites. These investments and ongoing costs could be reflected in the prices they are prepared to pay in their offtake negotiations with depot traders. At the same time, such investments can positively impact the productivity of individual diggers and their ability to sell high grade lots at the depots. Furthermore, there are other benefits of operating at controlled sites that include safer working conditions, access to clinics, clean water and sanitation facilities, and lower transaction costs.

While the buying price is definitely an important aspect when selling cobalt material, the cost of the transaction is another considerable factor. Both Kasulu and Kamilombe depots offer diggers the chance to sell their production on-site, without having to transport ore to distant buying centres. Since much ASM mining is informal and is considered a comparatively high income activity, when lots are transported by road to off-site depots, mine police often seek 'motivational payments' to facilitate safe passage, adding further costs and time hurdles to the transaction that would not be experienced on-site.

Finally, while there are several explanations for the differences in prices, one thing consistently rose to the surface in interviews: most diggers and traders are sceptical of the trading practices of warehouses, and deeply suspicious of pricing systems. Understanding the variations and dynamics of international commodity prices is a challenge for the most seasoned trader in London or Shanghai, but the negative consequences of a volatile market often fall unfairly on the remote mining worker. Rather than attempt to control the uncontrollable, steps could be taken to make the transaction process and pricing at the depots more transparent, a topic that is addressed in section three of this report.

1.5 Model for responsible ASM sites

Informed by the visits to ASM sites in Kolwezi, the research team's knowledge of ASM sites in countries in East and West Africa, South East Asia and Central and South America, interviews with stakeholders in and around the cobalt mines, and an understanding of international voluntary standards and expectations of downstream markets, The Impact Facility has designed a basic model comprising structural and procedural elements needed to promote responsible production practices and increased worker well-being at ASM sites. As part of a continuous improvement plan, mines shall work towards introducing as many elements of the model mine laid out below as possible.



Model for responsible ASM sites

- 1 Wall / trench - Ingress Control
- 2 Cobalt Market Place / Depots
- 3 Independent scales & purity measurement
- 4 Independent provision of production equipment
- 5 Sanitation Facilities
- 6 First-Aid Clinic
- 7 Fresh water access
- 8 Food Stores / Vendors
- 9 Weighing bridge
- 10 Planned mine area and controlled pits
- 11 Earth moving equipment
- 12 Mine Security
- 13 Controlled Mine Access
- 14 Traceable / Chain of Custody

Elements needed for a responsible mine site

1. Wall / trench - Ingress Control
The easiest and most efficient ways to keep children and unauthorised individuals out of mines is by securing the perimeter using a form of border protection.

2. Warehousing / depot following open market principle
Having various depots / buying centres on site leads to a controlled open market environment, where depots compete with one another for supply, giving miners a greater choice of where and at what price to sell their produce compared with the centralised buying model of some ASM sites.

3. Independent scales and purity measurement to guarantee fair markets
Rampant mistrust in depots' scales and purity measurements warrant the provision of independent verification booths that could be operated either by the cooperatives or potentially SAEMAPE.

4. Independent provision of productive equipment
In an effort to boost occupational health and safety on site as well as the level of productivity, and thus miners' income, it is of high importance to make safe and good equipment available to the miners. Equipment could be anything from adequate head torches integrated in hard hats, through jack hammers and water pumps, to winches or essential PPE.

5. Sanitation Facilities
Providing showers and toilets on site is an important step towards offering dignified and good working conditions.

6. First Aid Clinic
Minor accidents and injuries are a daily reality on the ground. Providing adequate first aid facilities, including trained staff is of great importance.

7. Fresh water access
Rather than being available at just one spot on the perimeter, workers should have access to free, safe drinking water.

8. Food Stores / Vendors
Easily overseen, local vendors play a big role in keeping the mines running, as they provide food, tools and even clothes to everyone working in and around the mine.

9. Weighing bridge
Before shipping the ore off to the refinery, trucks need to be weighed to calculate transport taxes.

10. Planned mine area and controlled pits
The core piece of the model mine is a controlled and planned mining area, governed by the cooperative in charge and monitored by SAEMAPE and other service providers. Congolese law restricts maximum pit depth to 25m, meaning that regular levelling, applying an open pit approach to the mine, allows full respect of the law.

11. Earth moving equipment
Excavators and other earth moving equipment should be on site to level sections of the mine area, where pit depth has reached or exceeded the legal maximum value of 25m.

12. Mine Security
Ensuring the peaceful operation of the mine and preventing unauthorised people from entering the mine requires the presence of mine security, usually comprising state mine police and private security, who should be trained with respect to the Voluntary Principles on Security and Human Rights.

13. Controlled Mine Access
Controlling access to the mines through gate controls ensures that intoxicated people, children and heavily pregnant women cannot easily enter the mine. Ideally, mines would devise a system of using personal ID cards for identification of workers authorised to enter the premises.

14. Traceability / Chain of Custody
To ensure the integrity of the ESG claims made around the minerals produced, it is important to utilise a credible chain of custody solution in line with international expectations for traceability.

1.6. Overview of Huayou's approach to corporate responsibility and responsible sourcing

Huayou Cobalt and its Congolese subsidiary CDM were featured in the Amnesty's 2016 report "This is what we die for", which shone a light on the working conditions and widespread child labour on the ZEA known as Kasulu. Since the report, Huayou Cobalt has made substantial investments into the ASM sites from which they source directly. Most significant has been the construction of physical barriers at two sites to prevent children entering the mine sites, collaborating with the cooperatives in charge of the sites to implement a zero-tolerance policy for the presence of children below the age of 18. Additional investments included the provision of infrastructure for fresh water and sanitation, a covered warehouse area for the traders to openly trade cobalt, a staffed clinic, and staff on site to improve safety measures. After the completion of this study and submission of the initial research findings to the project sponsors, CDM reported and the Impact Facility confirmed that work has started at the two ASM sites to reduce the depth of mining pits. This effort will continue as part of the work programme of FCA, which is described in section three of this report.

Furthermore, CDM has hired and trained local staff coordinating with and supporting the local cooperatives. CDM has engaged RCS / Better Mining, formerly known as Better Cobalt. Although this proprietary data was not viewed by the research team, it putatively attests to the incidence of child labour dropping to zero and that the number of accidents has been successfully reduced.

As previous sections detail, the risks to workers at both mine sites were found to be severe, while the occurrence of child labour at the sites has been successfully addressed. The research team felt that it was important to independently review Huayou's actions and responses related to some of the concerns repeatedly raised by international media and NGOs – concerns which often draw on now outdated accounts from 2016. This section shines a light on CDM's ASM engagement strategy as observed by the research team.

Huayou Cobalt's sourcing principles

Through engagement with both CDM's procurement and mine support team, and the regional CSR office in Lubumbashi the research team learnt that CDM has implemented three sourcing principles, at the Kasulu and Kamilombe mine sites. These three principles are:

1. **Mine Site Legality**

CDM has committed to sourcing from legitimate mining sites legally designated by the provincial government, and with the support of SAEMAPE.

2. **Transparency / Traceability**

CDM defines its principle of transparency as having in place a credible chain of custody system ensuring full batch-traceability from the mine sites to its

crude refinery in Lubumbashi. Trucks are loaded at mine sites, then covered and tagged using unique ID tags. Upon arrival in Lubumbashi (2-4 days later) the tags are controlled, and shipments are only accepted if all tags are accurate.

3. **Child Labour-Free Production**

With a strong focus on addressing issues of child labour, CDM has invested in the construction of physical access barriers at both mine sites using trenches and walls respectively to restrict unauthorised entry. This measure appears to have proven successful, as documented by independent monitoring data, and through various interviews with community members and workers in and around the two mine sites.

Comments on design and implementation of Huayou's sourcing principles

The Impact Facility discussed the possibility of expanding CDM's third principle of child labour-free production to include responsible production practices more broadly, such as basic occupational health and safety training for workers, as well as improved working conditions throughout the mine. CDM were open to the concept of broadening and deepening their requirements on site, while letting it be known that they considered their influence, or 'leverage' over ZEAs — and even over the management policies at a PE — to be limited. CDM is a customer of these two sites, not an owner.

General comments on Huayou's approach to sourcing principles, corporate responsibility and community relations

As well as visiting and observing the community projects noted in this section, the research team was able to talk with different managers at Huayou / CDM regarding the company's approach to assuming responsibility to contribute to social development in their host country, observe some parts of Huayou's facilities in Lubumbashi, and glimpse the operations at the industrial-scale mine which it owns and manages. The research team makes the following observations:

First, the company regards its primary obligation as being to respect the government and the official offices and policies of the DRC state and provincial centres. It maintains strong relations with the government and supports the government in implementing some of its policies, such as with the relocation of households and residents at the Kasulu ASM site. This is a positive attribute undoubtedly, but if it remains the dominant strategy for corporate external affairs, it will limit the value that Huayou could create both for mining communities and for its own reputation globally and with communities neighbouring its facilities. More simply put, today, an external corporate responsibility strategy is more effective when it is broader than respecting only the government of the host country, but instead extending its scope to the engagement of other stakeholders and affected communities.

Second, as noted above (and in Annex xx), the company does, and has for some time, initiated and run community investment projects. While the initiation of some of these projects are a response to international attention to the working conditions of artisanal workers at cobalt ASM sites, such as erecting walls to control children entering sites to work, others are not, such as The Huayou Farm, and are clearly driven by a social responsibility and stakeholder relations agenda. Although there does not seem

to be a documented systematic strategy for these activities – at least not one that was shared with the research team or published on the company’s website – these are not *ad hoc* interventions. The company has been thoughtful about the needs of Congolese people (the need for food, alternatives to mining, education and vocational training), and has leveraged the assets of its own company and networks in China to contribute (such as technical assistance at The Huayou Farm). A senior manager stated that the process of identifying projects is democratic and meritocratic: ideas are generated by those of the company’s staff who are in the best position to judge what the needs are in the communities with which they engage, and are discussed openly with management. The selection is based on the merits of each project individually.

Third, Huayou/CDM is considered the largest buyer of ASM-produced cobalt in the region and has a significant corporate presence. Yet, its investments in community projects and initiatives to improve conditions in its supply chain are not well known. In fact, the company has been accused of being central to many things that are outside of its direct control, such as the fall in the cobalt price, terms of employment by cooperatives, and working conditions at the sites. While these might be matters that Huayou/CDM could (and even should) contribute to remedy or compensate for, it is too simplistic to conclude that they are the company’s responsibility alone. The lack of recognition of Huayou’s work, and the negative sentiment, could be explained by that fact that some of interventions that have been made are nascent and yet to show visible results, or that the expectation is for the company to make greater contributions, investments and action to improve ASM sites and community conditions. The Impact Facility believes, however, that Huayou has made a relatively low resource allocation to community and local stakeholder outreach and communications. Successful corporate responsibility programmes are marked out not only by what they do but also by how they communicate it. Huayou would be well served by having a dedicated function to develop and implement a coherent strategy for community investment and to act as a liaison officer with communities, NGOs and local businesses.

Section 2

Children's rights and mining communities



Reports on systemic child labour linked to artisanal cobalt mining in the southern DRC has attracted the attention of rights groups and international news media. In 2016, Amnesty International claimed that more than thirty thousand children might be working in the several dozen, often informal, mines in the region. A more recent report based on an extensive household study found that over 60% of households are involved in mining work in the Kolwezi region. It estimated that 11% of children work, and of these, 23% work inside the mines and in processing minerals (CEGA, 2017).

Artisanal mining is a severe risk for children. It is hazardous work with conditions that qualify as the worst forms of child labour and interferes with a wide range of children's rights. Children living or working in the mining areas are exposed to physical abuse, drug use, sexual exploitation and violence. Furthermore, mining activities can impact children, even if they are not working directly at mining sites. There are serious health risks, including respiratory illnesses caused by exposure to contaminated dust fumes, and threats to children's safety, well-being, security, education, nutrition, and access to water and housing.

As awareness of child labour and children's rights in cobalt mining has grown, stakeholders have invested in pilot projects at individual sites to show that cobalt can be mined artisanally and without child labour. These sites are subject to monitoring by external agencies on the effectiveness of the ban of children at the sites. While banning child labour from known sites is a needed and welcome step, such action cannot alone address the underlying drivers that lead to child labour. Removing a child's access to a mine site doesn't ensure they are not displaced into other mine sites with worse conditions or situations, or that they are connected with needed services, such as education, healthcare or recreation and leisure time, important for childhood development. There are deeply rooted drivers that cause children to work, including household poverty.

There are civil society organisations active on the ground in the mining communities, implementing effective interventions to raise community awareness of risks to children and to connect children with services, such as schooling, including access to bridge schools or assistance with school fees or free meals. In addition, holistic interventions review overall household income in order to address poverty drivers and may offer programming on alternative livelihoods for adults. Reviewing some of these successful models provides insight into relevant and effective remedies that may be applied by various actors in target communities, not only to address child labour but with the aim of enhancing child protection and ensuring their access to a wide range of rights.

2.1 State of child labour in the mining communities of Kolwezi

As with any illegal or informal activity, the extent of child labour is difficult to measure quantitatively, and child labour at artisanal mines especially so. There are no official government statistics available on child labour in Kolwezi, and aid and development organisations working locally with which the research team spoke reported that they did not maintain data or analysis on the number or nature of child workers.

The Impact Facility made inquiries with provincial ministries, international agencies and civil society groups regarding available data on community population, population of children, and data on child labour, but none were able to provide information that could be reasonably considered reliable. This does not indicate that agencies or private organisations aren't knowledgeable about the problem generally, but rather that child labour is so evident that diagnosis is not deemed to be necessary to know that action is needed and because it is felt that scarce resources are best directed to efforts to resolve the issue, not research it.

This notwithstanding, several sources have provided estimates on child labor in the DRC cobalt mining region that vary quite considerably, but despite these differences present information sufficient to draw a mental picture of the seriousness of the problem facing families, communities and business:

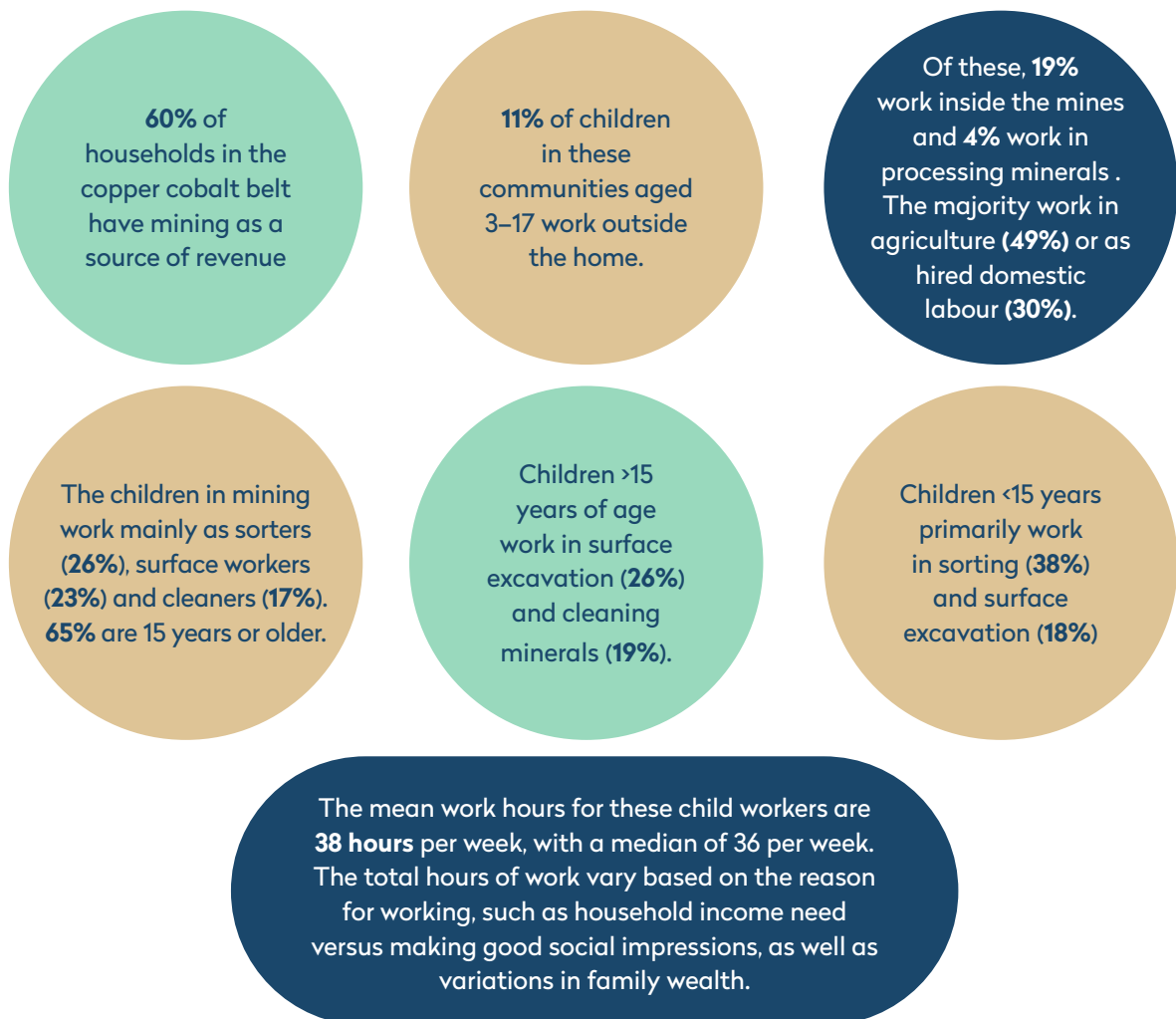
- A Harvard researcher and human rights activist who carried out a study on child labour in 31 artisanal cobalt mining sites in the south-eastern provinces of the DRC stated in news article published by the Guardian in October 2018 that there are approximately 35,000 children involved in cobalt mining in the country.
- An unpublished private report, reviewed by the research team, prepared for an international child labour organisation in 2019, estimated that there are 15,000 to 30,000 children working in the mines in the Upper Katanga and Lualaba provinces.
- A 2017 report by researchers from the Center for Effective Global Action (CEGA) at University of California, Berkeley based on a survey of 150 cobalt mining communities in the DRC, estimated that there are fewer than 5,000 children from mining communities in the region working in mining or mineral processing.

The CEGA report offers a notably smaller estimate than others. The authors contend that, having surveyed more than 4,500 individuals including a representative sample of 2,635 heads of household across the region, theirs is the first study to have been able to use a sufficiently large sample in the region to be able to draw scientifically defensible conclusions. Clearly 5,000 children at work is significantly fewer than 35,000, but is still a very alarming figure given the effects of child labour on individuals and their families, which are discussed later in this section.

The results of the CEGA survey of 2,635 households in 150 cobalt mining communities offered further notable insights, some of which are illustrated in the figure below.

The CEGA report, while noting that it is common for children to work in the cobalt mining communities, found that most of the time this is work performed inside of the children's own households. It was reported by 25% of child labourers that they had made their own decision to work outside their homes. The children that work in mines are typically boys, usually eldest sons, with less education and who might not be enrolled in school.

Notable from the CEGA study is the estimation that of the 11% of children that work outside their households in the region, most – some 75% – are employed in non-mining activities, in particular agriculture and domestic settings. Child labour at mines is associated with particularly grave risks, which are presented later in this section, yet all child labour can have a detrimental effects. An important consideration for this study and for the intervention programme it is intended to inform, is that any effort to address child labour and children’s rights in the Kolwezi mining region should look beyond mining and include the broader economy and its root causes, a brief analysis of which is included in section 2.1.1.



Regarding the two artisanal sites visited for this project, Kasulu and Kamilombe, despite their strong and undisputed association with child labour, the research team was unable to find any current or historical published figures or privately held data on the prevalence of child labour, with one exception. The Action pour la Defense des Droits Humains (ADDH) cited their own study from the early 2010s, prior to the arrival of CDM at Kasulu. The rights group had calculated that there were 1,800 children present at the Kasulu site at that time. Today, the risk of child labour occurring at these two sites appears to have reduced considerably. During the team’s field visits to the mine sites at Kasulu and Kamilombe, no children were observed inside the mines’ fenced and trenched perimeters. Efforts to ban children from the site appear to have been successful. This view was confirmed by many other organisations active in the mining communities interviewed during the research.

The cooperative representatives interviewed for this research did not know and were unwilling to speculate about the current occupation of the children that formerly worked at the two mine sites. Optimistically, the children might have found places at schools, but it is also very possible that the children have entered into employment elsewhere locally, or migrated to the neighbouring artisanal site known as Kasulu 2. Stakeholders interviewed, for example the community development organisation Bon Pasteur, reported that children displaced from work at Kasulu have simply moved to dig in the ASM site at Manino, where before there was no digging taking place and little regulatory oversight. Bon Pasteur and others maintain that the problem of child labour has merely been transferred to other ASM sites, as current site-specific formalisation efforts fall short of addressing the underlying drivers of child labour at Kasulu and other ASM communities.

2.1.1. Root causes of child labour

An OECD description of the primary drivers for child labour in mining is highly applicable to the context of cobalt in DRC:

“Child labour in mining is to a great extent caused by poverty. The economic drivers of child labour are complex and can include a child working to supplement their family's income. Artisanal and small-scale mining offers quick cash returns for limited/low skill work. Poor quality of education, a far distance to school, and barriers such as having to pay for school, also contribute to increased rates of child labour. The long-term solutions to the worst forms of child labour lie in sustained economic growth leading to social progress, in particular poverty alleviation and universal education. Finally, government's action or inaction to enforce child-labour laws, monitor, and stop child labour greatly contributes to the prevalence of child labour in a particular context.”

As confirmed by the 2017 CEGA study and local stakeholder interviews, household poverty is the primary root cause for children to work in Kolwezi and Kamilombe-Kapata. Action pour la Defense des Droits Humains (ADDH) reported that, based on their own unpublished research, poverty is the main obstacle to schooling and the strongest driver of child labour. The rights group carried out a study on Kasulu that found that there are numerous migrant families in the local population, including single parent households with children involved in mining in order to supplement total household income. According to ADDH, families may mine together and at times mining provides an insufficient livelihood for even households with two working adults. Now that there is a wall standing at Kasulu, ADDH reported that children cross the lake next to the property to collect minerals and wash the ore with their parents. Indeed, local stakeholders reported that at times the need for mining income is such that children will pay bribes of 3-5,000 Congolese Franc (2-3 USD) to security guards to access mining sites, including those designated as artisanal mining zones by the Ministry of Mines.

A representative from the Ministry of Social Affairs interviewed by the field team also acts as the Coordinator of the Provincial Committee on Work of Child Labour at ASM sites. The representative stated that if adult diggers could earn more money, then

they would be able to afford fees and their children would be in school⁴. That child labour at ASM sites is connected to a lack of money to cover school fees was a causal relationship supported by other local civil society organisations working on child enrolment programs. Representatives interviewed as part of this project reported that even children who are enrolled in and attending school may leave school in order to work to cover the next round of fees that are due. Teachers and school administrators interviewed during field work explained that there are a range of possible fees to be paid by students’ parents, including teacher salaries, administrative costs and other types of school support, as well as costs like school books, supplies and uniforms, and affirmed the perennial struggle of families trying to meet even modest payments.

Despite its prevalence, it should not be assumed that there is acceptance of children workers in the region. While rights groups have reported that in some mining areas social norms persist that value and attribute social status to having children work, and that this can be a root cause of child labour, this cultural aspect was not widely reported as a contributing factor by the local civil society group and stakeholders interviewed. Rather, the research team found that there is a strong and positive attitude towards schooling and education generally held by families from all different economic circumstances. Parents interviewed consistently reported that they believe children should go to school and preferably until a later age than is often currently possible, up to 18 or 19 years.



Figure 19 – Many teenagers are actively seeking ways to make money.

4 The committee was created in 2017 by Ministerial Decree and includes participation of the Minister of Mines, Ministry of Social Affairs, Ministry of Family Affairs, and Ministry of Habitat. Mining cooperatives from Kasulu, rights groups, like Bon Pasteur, and development contractors, such as Pact, are members or technical advisors to the committee. The committee members carry out monitoring at local mining sites. When they see children on site, their aim is to re-integrate children into school. Children above 15 were targeted for integration into vocational training, available up through the age of 18. The Ministry was unable to provide any specific data on the numbers of children observed at the sites during the monitoring activity.

Children also reported believing that schooling will improve their future. Groups of children interviewed at school sites visited were asked about their dreams and goals in life: "What do you want to be when you grow up?" From the church-run schools in the city to the village-run school remotely located in a rural farming area, all children queried proudly stated their goals: to become teachers, engineers, lawyers, government officials, and so on. The children were clearly socialised to the ideas of learning, growth, and personal development, reflecting the value given to education locally. Affirming this finding is the 2017 CEGA study that clarified that the majority of parents and children view schooling as important and believe children should stay in school for an extended period of time.

The aspiration for children to attend school is sadly not often matched by the reality that families find themselves in a circle of poverty. While adults might be employed, incomes do not always stretch to cover the costs of attending school, or where children do attend school, they are left unattended after school hours while their parents work and can drift into paid work. Child labour is a truly systemic problem.

2.2 The impact of mining on children

Child labour generally, and children working in mining activities specifically, impacts children and their rights in many ways. Engaging in hazardous work violates their right to protection from harmful work and, in some particularly dire circumstances, can also violate their right to live free from sexual abuse and exploitation. In addition, there are clear infringements to their right to education and their right to health, all rights provided by the UN Convention on the Rights of the Child.

Even when children don't directly work in mining, mining activities, where they are not managed responsibly, can impact on their rights. This can be seen in impacts on health from pollution, as well as less direct impacts such as inhibited access to potable water, or systemic problems when a dependence on mining deepens a cycle of poverty.

To organise the assessment of impacts from mining on children's rights in mining communities in the region, the research team referenced a commonly used framework developed by UNICEF. The framework illustrated in Table XY, lists a number of categories of impacts on children's rights and then provides indicators for levels of the seriousness of those impacts, ranking from low impact through to very high.

Rights Impacted	Low	Moderate	High	Very High
Well-being	Exposure to images or content that may harm well-being	Exposure to exploitative conditions of work	Exposure to sexual assault, as well as other physical, emotional harm	Exposure to egregious harm and death
Health and Access to Healthcare	Facilities nearby but occasional lack of access due to insufficient money	Inadequate facilities nearby (e.g. less than 1-hour travel)	Health facilities more than 1 hour’s travel away.	No access to health facilities
Access to Education	Inadequate teaching due to lack of resources	Unable to attend secondary, but can attend primary education	Unable to attend primary or secondary education	Prevented from learning due to persecution/ prejudice
Access to Food	Bland diet of poor nutritional value	Going hungry on occasion	Malnutrition	Starvation
Safe drinking water	Not having enough water on occasion due to lack of sufficient money	No access to water in dwelling but communal piped water available within 200 meters	Long walk to water source (more than 200 meters), which is occasionally polluted	No access to water

Table 7 – Impacts on Children’s Rights.

Source: adapted from Unicef, 2001 – *Child Rights and Child Poverty in Developing Countries*

The following sections provide a brief description of the impact on children’s rights, following the UNICEF framework in Table XY, and an additional impact category: access to leisure and recreation. These findings are based on literature review, stakeholder interviews and expert analysis and are meant as a general estimation of such risks facing children to contribute to the objectives of this report. While these synopses indicate that there are incidences of impacts on children at the artisanal mine sites, and provide the findings of the research to support these assertions (the methodology for which is detailed in an earlier section of this report), they do not suggest the level of prevalence, scale or intensity of these impacts. They are not and should not be considered in any way statistically meaningful.

2.2.1 Impact on children’s well-being

Children present in mining areas risk exploitation and exposure to drugs and sexual abuse. The mining population includes migrants from northern and eastern provinces embroiled in conflict. Some migrants are former rebel militia. Amongst those fleeing the conflict zones are likely many with post-traumatic stress disorder. Prostitution often accompanies migration. Both boys and girls are reportedly subjected to sexual abuse in the mine areas, according to reports from stakeholders interviewed, including Bon Pasteur and ADDH.

In addition, some miners may use drugs prior to entering deep mine shafts, in order to blunt their fears for their safety. It has been reported that children have been subjected to drug usage as well. The Kapata community chief said that there were reports of drug use tied to child labour in ASM around the Kapata area, close to Kamilombe, one of the two sites covered in this project. ADDH shared similar reports related to Kasulu prior to CDM’s arrival and the site’s formalisation, and Bon Pasteur reported this practice and the risk for children involved in ASM in the target communities. Bon Pasteur also reported the presence of organised prostitution of children at the mines. In addition, children working at the mine sites have reported being beaten or seen other children beaten by security guards, according to the Amnesty report.

2.2.2 Impact on children’s access to education

There are a number of drivers that can impair children’s access to education in the DRC. Children engaged in cobalt mining activity may either combine work and school or not attend school at all in order to work. Children who do both activities generally perform more poorly in school and may ultimately drop out. However, typically in the region schooling takes just half a day, typically organised as either a morning or afternoon session. This means that even children who regularly attend school may accompany their parents to work after school if there is nowhere else for them to go.

Barriers to (regular) school attendance

Interviews carried out by The Impact Facility confirmed what is recorded in several studies on the area and is similar elsewhere in other regions of Africa and globally: low school attendance is unconnected to the value attributed to education. By all accounts, the Congolese value education highly and will go to great lengths to school their children. The barriers are economic, not cultural, and were found to fall into the following categories:

School fees

Interviews with women mineral washers on both Kasulu and Kamilombe sites reported that the need to pay school fees for their children is the main reason for which they work in ASM⁵. This is a common sentiment across the interviews conducted during the field visit. During a visit at Kibangu school⁶, a public school, the teachers told us that education is technically free, but parents need to pay a monthly contribution of about USD 10 per child each month. If parents cannot pay, joint solutions can be found (e.g. delayed payment). If the parents do not pay school fees at all, children are by policy allowed to continue to attend school. However, this is generally not the case.

At the Kizitu school⁷ in Kasulu, a private school, some children quit schools for a limited time (two to three days, or sometimes a whole week) to earn money to be able to pay the school fees. School fees are USD 18 per month. When children are absent, teachers call children’s parents and together parents and teachers try to find a solution. It is possible to pay for school fees later and to agree on a respective arrangement. But ultimately school fees need to be paid or the children are not allowed to attend the school. This can lead to a vicious circle of a scarcity of teachers willing to teach at schools because they depend on school fees for their salaries, in turn leading

5 Interview with female women washers at Kamilombe on 20/03/2019

6 Visited on 19/03/2019

7 Visited on 19/03/2019

to a decline in student numbers as they locate to other schools with a stronger staff count. This was evident at the school relocated by CDM as part of the resettlement of Kasulu households. The school at Samukunda resettlement village began with 150 students but has since halved to 75.

School meals

Schools fees are not the only costs that families can find difficulty in covering. The Kapata Community Chief affirmed that the main reason for why children end up earning money is also to buy food. As with other poverty-related problems, the cause was repeatedly linked to the low income from mining, and by extension to the cobalt price.

School materials & uniforms

In addition to school fees and meals, some interviewees complained about the cost of school materials including uniforms, pencils, books, and paper.

2.2.3 Impact on children’s health



Figure 20 – Vending is one of the most prominent activities children engage in.

According to an unreleased 2018 study, children’s health is found to deteriorate in correspondence with higher work hours, similar to the case for adults. The study notes that the majority of illnesses and afflictions reported by children or their parents included fever and coughing. The average number of times a child contracted fever went from .36 to .58 with one additional hour of work. There were no gender variations in this data. The study also noted that incidents of illness fell in relation to increased household income.

Additional reported health risks include increased exposures to cobalt, lead, cadmium, uranium, which are measurable in urine. A 2016 SOMO report cites previous research demonstrating that people living close to the cobalt mines in the DRC had 43 times the level of cobalt, 5 times the level of lead and 4 times the level of cadmium and uranium

in their urine than normal. That 2009 research found elevated levels of 16 minerals in adults and children living within a three-kilometre range of mines or refineries, with 90% of children in the study showing elevated levels of cobalt. A 2018 biomonitoring study specifically on Kasulu residents found residents to be highly contaminated with cobalt, with dust exposure identified as the source of this contamination.

SOMO also reports that chronic dust exposure related to large trucks traveling along community roads transporting ore contributes to respiratory problems and even lung disease among local residents, including children. Dust not only brings pollution but the risk of ingestion of airborne chemical exposure. Studies have even identified evidence of DNA damage among exposed children.

In addition, there are direct health impacts for children involved in washing activities, as the water used is often contaminated with high levels of harmful minerals. Health impacts include irritating skin conditions and reports of urinary tract infections.

2.2.4 Impact on access to food

Access to nutritious food is a key right for children. The mining sector in DRC presents some unique challenges related to access to food. Because mining has become such a pervasive economic activity, fewer and fewer households are engaged in subsistence or commercial agriculture. Indeed, the knowledge of rudimentary agricultural practices seems to have largely eroded and as much as 80% of the local food supply is imported from Zambia, creating some food insecurity, as illustrated by reports of a recent crop crisis in Zambia that resulted in a border closure and lack of food imports into DRC.

According to stakeholders interviewed for this study, the access to cash at the end of a day of mining work drives a mentality of immediacy; fewer people are interested in the months of work required to grow and harvest agricultural produce when they can have money in hand on a more regular basis if they work in mining. However, as noted by some high-profile news reports covering child labour in cobalt, impoverished families engaged in cobalt mining may reach the point that they cannot eat unless they are able to find and sell ore each day. At times, children go without food completely until they and/or their parents have success at the mine.

2.2.5 Impact on access to water

Related to a child's right to health is the critical issue of access to water. Contamination of local rivers as a result of the release of chemicals used by the mining industry, including cyanide, sulphides and mercury, has been documented. The pollution of these local water sources impacts reliable access to potable water and may also impact household food security, triggering risks of malnutrition through soil and crop degradation.

One report on a nearby cobalt community documents that the community was denied access to a road connecting them to their primary water source. Throughout the Kolwezi area, it was observed that people sought out alternative water sources, with people waiting in lines to access water in the city and in the outlying communities. Portable storage containers were used to collect and then sell water to families who needed it. In some cases, entire neighbourhoods were seen being mobilised to fill the containers. It is clear that collecting or purchasing of water is required of many households in and around Kolwezi, Kapata and Kamilmobe.

2.2.6 Access to leisure and recreation

The UN Convention on the Rights of the Child provides for the right of a child to rest and leisure and to engage in play and recreational activities. It isn't just about avoiding hazardous work or being in school – children also have the right to just be children! Recreation and leisure is important for healthy child development, including skills, social and mental development.

According to interviews with local stakeholders, there is a pervasive lack of recreational areas for children in the target communities. Local staff of an international NGO reported that city planning authorities don't plan recreation space and recreation centres are largely missing at schools. At one point, World Vision constructed a playground near to one of the schools that they run in Kisutu, which included a slide, swings and other play equipment. It was such a novelty in the community that it became overrun with children wanting to play. The equipment didn't survive one month. The slide was completely destroyed. Kids were playing all night at the site. World Vision determined that it would be important to have secure sites that can be closed overnight as well as having control over the flow of children. This would require cooperating with the community to that end.

There were not many open fields observed to be available for play. One organised adult game was viewed by the field team, including players wearing official uniforms, and the pitch was seen to be uneven and rocky.

The school sites that were visited by The Impact Facility field team were also found to be lacking any type of recreational sites.

2.3 Strategies for combatting child labour and protecting children's rights

With an eye on the goal to develop a systemic programme to reduce the risk of child labour and to protect children's rights in the mining communities of Kasulu, the research team reviews the potential of four possible intervention strategies that might be pursued individually or combined: cultural sensitisation, increased household incomes, alternative livelihoods and bolstering school attendance.

2.3.1 Cultural sensitisation to the impact of child labour

There are a number of examples in the region of successful interventions in cobalt communities encouraging households to avoid allowing children to enter mining work by building awareness of the associated risks and hazards. These interventions often focus on the sensitisation of community members and raising awareness of health hazards for children. In one case reported by the Kapata Community Chief, a local organisation wrote a song and had it played near the mine entrances. The lyrics carried messages saying children shouldn't be in the mines as it is not safe for them. This was reportedly successful in reducing the instances of children entering the mine sites in that area. The development contractor, Pact, reported running this same type of intervention, using songs to raise awareness, with success.

Another example of a social intervention focused on changing attitudes toward child labour is the programming of Bon Pasteur, the Kolwezi-based operation of the Good Shepherd Sisters. They have implemented a model of “radical inclusivity” to address household poverty and child protection in the artisanal mining communities around Kolwezi. Bon Pasteur recruits children from the mine sites to attend a free school, built and staffed by Bon Pasteur and by families in the community. The entire household is part of the intervention, with a focus on skills training for adults in the household, especially women, as a means to increase income and reduce incentives for children to return to mining. Vocational training includes a focus on farming and animal husbandry, skills that have largely disappeared in the region due to an extended and pervasive reliance on mining incomes.

Such approaches are appealing and clearly effective in some circumstances and when combined with other related efforts. The scalability of such interventions should also be reviewed and their potential to catalyse significant change in the region.

2.3.2 Increased household incomes

In order to address one of the key root causes of child labour, poverty, increased household incomes are important. Improved incomes would alleviate pressure on households to send children to work and would be a primary factor in reducing child labour. A possible intervention focused on increased household incomes is financial literacy training. In order to combat household poverty and improve overall income for the family, it’s important to engage the adult income earners in discussions about financial planning, savings, and to facilitate assistance to families in developing options for alternative income. This is an aspect of the household interventions offered by Bon Pasteur, as well as other organisations.

2.3.3 Fostering alternative livelihoods

There are several organisations working with families in mining communities to explore new work opportunities. Some of these involve technical or vocational training in areas such as dress-making, welding, and agriculture. It is widely accepted by government and local civil society groups that artisanal mining work will eventually decline in the region and communities will need to have skills to sustain themselves in the post-mining economic environment. Therefore, there is a certain amount of support and momentum developing around a range of alternative livelihoods.

Given the high volume of food imported from Zambia, it would seem logical that there are local business opportunities for agricultural sales. In fact, there are some cultural challenges to overcome in order to engage households in the development of agricultural skills, especially younger people who are more accustomed to the immediate cash payouts associated with mining work. However, there are a number of successful examples to review in this area, including a local association working cooperatively over shared agriculture lands, taking turns with field work or paying others to work the land.⁸

⁸ Mungano is a local agricultural association that has allowed older people to transition from ASM work to agriculture, and have access to savings opportunities and new skill development. The current association President was trained by Pact. In addition, Pact runs small-scale training programs targeting the most vulnerable youth, including those in poverty and not attending school. Younger children are placed in school while those aged 15–17 receive vocational training, including financial literacy training. Youth in these programs reportedly have said they no longer want to return to ASM because they tend to spend their daily ASM earnings; now they can make or grow a product and people come to buy it and they can save money. Bon Pasteur is another example of an organisation that provides training to parents in farming, including financial literacy, self-reliance, literacy and numeracy.

The association sells their produce in local markets and shares the group profits. They use some of their profits to fund a local school in the remote agricultural community where their land is located.

2.3.4 School attendance

As part of the underlying field research, the concept of free schooling was explored in depth with stakeholder groups as a solution to child labour, and protecting children’s rights. The potential benefit would be to reduce a primary barrier of access to education by eliminating the need for families to pay school fees. However, this was not a widely adopted practice by those organisations advocating and managing school-based interventions. The ability to secure adequate funding to ensure free schooling over a significant time period appeared to be a barrier for many programs.

Instead, the idea of a free meal at school was explored. A family facing poverty is motivated to send children to school when they are guaranteed to receive food. This alleviates a key stress for the family and greatly reduces what can be a significant cost for the household. Even children engaged in work may still attend school in order to secure their meal. This concept was seen as one that could have success.

Free school meals is a model applied in numerous other countries with significant positive results. For example, the government of India runs a Mid Day Meal Scheme (MDMS) through the Ministry of Human Resource Development. Several independent agencies have carried out research on the MDMS program with some of the key findings highlighted here by way of example:

- According to research carried out by the Pratichi trust of Prof. Amartya Kumar Sen (a former UN Special Rapporteur), the implementation of the mid-day meal program in India has been successful throughout the country.
- In one state in particular, Madhya Pradesh, the National Institute of Public Cooperation & Child Development reported the following regarding the mid-day meal program:

“MDM has shown marked improvement in the enrollment pattern of children in primary schools. Mid-Day Meal Scheme undoubtedly resulted in increased school attendance and retention of children in schools for a longer period. The Scheme has played a crucial role in reducing drop out, especially among girls. Parents viewed that the mid-day meal had reduced the burden of providing one-time meal to their children and considered it as a great support to their families. Teachers opined that mid-day meal aided in active learning of children, which indirectly improved their academic performance.”⁹
- A study of the mid-day meal program in the state of Orissa found that the program helped to increase school attendance and to create new employment opportunities for adult workers.

In summary, the benefits observed by the meal program offered in India included: reducing income pressures on families for providing food, increased school attendance and retention of students, and replacement of child workers with adult workers in the local economy.

In another example, from Thailand, the government aimed to reduce child labour under their National Child Labour Prevention and Solution Plan 1997-2001. Among the strategies was to increase school attendance through the provision of free education, free lunch and free textbooks in target regions of the country. According to a Thai government report compiled by the International Labour Organisation, “the effectiveness of these measures is attested to by the fact that the number of children attending school has increased in close proportion to the reduction in the number of those in employment and in the sex trade.”¹⁰

Bon Pasteur offers a meal to students as part of their schooling program for former child labourers. Students are kept at school longer to allow for the meal time, extending the schedule beyond the mere half day that is routine. This serves to reduce unsupervised free time for children, who might otherwise be tempted to engage in mining-related activities before or after their half-day schooling. However, the challenge for implementing this in other schools is that some schools host both a morning session and an afternoon session. Ensuring facilities for children to eat while another school session is arriving would require careful planning and coordination.

Another key intervention relates to the provision of recreation areas. Having recreation areas and/or organised play time for children is important for healthy childhood development. Bon Pasteur has some organised play time as part of the school day, though there is not yet a playground available. Ensuring this sort of space can be made available, without it being enthusiastically destroyed as in the case of the World Vision facilities, could be an important offering. As CDM already partners with two local schools in the Kasulu community, it may be possible to explore providing secure recreation areas available to students before or after school. It should be noted that the unintended consequences of investing in select local schools is that the schools may experience an influx of additional students seeking to benefit from the improvements. Ideally, investments, changes and planning should be discussed with local community leaders to identify the best ways to implement improvements without causing overcrowding and its related challenges.

Section 3

Fair cobalt



This report summarises the findings from a rapid assessment of the state of child rights and associated economic activities at two artisanal cobalt mining communities in Lualaba: Kamilombe and Kasulu. The purpose was to better understand the circumstances of the artisanal production of cobalt and how to improve conditions at ASM sites and in surrounding communities. The demand for cobalt is predicted to only strengthen in the next decade and, even though new deposits are being developed in Australia and Russia and despite licenses potentially being awarded in the next two years to contractors to explore the deep ocean floor for cobalt-bearing polymetallic nodules, the majority of cobalt in 2030 will still be mined in the DRC. It is highly probable that the many thousands of men and women who make a living from the artisanal mining of cobalt will continue to do so for the next decade and more. Therefore, the underlying question for this project raised by the commissioning consortium - Fairphone, Signify and Huayou Cobalt - and the Impact Facility research team was: "what can businesses in the supply chain do to facilitate the development of responsible artisanally Mined cobalt and transform a sector perceived as an intractable supply chain risk into an opportunity to foster sustainable development in one of the poorest regions on Earth?"

This report is intended to inform a strategy for a robust targeted intervention programme that will have maximum positive effect on the lives of the people who need it the most. Aiming for maximum impact, a goal of the research team was to identify which existing projects and initiatives could be leveraged in order to avoid the duplication of efforts and to draw on lessons already learnt by others, both in this sector and in other supply chains in the DRC.

While the initial ambition was to focus efforts on challenges faced by the mining communities around Kasulu and Kamilombe, it became apparent that the underlying forces at play, which perpetuate poverty and infringe on children's rights in the region, need to be addressed systemically and at a landscape scale. An appropriate approach should be based on pragmatic, community needs-centred interventions, channelling technical expertise and, more importantly, substantial financial investments into programmes targeting the most pertinent issues.

Recognising the scale of the challenges at hand, Fairphone, Signify, Huayou Cobalt and the Impact Facility formed FCA. FCA is conceived as an action platform seeking partnership and support across industry sectors and supply chain tiers. FCA is unique as it allows any organisation or company to financially contribute to tackling a cause bigger than any one organisation could address by themselves. Applying longer term thinking, and mobilising industry-wide contributions, FCA is a supply chain-wide coalition, promoting constructive engagement with ASM in global supply chains, aiming to transform how artisanal mining is done and how it affects the wider community.

This final section lays out why FCA members seek constructive ASM-engagement, highlights some of the learnings from Sections 1 and 2, and introduces FCA's theory of change.

3.1 The case for ASM cobalt sourcing

Cobalt plays a key role in enabling a transition to a green economy. Nevertheless, public discourse around cobalt has predominantly been negative, focusing, to large extent, on negative impacts of mining activities, creating a dichotomy between cobalt as a key to reach a clean, carbon-free future on the one hand, and its production being characterised by strong ties to poverty-driven child labour and human rights issues such as explained above, on the other. The reality is more complex, and making definitive statements is problematic. So from where should companies source their cobalt? We elaborate on three alternative cobalt sources: Recycled cobalt, and LSM and ASM Mined cobalt.

3.1.1 Recycled cobalt

For a more sustainable and ethical supply chain, it could be argued that companies should seek to source Recycled cobalt instead of newly mined material, following the basic rule to reduce, reuse, and recycle. Opting for recycled materials would appear to be an elegant solution to not only reduce the environmental footprint through a circular cobalt supply chain, but also to refrain from fuelling the challenges associated with the exploitation of newly Mined cobalt. While FCA sees an inherent value in recycling and lauds the efforts that are put into further developing existing recycling technology, it is generally foreseen that cobalt demand will far exceed the amount of cobalt in rotation through recycling schemes. This means that cobalt mining will need to continue to meet a growing hunger for batteries to power electric vehicles, smartphones and other mobile devices in the foreseeable future.

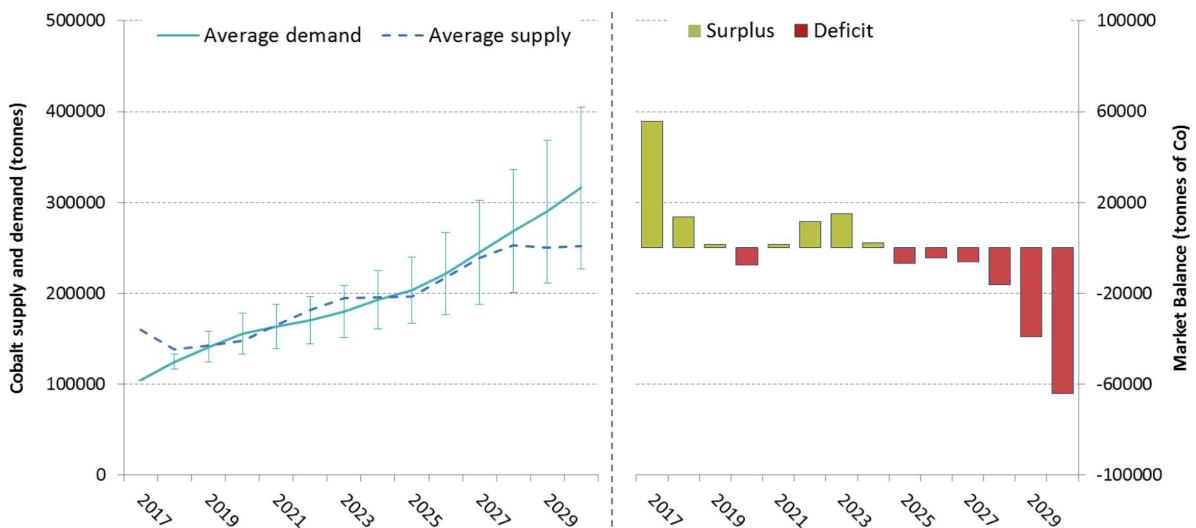


Figure 21 - Global cobalt demand and supply forecast up to 2030¹¹

The above graph illustrates the demand and supply of cobalt until the year 2030, including historical data from the last four years and forecasting a rapidly growing demand, exceeding the amount of cobalt available. Underlying data already assumes an uptake of recycling as well as the start of cobalt mining operations outside the DRC.¹¹ One thing is clear from what we know today: cobalt mining in the DRC will continue. So how can the mining of cobalt be safer for workers, and less harmful to the environment?

11 Alves Dias P., Blagoeva D., Pavel C., Arvanitidis N., Cobalt: demand-supply balances in the transition to electric mobility, EUR 29381 EN, Publications Office of the European Union, Luxembourg, 2018, ISBN 978-92-79-94311-9, doi:10.2760/97710, JRC112285.

3.1.2 Mined cobalt

While both artisanal and large-scale mining will always have some negative impacts, when managed well and with full reclamation and pollution management, such disturbances can be temporary and much reduced. Furthermore, the net result can be mining projects that are a significant motor for local development. For example, LSM can contribute to the building of infrastructure development and support local procurement of materials for its operations, thereby stimulating local economies. While challenges and risk might differ between mine sites, there are already a number of examples of how best practices can be introduced in both at LSM and an ASM operations to the benefit of surrounding communities.

LSM cobalt

Kolwezi has long been an industrial copper mining town and LSM is by far the largest contributor to the regional economy. Highly mechanised LSM cobalt operations bring high volumes of cobalt to market, accounting for approximately 80–85% of freshly mined global cobalt production. LSM operations are subject to considerable industry and stakeholder scrutiny, incentivising high health and safety standards. There are a number of voluntary sustainability standards, such as the ISO family of certifications or the Responsible Minerals Initiative due diligence assurance programmes, that recognise the adoption of best practice operating standards at mine sites. Such certifications can provide necessary assurances to buyers who wish to ensure they are not contributing to human rights abuses or environmental harm.

One aspect covered by these standards is the policy and practices followed by LSM operations to constructively engage (often) illegal artisanal miners operating on or near their concession. The OECD and voluntary standard setters generally promote peaceful engagement of ASM by LSM, with the goal of transferring knowledge, techniques and equipment that can help to avoid tragic accidents, address hazardous working conditions and encourage more sustainable community development.

Establishing an LSM operation takes substantial, mostly foreign, investment. Economic benefits experienced by Congolese citizens are mediated through government agencies, and the 'trickle down' effect is not always felt in mining communities. Some LSM companies do make generous voluntary contributions to local infrastructure and service development — laudable efforts that can bring significant relief to the receiving communities, even if in isolation they cannot offer a structural solution to address the underlying root causes of poverty.

ASM cobalt

Contributing somewhere between 15–20% of national cobalt production, Lualaba's ASM cobalt production is an important provider of local employment and for many the only accessible livelihood, despite apparent health and safety risks associated with artisanal mining activities. As of now, there is no certified supply of responsible cobalt, nor a clear definition of what responsible cobalt production would mean in an ASM context. While LSM operations are often well financed, ASM operations not only lack the internal capacity to adopt responsible practices but also the investment capital to make structural improvements to their sites — improvements that can cost hundreds of thousands of dollars.

Professionalising ASM, however, is possible, as can be seen when looking away from cobalt to ASM gold operations in South America. Some Colombian and Peruvian gold mines, for example, have been transformed over the course of the last 20 years, driven by both the introduction of national legislation but also due to the support of public sector organisations such as the Alliance for Responsible Mining, Fairtrade, Solidaridad and the Swiss Better Gold Association that have focused on formalisation and professionalisation of artisanal mines. These efforts required considerable investment, but ultimately resulted in certified, responsibly produced gold.

Driving the production of responsible ASM cobalt will take a similar effort, but one that hopefully can be sped up by building on what has been learned from other commodity sectors, such as tin and gold, and made more efficient by leveraging support from the entire cobalt supply chain, as every supply chain actor takes responsibility to contribute. Supporting the professionalisation of ASM will have huge implications. With more than 100 000 men and women linked to the ASM cobalt sector in the Kolwezi region, concentrated efforts to raise production practices will result in improved livelihoods for entire communities.

3.1.3 Fair Cobalt Alliance - Developing industry-accepted supply of ASM cobalt

Reports on child labour and hazardous working conditions at artisanal cobalt mining sites have been brought to light by international NGOs and media in recent years and these challenges have been clearly highlighted in previous sections of this report. The response by many downstream companies has been to attempt to apply a policy of disengagement, excluding ASM sources from their supply chains. The cobalt supply chain is, however, complex. Cobalt passes through many different processes and changes in ownership before reaching a battery maker or other industrial application. Therefore, some downstream companies and refiners resorted to avoiding buying cobalt from DRC altogether, leaving both ASM and LSM operators fighting for surety in their marketing contracts..

If companies' policies, however, are grounded in genuine concern about potential human rights risk, it needs to be pointed out that unilateral disengagement, or even a collective ban, is unlikely to incentivise change to improve the working conditions and operational practices at ASM sites. As has been witnessed in the tin industry in the DRC, a too-rapid reaction by downstream markets can lead to harmful effects on the very people and communities that are the subject of concern. Downstream disengagement from or a ban of ASM sites do not constructively address the issues leading to child labour and hazardous working conditions in the first place. Instead, it can result in the abdication of any responsibility by supply chain actors to contribute to jointly developing a viable solution and further deepening the poor reputation of the sector.

Therefore, FCA proactively seeks ASM engagement, representing cobalt supply chain actors across the biggest cobalt consuming industries jointly voicing their aspiration to develop a source of Fair ASM cobalt. As currently there is no supply of responsible or fair ASM cobalt, FCA members invest in the professionalisation and support of existing ASM cobalt sites committed to achieving progressive improvement targets. Where necessary, this strategy will include supporting the transition of illegal, unsustainable and/or unsafe ASM to sustainable, alternative livelihoods.

In summary, FCA acknowledges the role of recycled material and responsibly mined LSM cobalt to meet growing market demand for cobalt. It is its mission, however, to take responsibility for contributing to the development of a Fair ASM cobalt supply, the production of which does not endanger workers and children's rights and contributes substantially to local development.

FCA therefore contributes by developing and investing in the professionalisation of ASM sites, and by finding solutions to maintain the overall economic well-being of the region, where some mining activities will need to be transitioned.

3.2. Programme objectives

Based on the findings presented in Sections 1 and 2 of this report, FCA has developed an engagement strategy focused on the coordination, support and scaling of local initiatives aimed at the betterment of the ASM sector in line with three objectives:

1. **Driving the supply and demand of Fair Cobalt**

FCA drives the professionalisation of ASM site management, ensuring an uptake of responsible mining practices and channelling financial investment into mine improvements, with the goal of making mines safer, minimising environmental impact and creating decent working conditions for men and women working at the mines. Simultaneously, FCA actively promotes supply chain engagement by recognising, accepting and even demanding Fair Cobalt in international supply chains.

2. **Working towards a child labour-free Kolwezi**

International NGOs and media have highlighted the reliance of the Congolese ASM cobalt sector on hazardous child labour. But the occurrence of child labour in mining is a symptom of widespread poverty in the region and is not exclusive to the mining sector. To prevent children from working in any of the cobalt mines, FCA supports ASM operators in establishing credible control and monitoring mechanisms to keep children out of the mines. But we cannot stop there. In order to tackle and prevent child labour not just inside the mines but throughout the communities, FCA has established a funding mechanism to support the enrolment – or re-enrolment – of children in school, allowing children and youths access to education and vocational training.

3. **Increasing household incomes**

FCA aims to address the root causes that perpetuate the high social and environmental impacts associated with artisanal mining. The Bundesanstalt für Geowissenschaften und Rohstoffe (BGR)¹² highlights that ASM continues regardless of price, legality or risks, due to the poverty in the region and a lack of alternatives. These root causes drive miners towards higher risk scenarios including where children are participating in mining and where miners are taking more and more safety risks. FCA recognises that poverty constitutes one of the root causes of ASM-related child labour and hazardous working conditions. In an effort to support the ASM community transition into sustainable livelihoods, FCA invests in broader, off-site community programmes, designed to create sustainable livelihoods for as many community members as possible.

12 BGR, i.e. The Federal Institute for Geosciences and Natural Resources is the central geoscientific authority providing advice to the German Federal Government in all geo-relevant questions, focusing on sustainable use of natural resources and protection of the human habitat.

3.3 The Fair Cobalt Alliance Theory of change

The FCA Theory of Change builds on the understanding that a holistic approach is needed to address the root causes driving child labour and poverty in the region. For this reason, Fair Cobalt Alliance focuses not only on working conditions inside the mine (on-site development), but also on child labour remediation and the development of alternative livelihoods and financial literacy outside the mine (off-site development). As such the three main work streams are:

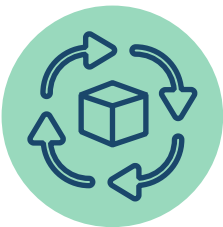


1. Mine Site Improvements

Working on-site, the programme's primary focus is keeping workers safe and reducing the number of accidents and negative health impacts at various work stations. This can only be achieved if some of the structural hazards are appropriately addressed and if the operational management is further professionalised.

In parallel, on-site work will aim to increase worker satisfaction by establishing trust in the mine-site markets, and working together with the workers and the cooperatives to ensure that the various worker groups have a voice that is heard and considered during strategic decision making.

To achieve these objectives, FCA has developed a three-year Continuous Improvement Plan to address the most urgent challenges pertaining to Kasulu and Kamilombe, with the ambition of replicating this approach across the region. One of the results of this assessment has been the development of a holistic ESG framework, promoting timebound, concrete improvements on issues such as mine health & safety, cooperative management practices and environmental stewardship.¹³



2. Community Development

Off-site work focused on community development pursues two goals:

- I. a community wide reduction of child labour; as well as
- II. an increase of household incomes and, thus, a decrease of poverty.

A key to achieving this is the support of child labour programmes that foster school attendance in primary and secondary schools by (partially) paying for school fees, currently named one of the main reasons many children do not attend school. The programme further recognises the importance to ensure that children can stay in child-appropriate places (such as a school) for as long as possible (during the day). This effort will include a child labour referral system, which allows the

¹³ Please contact The Impact Facility team in case you would like to review the full ESG framework.

miners / cooperative management to refer children or youths identified in mines to the programme partners as a first step. Youths at risk of child labour are addressed through the provision of vocational training, offering them a practical alternative to working in the mine (once they are 18). To strengthen and enhance existing efforts, identified partner Community Based organisations (CBOs) will receive capacity building in regard to best practice on children's rights protection.

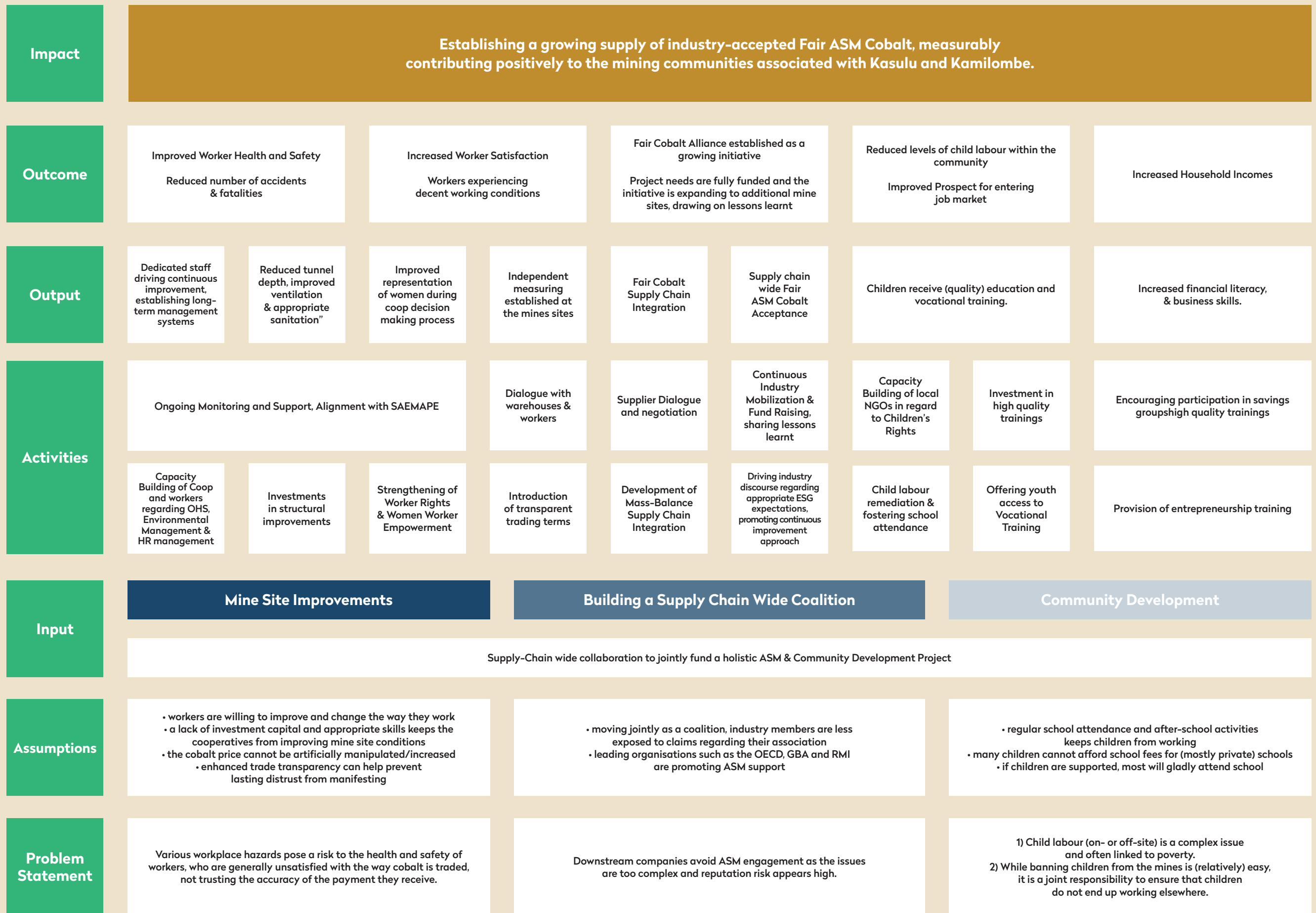
Meanwhile adult community members are engaged through a voluntary financial literacy training, helping households to better manage the few resources they might have and encouraging savings through a proven programme on the ground. The project's long-term aspiration is to build a wider support network for entrepreneurs in the region, starting with entrepreneurship training to build viable alternatives to mining



3. Building a Supply Chain Wide Coalition

FCA is built on the notion of taking joint responsibility, across the supply chain. As such, it is important to drive formal acceptance of responsibly produced 'Fair Cobalt', which we define as cobalt originating from mines that have committed to continuous, time-bound improvement and already meet minimum expectations of operating legally and in respect of human and children's rights.

Market acceptance should naturally lead to the integration of Fair Cobalt supply into global supply chains, aspiring to make sourcing from ASM a cross-industry responsible sourcing goal.



Our call to action

Through this document we provide an evaluation of the state of artisanal and small-scale cobalt mining in Kolwezi and the wider Lualaba region. While the challenges associated with artisanal cobalt mining in the region have been known for years and widely covered by international media, efforts on the ground remain limited and uncoordinated.

FCA is committed to take concrete actions to lift the working conditions and livelihoods of ASM cobalt miners. Such efforts need considerable investment into mining communities upstream, but pale in comparison to the cost of inaction if downstream businesses continue to stand back. Today, media and advocacy groups hold companies accountable for irresponsible or unethical production standards even where those happen far from their head offices and outside their management control. In this charged environment, acting on the choice to not associate with artisanal mines — or even to not source cobalt from the DRC at all — might come to seem like the most convenient choice.

Many organisations are asking for certification of artisanally mined material as a precondition to sourcing commitments. Nearly four years after the public was made aware of systemic child labour in the cobalt sector, however, there is still no standard that enjoys industry-wide acceptance, although discussions among key stakeholders are currently underway.

Either strategy — disengagement or waiting for the mines to spontaneously meet yet-to-be-defined international standards — will not help to solve the poor reputation of cobalt mining in the DRC, because the dire conditions of mine workers will persist.

Rather than investing effort and resources on ensuring disassociation from ASM, companies should be channelling energy into programmes that seek constructive engagement on the ground, actively contributing to creating the

conditions that all would like to see at ASM mine sites. Given the scale of the issue, it is easy to feel overwhelmed, but by leveraging the power of an entire industry the whole mining region might be transformed for the better.

We should embrace a collective responsibility for action. Any organisation operating as part of — or associated with — the global cobalt supply chain should consider how it might best contribute to a solution. This responsibility encompasses large-scale mining organisations, refineries, battery manufacturers, electronics manufacturers and auto OEMs. The public sector also has a role to play, as do international development agencies and private foundations and NGOs, industry associations, and metal marketplaces. All are needed to establish an industry-wide acceptance of cobalt from responsible ASM.

As an action platform, the Fair Cobalt Alliance invites all organisations to join the founding partners already investing in mine improvement, the eradication of child labour and the economic diversification in mining communities. FCA provides the vehicle through which to pool funds from multiple organisations able to donate at very different levels, and a management umbrella for our programme comprising several targeted interventions.

Equally important is sending a strong market signal recognising the legitimacy of cobalt from responsible ASM operations. Through public policies and internal responsible sourcing strategies, companies have powerful tools to acknowledge the potential for ASM operations to be a legitimate economic activity contributing to local development and an important livelihood for thousands of community members in Lualaba, DR Congo. Pledging to the Fair Cobalt 'Call to Action' is a concrete path to promote the continuous improvement of working conditions and environmental management at ASM operations.

The Fair Cobalt Alliance Call to Action

The Fair Cobalt Alliance strives to grow the supply and availability of responsibly mined cobalt from artisanal and small scale operations (ASM) in Lualaba, DR Congo and to contribute to the sustainable development of surrounding communities.

As a signatory to the Fair Cobalt Call to Action, you become a supporter of the Fair Cobalt Alliance and commit to:

- Recognise the legitimacy of cobalt from responsible ASM operations
- Contribute resources to the development of responsible ASM Cobalt
- Promote the goals of the Fair Cobalt Alliance

Collectively, Fair Cobalt Alliance supporters and members contribute to a cohesive agenda that

1. improves working and environmental conditions at ASM operations;
2. mitigates and remediates child labour; and,
3. fosters alternative livelihoods and builds resilient local economies.

All supporters and members of the Fair Cobalt Alliance endorse our Principles for Collaboration:

- I. Avoiding duplication of efforts through transparent communication and planning.
- II. Maximising impact through proactive sharing of (monitoring) data, research and management tools.
- III. Working through local organisations and building local capacity whenever possible.
- IV. Crediting whomsoever credit deserves for joint-effort achievements.
- V. Reporting impacts transparently and publicly and sharing lessons learned as widely as possible.

Acknowledged and agreed by:

Fair Cobalt Alliance
Assheton Stewart Carter,
Executive Director

Signature:

Date:

ORGANISATION'S NAME
Representative Name,
Title

Signature:

Date:



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