

**Tin, Gold, Copper, and Diamond  
Mining:  
Impacts on  
DRC Communities**



**American University Spring 2021 Practicum**

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# Special Thank You:

**Hrach Gregorian, Pilar  
Velasquez, Jennifer  
Fendrick, Patricia Syvrud,  
Saleem Ali, and Kalim  
Shah**

**Author's Note:**

This report does not reflect the views or policies of US Department of Labor, nor does mention of trade name, commercial products, or organizations imply endorsement by the United States Government.



## **Executive Summary**

Our research focuses on the governance of copper, gold, tin, and diamond mining in the Democratic Republic of the Congo (DRC), mining-related violent conflict, and the rights of female and child mining workers. We utilized the Jewelry Development Impact (JDI) Index, a research project under the Minerals, Materials and Society program of the University of Delaware, in partnership with the U.S. Department of Labor's Bureau of International Labor Affairs (ILAB), to measure the status of governance and human rights for each of the mining sectors.<sup>1</sup> Governance includes accountability, transparency, corruption, industry regulation, and criminal non-state actors. The human rights category consists of freedom from violence and the rights of workers, women, children, and indigenous people. The JDI score is based on interviews and responses to our questionnaire from individuals knowledgeable about gold mining in the DRC, in addition to further research from other sources.

According to the most recent research, gender inequality around the tin mines, sex work, child labor, and forced child labor, are prevalent. Artisanal and small-scale mining (ASM) continues on a small scale alongside Alphamin Resources, although with great restrictions in accordance with the Mining and Processing Congo Company and Alphamin Resources. Alphamin Resources is a tin concentrate producer that is responsible for 4% of global tin production. Their headquarters are in Mauritius and they are headed by Boris Kamstra and Maritz Smith from South Africa. Today, the production of cassiterite, or tin ore, in the DRC is dominated by the Canadian-funded company along with the Government of the DRC.

While the formal gold sector produces more gold from a relatively small number of large-scale mines, the informal gold sector is dominant in terms of having considerably more mines and laborers. Rather than seriously attempt to formalize the gold ASM sector, the government engages in the informal sector to collect taxes and partially regulate artisanal mining. Gold-related conflict often centers on disputes between LSM and ASM laborers over mining land, while a more indirect connection exists through gold profits financing armed groups. Although the government has made significant strides in reducing the number of rebel-controlled gold mines and child soldiers in the eastern DRC, both problems persist. Many communities around gold mining sites tend to be as safe or as markedly safer than non-mining communities. Large-scale mining (LSM) companies dominate the copper industry. Child labor use is prolific in the ASM sector, typically beginning with the family unit. Women face social stigmas for working in the mines in both the LSM and ASM sectors. Conflict is derived from ASM workers not having places to work so they resort to trespassing on LSM concessions. Governance institutions for copper are growing, but they still lack strong enforcement.

Diamonds have been significantly under-researched in the Kasai region since the UN-mandated Kimberley Process Certification Scheme was enacted in 2003. This has led to an increasing information and data gap in regard to the quantity of diamonds being mined and the miners involved in it. It is as well increasingly apparent that the various diamond regulations focus on regulating the supply chain and ensuring it does not come from conflict areas. Most of the diamond mining is artisanal in the DRC, where various miners have not been able to register with the government due to high levels of illiteracy in the greater Kasai diamond mining region as well as lack of financial incentive or personal finances to engage with the formal institutions that attempt to regulate the sector. The Kasai region has suffered from intense ethno-political

conflict that has displaced thousands of Congolese citizens fleeing to Angola. Various Congolese miners work illegally in the Angolan diamond mines and suffer from sexual assault and physical torture at the hands of the Angolan military.

Child labor is prolific in the ASM sectors of the four minerals. Women are not free from violence anywhere. Although government institutions and laws exist to regulate the mining sectors, only minor enforcement occurs. The level of formalization among the four minerals included in the research varies widely by industry. For each mineral sector, either the LSM or ASM sector is dominant in the DRC.

# **TIN**

## **I. Background**

### **a. Overview**

Tin production in the Democratic Republic of the Congo has been long standing. In recent years, production has diminished significantly from its pre modern production as a result of regional instability stemming from ethnic, political, and religious contention. Since the 1990s, these clashes have left most of the control over tin to armed militant organizations. By 2007, cassiterite (a tin oxide mineral) exports from the DRC were estimated around 18,000-25,000 tons.

Tin and cassiterite are used most predominantly in tech industries for the production of smartphones and computers, but also in common household items. This did not last, as, in 2010, the DRC imposed a government ban on all mineral exports out of three provinces of the country: North Kivu, South Kivu, and Maniema. President Joseph Kabila had stated this was an attempt to alleviate the region of a “kind of mafia” that was involved in mining production, as cassiterite had been a root cause of conflict between rebel groups. The mineral conflicts during this time fueled ethnic contention between the spillover of Tutsis and Hutus who had fled to the DRC following the 1994 genocide in Rwanda.<sup>2 3</sup> After the ban was lifted in 2012 and following governmental support of industrial development, the DRC quickly became the leading African tin producer.



Map of the Democratic Republic of the Congo, highlighting the Kivu region and Bisie locality. (Janvier Murairi, Pragmora, Peace and Democracy)

## b. Bisie Mine

Bisie is a tin deposit located in the Walikale territory of North Kivu in the DRC and is one of the world's largest tin deposits. The mine at this deposit was previously an artisanal and illegal source of approximately 15,000 tons of tin, accounting for 4% of global tin production. Bisie has been home to various sagas of the DRC's history as it is a location of abundant minerals, water, and fertile land. It was a key mineral deposit in King Leopold II of Belgium's brutal colonization strategy. This century, tin ore was discovered in Bisie in 2002 after a counter found cassiterite on the slopes of a mountain in the Kivu region. As soon as this was discovered, miners



arrived and armed militias fought over who would control the area. In 2004 a group of Mai Mai fighters became allies with the DRC government, and took control together.<sup>4 5</sup>

Subsequent to the Second Congo War, the militias were extorting a “tax” on all activities in and around the mine, from entry, to shelter huts, as well as sales taxes from small-scale traders. During this time, tin was being hand mined through open-cast mining,<sup>6</sup> where tin was mined and sold to international dealers in Goma, including Malaysia Smelting Corporation. In 2006, Mining and Processing Congo, an association of South African and British investors, purchased the mining rights to Bisie, although militias were quick to physically and violently dissuade them from occupying the mining area. A ~~license~~ *Permit* was applied for and granted to MPC in 2009 following violent attacks by militias in the area.<sup>7</sup>

In 2010, President Kabila enacted a ban on artisan mining entirely out of the Walikale territory, which, of course, largely included cassiterite/tin. Following this, days later the President included all mining and mineral exports from the Kivu and Maniema provinces within the ban.<sup>8</sup> With mounting pressure from the Organization for Economic Cooperation Development (OECD) caused a decrease in sales of tin as well as a decrease in price. The Dodd-Frank Wall Street Reform and Consumer Protection Act legislation required US-listed companies that purchase export minerals from the DRC and other producing states to put together and administer due diligence efforts.

This legislation prompted other regional and international measures to increase accountability of extraction corporations that were sourcing out of the DRCs Kivu region.<sup>9</sup> The chief consumers of cassiterite from Bisie, the Malaysian Smelting Corporation, along with a variety of companies from China and Eurotrade International, placed an unofficial embargo on

ore extracted out of Bisie. Ore from the area is fairly easy to identify attributable to its tendency to be red or pink in color.<sup>10</sup>

During the ban, mineral trade and production obviously became limited, but did not come to a complete halt. There were satellite images captured by Wimmer and Hilgert for IPIS that depicted the continuation of artisanal scale mining at the Bisie deposit. Wimmer and Hilgert actually approximated that the area used for mining in Bisie expanded by 1.8 acres from the time the ban was in place until it was lifted in 2011.<sup>11</sup>



Alphamin tin deposit project in Mpama North. (Alphamin Resources)

## II. Large-Scale Tin Mining

By August of that year, a Canadian company by the name of Alphamin Resource acquired a 70% interest in the Bisie Tin Project. The following year, the company acquired the final 30% of the project.<sup>12</sup> Alphamin now holds an 80.75% stake in the project through its subsidiary Alphamin Bisie Mining, while the DRC Government, along with the Industrial Development Corporation of South Africa hold 5% and 14.25% respectively.<sup>13</sup> The company is headquartered in Mauritius and headed by Boris Kamstra, the Executive Director and former Chief Executive Officer from South Africa. The rest of the management team for Alphamin Resources consists of men of European descent working in Sub-Saharan Africa and abroad.<sup>14</sup>

In 2012, following Alphamin's full acquisition of Bisie's extractive rights, the number of artisanal miners of tin in the area declined rapidly, most likely as a result of the depth of

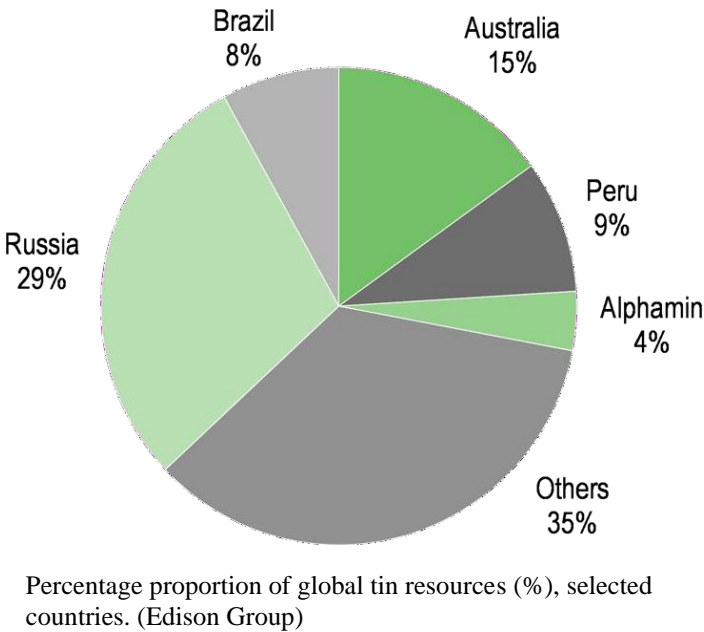
tunneling that became necessary to reach the cassiterite deposits. The *Foxe Mpanza* was lifted at the Bisie Project in 2012 as well, and Alphamin Resources laid the foundations for their camp on the Bisie Ridge, officially beginning their drilling that July.<sup>15</sup>

Artisanal mining does still exist to a small degree alongside Alphamin’s activities. Nevertheless, following the

destruction of an Alphamin camp in July of 2014 by an artisanal cooperative, the cooperative’s mining undertakings were shut down.<sup>16</sup> Alphamin continued with its Bisie tin project, and has been developing it in three stages. The first has focused on developing the Mpama North region, which is anticipated to produce 9,900 tons of tin per year between 2019 and 2027. The next stage intends to focus on developing Mama South from 2025 to 2026. The third is expected to develop Mpama Deeps between 2028 and 2031.<sup>17</sup>

In an interview with the Pragmora Institute, Janvier Murairi, a community researcher and mining sector specialist in the Bisie area, detailed his thoughts on the Bisie Mines and Alphamin Resources’ relations with local communities.

“Very simply, I believe that [the Mining and Processing Congo Company] and Alphamin should conduct public consultations with communities in Walikale and in the province to



collect their wishes for the peaceful operation of the Bisie Mine. MPC and Alphamin should explain their approach to work and present the local community with a clear local development plan that takes into account the road, school, medical facilities, and so on. They need to mount a clear plan for environmental protection. It is important that they establish a livelihood development program for alternatives to mining activities, such as in agriculture. That said, they need to provide an artisanal mining zone for the artisanal miners.”

He went on to express his desire for Alphamin to establish, with consent of the communities, a permanent framework for feasible interaction with all stakeholders. He also pointed out the significance of including landowners and local authorities in Bisie.<sup>18</sup> While it is undetermined if a meeting like this took place, the only information Alphamin released in regard to their management of human rights within and around their mines, was a “Responsibility Supply Chain Policy” adopted in October of 2018. The contents of this article assume an recognized commitment to human rights and economic responsibility in the Bisie tin mines.<sup>19 20</sup> Although, as recently as 2019, there were instances where civilians were arrested at the Bisie mines while attempting to gain access to the area, as those involved had previously been ASM miners of cassiterite.<sup>21</sup>

### **III. Women in Tin Mining**

Mining of tin, tantalum, tungsten and gold (3TGs in the Great Lakes Region of sub-Saharan Africa is a vital mineral resource area with so much potential. Following justifiable global outrage over conflict minerals, efforts to extract 3TGs from financial flows of armed

groups were enacted, as mentioned earlier. The ban on mineral trading and the following formalization process had an extensive impact on thousands of miners and their families. Women and girls make up significant portions of the ASM workforce (10-15% in 3T sites). Despite economic opportunities afforded by ASM as well as an increasing amount of effort to formalize and thereby hopefully improve performance, gender inequality and detrimental sexism in terms of control over resources, income, agency, and others, have deeply and negatively impeded the development of the tin industry in a way that human rights advocates would care to see.<sup>22</sup>



Ines Della Valle/Al Jazeera

Men largely dominate positions of authority within the hierarchies and the social system in the region around mining sites. Women's participation in the ASM market has decreased as it has become more mechanized and formalized through legal operations. This situation is made apparent when women's labor is considered obsolete by equipment that benefits those best positioned to control it, rather than to create suitable labor foundations for the women that



previously held those roles. When women are involved, however, which still occurs at a minor level, women and girls participation has provided a great deal of women with income, agency, and thereby power. There have been reports indicating that women in the Kivu region commonly request training and financial support to better labor environments at the 3TG deposits.<sup>23</sup>

Gabriel Byemba recently completed a study on the impact of the formalization of artisanal and small-scale mining in the Eastern DRC, and what it has meant for the lives of women laborers in the industry. To deal with the different challenges of the new supply chains, there are women who have altered their positions on the chain by occupying less profitable roles, and others were even excluded from the chain entirely. There are women, however, who have utilized the formalization process and leveraged it to their benefit. They did so by setting up their own cooperatives for their livelihood when it was mandated that cooperatives would be the only way to continue to mine in the area.<sup>24</sup>

There have been various advocacy organizations that have participated in developing a new narrative that mineral exploitation is the main reason for violence throughout the DRC, as well as for rape, torture, sexual slavery, forced prostitution and other forms of harm against women and girls. Fortunately, this, along with the occupational dangers entangled with mine work, has resulted in both exclusionary and protective legislation.

This is exemplified in the Kivu region through the banning of all pregnant women from work in the mines in DRC. The interpretation and implementation of these “protective” laws have proven arbitrary with dreadful consequences for women attempting to be employed at, or even access, mining project areas. As stated, there are sites where pregnant women are completely forbidden from any and all aspects of production and trade, which would include petty mineral trading, or even selling goods on site of the mines.

The mining police in some of these areas have actually gone ahead and applied the legislation to, detrimentally, all women. There had been reports that in one situation, the police in the area extended the ban to include women of a certain age, or anyone they deemed as “older.” Police also ban breastfeeding women from the sites. There have also been cases where the local law enforcement has used these restrictions in an attempt to extort money from women laborers in and around the 3TG mines who are attempting to gain access into the areas.

In instances like this, the legislation is manipulated in efforts to abuse women physically, verbally, or financially, which has increased the vulnerability of women in the area, particularly women who have worked and hope to continue working in the mines.<sup>25</sup> Another detrimental aspect to women’s life as laborers in the 3TG mines of the Kivus, is the finding that 13.7% of women at some point while in the mines, had traded sex for access to work in the mine sites, or other jobs in the mining towns.<sup>26</sup>

Ultimately, men occupy positions of authority throughout the social hierarchy of the Kivus and hold immensely influential positions at the mine sites themselves. Legal and institutional attempts to support formalization of ASM and its trading chains have seemingly exacerbated rather than diminished gender inequalities. The formalization process and its trading avenues have illustrated a real opportunity to transform the sector to where women and girls may potentially have an advantage, but social hierarchies have proven detrimental and something that continues to relinquish women of any or most authoritative positions.<sup>27</sup>



#### **IV. Children in Tin Mining**

The International Labor Organization (ILO) produced a report in 2015 that cited knowledge of hundreds of cases where children between the ages of five and seventeen were being forced to work in the production of cassiterite in North Kivu. These children reportedly did not have freedom of movement and received very little to no pay. There were cases of children being forced to labor with their families in situations of bonded labor, while other cases identify children who had been sent by their parents to labor in order to pay off family debts. In another study done by the ~~Association of Democratic and Developmental Organizations~~ (ASSODIP), discovered at least 318 children who were enslaved and working in the mines. Free the Slaves recorded that children's slave labor included cleaning, shoveling, digging, transporting and picking minerals, and using hammers on the ore. There were also instances of commercial sex trafficking and other forms of sexual slavery against child slaves.<sup>28</sup> Unfortunately, there is not much research done as of today on the status of children in the Bisie tin mines. Upon request for information from interviewees, some declined to answer regarding this issue, while others never sent a response.

#### **V. Conclusion**

The lack of transparency and information available regarding Alphamin Resources' labor force is concerning. Following numerous attempts to discuss labor violations or human rights around the Bisie Mines, local miners and those involved or employed by Alphamin either declined to comment or withheld any response. This was also the case when the Canadian Embassy in Kinshasa was contacted, as well as the Canadian Chamber of Commerce. According

to the most recent research, gender inequality around the tin mines, sex work, child labor, and forced child labor, are prevalent. ASM continues on a small scale alongside Alphamin Resources, although with great restrictions in accordance with the Mining and Processing Congo Company and Alphamin Resources.

## **GOLD**

### **I. Background**

Gold mining in the DRC largely began during the Belgian colonial period. In some regions within the DRC, Congolese miners extracted gold prior to Belgian rule, but in other regions, the Belgians introduced gold mining.<sup>29</sup> Industrialized large-scale gold mining did take place under Belgian rule and, to a lesser extent, during the Mobutu regime. However, corruption and a lack of modernization caused much of the equipment and infrastructure in the large-scale gold mining sector to fall into disrepair, with some gold companies left reduced or failing. By the 1990s, artisanal and small-scale mining had largely replaced large-scale gold mining in the gold industry. Artisanal mining had long been the primary gold mining sector, but it had become much more prevalent. During the wars of the 1990s, armed groups fought over and gained control of gold mines in order to finance their combat efforts and enrich their leaders.

Although gold deposits exist in other regions within the country, the eastern region of the DRC is the primary region for gold mining, where armed groups have connections to a majority of the mines. With Kinshasa far to the west, rebels exert influence over significant portions of the territory in eastern DRC and governmental rule of law is minimal. The proximity of many gold mines to the eastern border of the DRC and the relative ease of access in crossing the border has

enabled a high level of smuggling to occur. Much of the gold originating from the DRC makes its way to markets in the United Arab Emirates. While some electronics products utilize gold internally, gold continues to be used in jewelry or kept in bar form. In the past, jewelry companies purchasing gold have often not carefully traced the full supply chain of gold prior to its arrival in the United Arab Emirates. Such incomplete traceability creates deniability for companies to claim that the gold they purchase does not have any ties to armed groups or child labor, which may exist at the mining sites and throughout the supply chain within the DRC.

## **II. Governance**

Gold mining and supply chains in the DRC are difficult to hold accountable due to a lack of transparency or a well-defined process to report violations in the industry.<sup>30</sup> NGOs have attempted to increase the transparency and accountability of complete supply chains for gold and other minerals, aiming to ensure sourced minerals originate from mines free from armed groups.<sup>31</sup> Such programs have coordinated with local civil society organizations and NGOs to gather timely, relevant information and hold mining sector actors accountable within the DRC.

The biggest industrial gold mining companies in the DRC include Barrick and AngloGold. During the 1990s, the government sold a considerable amount of gold mining land to foreign industrial mining companies, notably Banro and Ashanti (now part of AngloGold), in order to increase government funds.<sup>32</sup> In the last three years, the Kibali gold mine operated by Barrick and AngloGold yielded over 360,000 ounces of gold annually.<sup>33</sup> The funds that the state gains through formally taxing gold offset some of the considerable losses to revenue from undeclared gold. Approximately only two percent of artisanal gold generates formal taxes for the government.<sup>34</sup> Although the majority of gold mines in the DRC are artisanal, formal

industrialized operations mine nearly three times as much gold as all artisanal gold miners.<sup>35</sup> The governmental bodies overseeing the gold industry include the ~~Direcção Nacional de Serviços Geológicos~~ (DINAGEP) (SAEMAPE), ~~Repubblica Portuguesa~~ ~~Ministério do Ambiente e do Ordenamento do Território~~ (MOT) and the Ministry of Mines.<sup>36</sup> However, the inadequacy of their efforts has necessitated the assistance of NGOs in monitoring the informal gold sector. While monitoring bodies exist to provide accountability for the gold mining sector, they remain ineffective. Unlike formal large-scale gold mining, people acting illegally in the artisanal gold mining sector rarely face punishment or accountability. Government employees can access gold mining sites, though poor infrastructure causes such travel to mines to be time-consuming. Oversight by local and non-governmental groups occurs and functions more effectively than government accountability.

*The Economist*

mined on an industrial scale.<sup>38</sup> Furthermore, a lack of transparency exists in the supply between gold leaving the DRC and its arrival in Dubai. The DRC gold supply chain from mines until Dubai exists mostly within the informal sector, often leaving buyers in the United Arab Emirates and further abroad unaware of the circumstances surrounding the extraction and transportation of their gold.<sup>39</sup> In addition to the negative effects of smuggling, the high percentage of gold exported significantly limits the benefits the DRC economy and government derive from gold mining. The public can obtain some information about individuals involved in artisanal gold mining, but not all information is recent or reliable. Information relating to mining permits remains more difficult to obtain. While the government has offices assigned to monitor traceability and due diligence in the gold industry, their efforts are often not thorough. Individuals within government agencies or gold companies often do not have adequate protections for providing information to oversight bodies. As many as three-quarters or more of all small-scale miners in eastern provinces work in the gold sector, continuing to operate in a conflict environment.<sup>40</sup> More than two hundred thousand artisanal gold miners work in the DRC.<sup>41</sup> High levels of gold originating from the DRC are either smuggled or exported legally from Rwanda and its neighbors.<sup>42</sup> For example, over twelve thousand kilos of gold entered the United Arab Emirates from Rwanda in 2018.<sup>43</sup> The informal sector is not limited to artisanal mining, given that the vast majority of all gold extracted in the DRC is exported illegally.<sup>44</sup> Total gold exports from the DRC could well exceed fifteen tons annually.<sup>45</sup>

Corruption in the gold sector occurs due in part to incentives for the government to require steep taxes on gold, officials to collect more than allowed, buyers to charge less for gold than it is worth, and for miners and traders to avoid paying taxes by not fully reporting the gold they have obtained. Both government officials and non-government actors force miners to pay

illegal taxes.<sup>46</sup> Most actors in the gold industry mine informally in order to avoid paying the expensive legal tax rate on gold.<sup>47</sup> Unauthorized individuals at gold mining sites pressure miners to pay illegal taxes and bribes, including state officials requesting the payment of both legal and illegal taxes.<sup>48</sup> Corruption continues to be a major source of problems relating to governance in the informal gold mining sector. While valuable laws and initiatives against corruption exist, enforcement in the artisanal gold mining industry is inadequate and rare in many areas. While the salaries of some government employees may be public information, the full extent of their finances rarely is released publically. Major artisanal gold mining actors are able to sway government policy through lobbying and various forms of corruption.

Given that many issues are already covered by state regulations, the gold industry has suffered due to poor monitoring and accountability in accordance with relevant laws.<sup>49</sup> Government officials partially enforce the informal gold industry by collecting informal taxes and reporting a percentage of gold through official channels.<sup>50</sup> As miners typically separate gold from the rest of the ore before leaving mining sites, traders can transport the lightweight mineral easily across long distances. When legally exported from the DRC, pieces of gold are combined into bars. Gold is often smuggled from eastern DRC to Uganda, Burundi, or Rwanda. If remaining in Africa, the third country in the supply chain might be either Tanzania or Kenya.<sup>51</sup> The Banro Corporation has actively extracted gold from the large-scale mines of Namoya and Twangiza, while small-scale miners have exploited many parts of the otherwise unused gold-filled land controlled by Banro. However, Banro sold the two mines in 2020 to the DRC company Shomka and its Chinese stakeholder Baiyin.<sup>52</sup>

The 2018 Mining Code significantly increased the gold tax rate.<sup>53</sup> Although the Mining Code allows sections of industrial gold mining sites to be opened for artisanal mining, the



government and mining companies have rarely done so in practice via legal means. Despite the small size of the formal sector, foreign companies now control more than 80% of the country's untapped gold sources.<sup>54</sup> The government partially regulates the informal sector through collecting illegal taxes and monitoring the small percentage of gold reported officially. Instead of shifting more of the gold industry from the informal sector to the formal sector, the government has engaged with the informal gold sector in order for pseudo-formalized practices to occur in parts of the industry.<sup>55</sup> As much as 98% of gold leaving the DRC falls within the informal sector, meaning the formal sector is only a miniscule percentage of gold mining in the DRC despite the level of revenue generated. Reaching neighboring countries by air or roads, the gold might be sold misleadingly as a product of the second country in the supply chain.<sup>56</sup>

The 2002 Mining Code boosted the formal gold sector by requiring the government to sell stakes in its industrial mining companies, allowing foreign businesses to acquire newly available gold mining concessions. The Mining Code also allowed formal artisanal gold mining to take place, with individuals registered as members of cooperatives and operating only in specially designated artisanal mining areas. However, the majority of the formal gold sector consists of industrial-scale mining operations.<sup>57</sup> The 2002 Mining Code regulates the formal sector by obligating legal gold trading houses to purchase gold from authorized gold miners, regardless of whether the miners obtained the gold from an informal mine.<sup>58</sup> Similar to other forms of oversight and accountability, government regulations for the artisanal gold mining industry exist officially but suffer from a lack of sufficient enforcement. While fines and punishments for infractions exist, the government rarely imposes them. The enforcement of legal penalties does not motivate participants in the artisanal gold mining sector to follow government

laws and regulations. The process of gaining official permission to mine is sometimes available to industry actors but often not efficient.

Artisanal gold from the DRC primarily makes its way to Dubai, before reaching Switzerland or India.<sup>59</sup> The inferior profits in the formal sector cause artisanal gold miners to choose the informal market instead.<sup>60</sup> Artisanal gold mining has been increasing in part due to small-scale miners of other conflict minerals such as tin switching to mining gold, providing opportunities for rebels and other non-state actors to profit from involvement in the informal gold sector.<sup>61</sup> Criminal groups involved in gold mining and its supply chain within the DRC mostly either consist of non-state armed groups or have connections to such forces. Non-governmental armed forces have been involved in a majority of gold mines, in the eastern part of the country. The FARDC alone supervises or is present at a third of gold mines in the eastern Congo. While it is doubtful that foreign organized crime groups and terrorist groups are involved in the informal gold sector, criminal activity clearly occurs with the involvement of domestic criminal groups. Armed groups actively participate in the informal gold sector, including groups tied to or originating from neighboring countries.

### **III. Children and Conflict**

Although more than one hundred gold mines have been verified as free from child workers, those mines constitute only a small fraction of more than 2,700 gold ASM sites in the DRC<sup>62</sup> and child labor remains prevalent in the gold mining industry.<sup>63</sup> Children constitute more than one third of all workers at some gold mining sites, working in mostly hard labor roles.<sup>64</sup> Child workers in the gold industry remain at a high risk of injury and negative health effects, due to labor-intensive duties and regular exposure to dangerous substances such as mercury.<sup>65</sup>



Exposure to mercury can cause harm to an individual's mental health in addition to numerous serious forms of damage to one's physical health.<sup>66</sup> The use of mercury in artisanal gold mining continues in large part due to ignorance of its dangers to miners' health. In the east, over thirty gold ASM sites in the last five years employed children.<sup>67</sup> Despite the existence of labor laws for both children and adults, the minimum age is often not enforced. Although financial and familial pressure motivates children to mine for gold, adults much less frequently force children to engage in gold mining. In many cases, children choose to mine for gold in order to pay for education costs. While some children work at mining sites during school hours, others attend classes and mine after school. With gold mining as an indirect factor, some children are the victims of sexual violence, though it is not common in many areas. It is unclear whether adults at gold mining sites commonly breach the rights of children to be protected against harm and forced labor. While adults at some gold mining sites prevent children from engaging in hard labor or the use of mercury, children at other locations are free to risk their health in these ways.

Armed forces have a presence at hundreds of gold mines, inflicting violence and forcibly collecting money from workers and other local residents.<sup>68</sup> Gold originating from the DRC continues to have connections to the financing of armed rebel groups.<sup>69</sup> The armed groups that control gold mines in eastern DRC also recruit child soldiers. Some do so in order to take over gold mines and maintain their control.<sup>70</sup> The NDC-R armed group, which recruits child soldiers, finances itself in part through gold mines in North Kivu.<sup>71</sup> Armed forces still force children to serve as combatants, guards, or in other unarmed capacities, in or around gold mining locations.<sup>72</sup> The DRC government has been making progress in holding accountable people engaging in child soldier recruitment, in part through criminal charges. Nevertheless, artisanal

gold still finances combatants who participated in killing more than a thousand Congolese non-combatants in 2020.<sup>73</sup>

However, the state's efforts toward curbing sexual exploitation have been lackluster. The inclusion of children in government-affiliated forces also has yet to be fully eliminated.<sup>74</sup> More than one hundred gold mining sites have been cleared of child workers and connections to armed groups. Although the FARDC no longer recruits children into its ranks, the armed group provides support to other armed forces that do so, particularly the NDC-R. While child soldier recruitment continues to take place, the government has had some relative success in limiting the practice, including the removal of hundreds of children from armed groups.<sup>75</sup>



*R*<sup>76</sup>

While not the only factor, artisanal gold mines have been a significant driver of conflict as various armed groups have fought for control over mines to increase their profits.<sup>77</sup> Local people in North and South Kivu provinces have credited the conflict-mineral prevention provisions of the Dodd-Frank Act with limiting armed groups from using child soldier recruitment and forced labor around artisanal mines. The FARDC has supported and given safe

passage to the NDC-R, which practices child soldier recruitment and profits from artisanal gold mines in North Kivu.<sup>78</sup> The US State Department determined that in 2019 the DRC continued to have armed groups utilizing children as combatants.<sup>79</sup> Despite tracing efforts by foreign companies that create and sell products using gold originating from the DRC, the full supply chains of gold remain difficult to source the minerals purchased and prevent the use of conflict-affiliated gold, much less gold from the informal sector.<sup>80</sup>

Child soldier recruitment occurs in regions with many active gold mines, both artisanal and industrial.<sup>81</sup> Armed groups participating in artisanal gold mining for profit occasionally utilize children within their ranks.<sup>82</sup> While child soldiers might be present at some gold mining sites, armed groups rarely recruit children from gold mining communities because earnings from gold mining motivates children to work at their local mines. No direct connection appears to exist between child soldier recruitment and gold mining, with only a tenuous indirect connection in rare cases. Miner demonstrations have occasionally turned violent, but violence directly connected to gold mining tends to be a rare occurrence. Although official unions are rare, miner collectives are more common and enable miners to organize strikes. Many communities around gold mining sites tend to be as safe or markedly safer than non-mining communities.

With connections to armed groups, supply chain actors buy and smuggle gold originating from artisanal mines to Uganda and other neighboring countries.<sup>83</sup> Although Dodd-Frank pressured rebel groups to relinquish a large number of artisanal gold mines, the mines still provide indirect conflict financing.<sup>84</sup> In one of its positive results in the DRC, Dodd-Frank caused rebel forces to release thousands of child soldiers from their ranks.<sup>85</sup> Individuals in both the DRC army and rebel groups continue to profit illegally from artisanal gold mines. Gold remains the top conflict mineral in the DRC, and armed groups continue to have a connection to

a majority of artisanal gold miners. A considerable amount of illegal gold exports are transported in luggage on commercial flights from the DRC and its neighboring countries to the UAE. As many as half of artisanal gold miners could be women, but female miners are disadvantaged by the risk of sexual assault and a lack of monetary independence regarding their wages.<sup>86</sup> In the informal sector, gold differs from other minerals in that the gold is separated from other materials before leaving the mining area.<sup>87</sup> Supply chain actors such as traders past the mining stage can be operating either formally or informally, though generally both buy from informal artisanal miners.<sup>88</sup>

Ethnic conflict between armed groups has sometimes centered on control over gold mines.<sup>89</sup> Although individuals from local ethnic groups may work in gold mines, the owners of the mines and relevant authorities have at times mistreated workers due to their ethnicity and socio-economic standing, in addition to excluding the local ethnic groups from important decisions regarding the mines and surrounding areas.<sup>90</sup> The increase in artisanal mining after permission came from the Mobutu regime in 1978 resulted in new residents from different ethnic groups overtaking local ethnic groups as the majority of the population. The subsequent ethnic tension contributed to violent conflict in relation to artisanal mining in eastern DRC.<sup>91</sup> The exclusion of ethnic groups from employment may be due more to skills and other qualifications rather than ethnic discrimination. Ethnic groups have sometimes been forced to relocate from land repurposed for gold mining, but not primarily due to their ethnic identities. Corporations are responsible for compensating those forced to leave their land, with the government sometimes pressuring the companies to do so. However, the residents do not always receive the compensation owed to them. DRC laws grant miners some social protections, only some of which the government carries out.

Industrial mining companies risk violence by displacing local people from their homes, farms, and artisanal mines. Consequently, large-scale mining companies must provide sufficient compensation to the people they force from their land.<sup>92</sup> The presence of large-scale mining has a connection to violent social conflict. Although cooperatives exist among artisanal miners, direct interaction with industrial mining companies provides a stronger impetus for the formation of mining cooperatives.<sup>93</sup> Local ethnic groups have complained that AngloGold did not consult with them before operating large-scale mines in their areas, particularly regarding hiring employees from outside local communities. AngloGold could contribute to ethnic conflict by largely ignoring a local ethnic majority in its hiring practices while bringing in workers from different ethnic groups and areas.<sup>94</sup> Some industrial mines have permitted artisanal miners to utilize part of their land, benefitting local cooperatives.<sup>95</sup> Part of the supply chain continues to run from the DRC through Uganda before reaching larger international markets such as Dubai.<sup>96</sup> Conflict has occurred between large-scale mining companies and artisanal miners due to small-scale mining taking place illegally on industrial mining land. In some cases, the government has sided with the foreign companies to force artisanal miners out of the sites.<sup>97</sup>

#### **IV. Womens Rights**

Although the government's labor laws established guidelines and regulations for artisanal miners, it did not include enforceable protections.<sup>98</sup> DRC labor laws regulate wages, physical security, working hours, the types of tasks allowed for young workers, and a minimum working age of sixteen years old. In the past, AngloGold has faced criticism for hiring workers outside of the region where it was running a gold mining operation. Furthermore, the company decided to move forward with mining in a zone of violence.<sup>99</sup> In the 2018 Mining Code, women were only

mentioned twice: a prohibition of pregnant women from working in mines and a vague reference to the protection of women's rights.<sup>100</sup> Women were not mentioned at all in the 2002 Mining Code, so they had no legal protections regarding mining.<sup>101</sup> More women work around gold mines than do at tin mines, sometimes due to a further distance from their villages, with more to gain from mine-related tasks.<sup>102</sup> Overall, women do not receive the same opportunities to work in gold mining as men, receiving lower wages for either the same work or the different mining-related tasks that men allow them to perform. Additionally, women largely do not find opportunities to participate in gold mining apart from supervision or assistance by men. Both during peaceful times and during periods of armed combat, women are the victims of sexual violence around gold mining sites.<sup>103</sup> Some local cooperatives promote the rights of workers, including women and children, but miners have expressed concerns that the cooperatives are ineffective and have a minimal impact.<sup>104</sup> Far fewer women work in the industrial sector than men, due to poorer education and gender bias. Although women work in the artisanal sector, similar obstacles put female miners at a disadvantage, both monetarily and in terms of their physical security.<sup>105</sup> With gold mines that are located relatively far from villages, women are likely to forego domestic tasks or other work in their villages in order to gain better profits from working in or around gold mines.<sup>106</sup>





*DW*<sup>07</sup>

At artisanal mines, women use water to separate gold and wash it, while also transporting gold. Some women move gold within artisanal gold mining sites and from them. There are also female operators of minor gold trade establishments. Indirectly related to gold mining, women working near mining sites sell food and retail products, while other women work in prostitution.<sup>108</sup> Female miners receive fewer wages than men for similar roles, while also often harassed and treated with suspicion of theft. Men are also less likely to complete mining-related payments owed to women than to men.<sup>109</sup> Cultural norms have played a major role in maintaining harmful practices toward women in mining areas, including marriages without consent and sexual assault. Without the assistance of men, many women must support their children without social protections. Although sexual exploitation might occur less frequently at the gold mining sites, prostitution can be common in the surrounding villages. Higher earnings by men due to gold mining might increase the presence of prostitution in some areas, but in other cases gold mining does not appear to be a factor in sexual exploitation. Despite an indirect connection between gold mining and sexual violence, no direct connection seems to exist. On a

related note, no indirect connection appears to exist between gold mining and domestic violence. Gold mining also does not seem to be a factor in human trafficking.

## **COPPER**

### **I. Background**

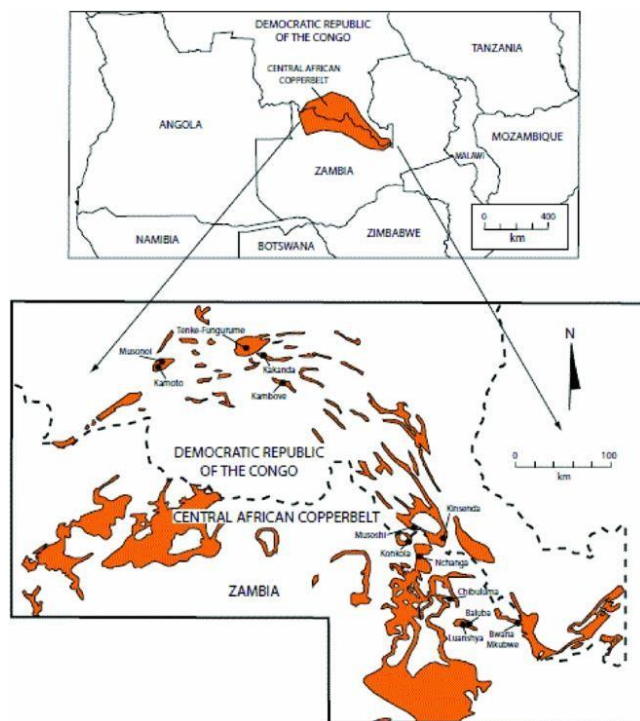
Copper mining has been important to the Congolese region since ancient times. During the colonial period, the Belgians exploited these mines and the Congo's wealth for personal gain. Following Congolese independence, the mining sector grew to great importance in the country as it offered a way for the DRC to lift itself out of poverty and use its vast natural resources to potentially become an African power. Today, multinational mineral companies jockey for power in the Copperbelt region as they try to access some of the largest, highest-grade, copper reserves in the world. The Copperbelt is located in the southeast portion of the country in the former Katanga province (*Figure 1*). These large-scale mining operations have caused conflict in host communities as artisanal scale miners trespass onto their former land and conduct artisanal scale mining on large-scale sites. This has proven to be dangerous many times as artisanal miners often lose their lives due to ignoring safety protocols or encountering violence at the hands of security forces. MNCs operating in the area are cognizant of the issues at hand and have tried multiple sustainable livelihood programs to mitigate the negative impact. Multiple regulatory mining NGOs exist in the region to support the accessibility and transparency of information, in addition to safeguarding and promoting human rights in the southeastern provinces where much of the copper mining takes place.

Copper is not the sole product that is mined in this region. In most cases, copper is mined together with its twin mineral, cobalt. While LSM companies have the means necessary to



specifically extract copper, ASM sites do not have access to these tools. Consequently, it is necessary to look at ASM sites that have been classified as “cobalt” sites since the cobalt being extracted from the Copperbelt region comes from sediment-hosted stratiform copper deposits meaning that copper and cobalt are mined in tandem<sup>110</sup>.

regulations. Human rights NGOs, especially those catering to the needs of women and children, are also in great supply in the Copperbelt region. Due to the impoverished conditions and people migrating to mining communities in search of employment, many women and girls have entered into commercial sex work to make a living. Child laborers at ASM sites are often found working in situations that pose significant risks to their physical and mental well-being.



## II. Conflict

Conflict within the copper sector exists almost entirely between ASM miners and LSM corporations. One interviewee described three types of ASM within the copper sector<sup>111</sup>. The first type of ASM is what typically comes to mind when imagining an ASM worker. Miners use rudimentary tools or their own hands to dig large tunnels that reach at least 10 meters underground. Conditions at these sites are debilitating and rife with human rights abuses, particularly child labor. The second type of ASM centers on more of a scavenging role and directly involves LSM companies. Mining copper requires large machinery and trucks to excavate large amounts of the mineral. As these trucks leave the LSM concession, some ASM miners will follow behind the trucks and pick up any pieces that fall off. The third type of ASM mining is also scavenger based but works around LSM or ASM abandoned concessions or areas of concessions that are not currently in use.<sup>112</sup> The ASM miners, or ~~over~~ enter the ASM or LSM concessions by paying bribes or “taxes” to LSM private security guards, ~~FARDC~~ ~~Régionale~~ ~~Co~~ (FARDC), or corrupt officials from the agency tasked with supporting ASM, ~~SAEMAP~~ ~~SAEMAP~~ ~~SAEMAP~~ (SAEMAP).<sup>113</sup>



Mining.com



Financial Times



Mining.com



Violence against ~~and~~ private security forces comes in the form of harassment in response to trespassing. Private security firms are not allowed to yield guns, but this does not mean that ~~and~~ ~~and~~ injury. If caught and resist arrest, beatings are the most common form of punishment. In a study conducted by Sarah Katz-Levigne, one miner who resisted arrest was beaten several times until he was “covered in blood”<sup>114</sup>.

The FARDC is also known to engage in conflict with ~~and~~ In a high-profile case, the Tenke Fungurume Mine (TFM) witnessed the presence of FARDC after TFM’s majority shareholding company, China Molybdenum Company Ltd (CMOC), complained that its security was too weak and ~~and~~ trespassing<sup>115</sup>. At any given point it is estimated that up to 10,000 artisanal miners operate in or around TFM<sup>116</sup>. During their deployment and while removing artisanal miners from TFM, violence escalated quickly, as FARDC ransacked a school and torched homes and market stalls. Their actions resulted in injuries and, despite CMOC requesting additional security, they stated that they did not call for the help of military forces. Conflicts arising between artisanal miners and state or private security forces center on trespassing issues. While there are laws in place to ensure that artisanal miners have their own concessions or cooperatives, these essentially exist in name only with little implementation<sup>117</sup>. This is highlighted again at TFM, where miners have protested for more concessions allocated for ASM work. Richard Muyej, the provincial governor of Lualaba, responded to these protests with a proclamation to open up additional ASM zones in 2019; however, as of June 2020, no ASM zones had been established.<sup>118</sup>

### III. Governance & Supply Chain

International mining regulations and DRC mining laws govern the copper sector. There are three governance mechanisms in place that work particularly closely with the copper sector. Two of these institutions were developed to ensure responsibility and best mining practices in the ASM sector. The DRC created SALES SCAM in 2003 with a mandate to provide “technical and financial assistance to mining cooperatives and operators in the small mining sector, with a view to strengthen their managerial skills.”<sup>119</sup> SAESSCAM plays an important role in the supply chain of copper. Copper is mined from two different sources, ASM and LSM sites, but is still mixed together during the refining process after ASM copper is sold to buying houses.<sup>120</sup>

Since ASM copper travels through buying houses before reaching the refineries, SAESSCOM requires that artisanal miners must have government documentation showing that they are certified ASM workers.<sup>121</sup> Foreign nationals, predominantly Chinese citizens, own an overwhelming majority of these buying houses, representing China’s strong involvement with the trade of copper and their participation in the downstream supply chain process.<sup>122</sup> Following refinement, the processed copper is placed on trucks that go primarily to the South African port of Durban. From here it is shipped mainly to China where the copper will be manufactured into components for rechargeable batteries that are placed in Teslas, iPhones, computers, etc., before retailers sell them to consumers.<sup>123</sup>

~~Empire Global Cobalt~~ ECG is a subsidiary of the state-owned mining company ~~Cobalt~~ ECG was created by presidential decrees 19/15 and 19/16 in November of 2019, giving the subsidiary the sole monopoly on the purchasing, treating, transporting, and selling of all artisanal mined cobalt. This will result in an increased effort by the state to ensure that cobalt production at ASM sites, which also regularly mine for copper as cobalt is a

byproduct of copper, comply with OECD Due Diligence guidance providing for a more ethically sourced form of copper<sup>124</sup>.

Extractive Industries Transparency Initiative (EITI) is the “Global standard to promote the open and accountable management of extractive resources.”<sup>125</sup> Operating in several countries around the world, the DRC has been a member of EITI since 2007 but was suspended from the organization in 2013 due to low performance<sup>126</sup>. Since then, the DRC has been adopting the EITI standards, receiving a 2019 progress report that deemed the country had made “meaningful progress, but did not meet all EITI requirements.”<sup>127</sup>

#### **IV. Labor Rights**

Following the liberalization of the DRC’s mining sector after the 2002 Mining Code, several multinational companies invested their capital in the wealth of the Copperbelt region. For the operators of Large-Scale Mining, investing in the DRC can be seen as a “high risk high reward” situation. The area offers copper with well above average grade at 3%, higher than the global average of copper grade, which sits around 0.6-0.8%<sup>128</sup>. With the possibility of earning large profits, several companies often compete for control of the valuable land. In April of 2019 representatives of both Chinese and Western mining companies met with President Felix Tshisekedi, while he was on a visit to the United States, to discuss the possibilities of building one of the largest copper mines in the world.<sup>129</sup> This meeting symbolizes the strong interest world powers have in controlling the large copper reserves. Controlling copper will become more important as the world begins to use more electronics, especially as the production of electric cars increases. Typical combustion powered cars will use around 18-49 pounds of copper whereas a typical electric car will use anywhere from 85-183 pounds of copper<sup>130</sup>. The past

decade alone has seen a 40% year-by-year global increase in the amount of electric vehicles sold<sup>131</sup>. Despite the coronavirus pandemic, copper prices have continued to rise to a current level of nearly \$9,000 per ton (Figure 10). In 2017 the DRC alone produced nearly 1.1 million tons of copper, providing billions of dollars in revenue for both the state and the companies.



10 year history of per-ton Copper prices

The LSM sites not only provide earnings for shareholders, but they provide jobs for local residents as well. The Kamoakakula mine alone provides jobs for 4,500 people, 90% of whom are Congolese. A company video highlights the innovations LSM sites are utilizing to train their workers, including the use of virtual reality mining programs to train new workers on how to operate machinery. Despite the new jobs that are brought into local communities, local residents are unable to break the cycle of poverty.<sup>132</sup> Because of this, residents will often trespass onto the LSM sites to continue mining the valuable copper. This ultimately leads to a loss in resources, production, and profits for the LSM company. To mitigate these losses, and to deter some residents from resorting to trespassing onto LSM sites, some companies provide livelihood

programs for residents of the community in which they are working. At the Kamoia-Kakula copper mine, estimated to be the 4th largest copper deposit in the world, several livelihood programs have been established to help the local community grow and source their own vegetables, fruit, and fish. Ivanhoe Mines, the company developing the Kamoia-Kakula mine, has built greenhouses, community gardens, and fishponds to support the food insecure area.<sup>133</sup> These livelihood programs are established at the behest of LSM company leadership, with little encouragement from the government of the DRC. In the province of South Kivu, however, a governor holding considerable political clout over LSM copper mines operating in that region convinced the companies to plant 500 hectares of corn to offset the rising flour prices due to the community relying on flour shipments from Zambia. This decision is somewhat controversial, as the reasoning behind his ability to sway the mining companies is through his ownership of a company that provides mining machinery and equipment by which he would sub-contract this business out to the top bidder.

While new innovations in technology are allowing companies to employ safer practices, there are still issues surrounding the safety and well-being of workers at mining sites. A respiratory study of stone crushers at ASM sites showed that traces of 24 elements, including uranium, were present in the urine samples of workers.<sup>134</sup> Unions have often been a way for workers to organize themselves in order to collectively bargain for greater protections and a stronger social safety net. In the DRC, the position of unions is considerably weaker, and according to one researcher, largely dependent on the price at which minerals are being traded. Mining jobs are often held in congruence with the price of copper and layoffs are common when the price dips too low. At TFM workers staged a three-day strike to protest unfavorable working conditions and poor pay.<sup>135</sup> Following the strike and the talks with TFM management, the



workers succeeded in achieving their demands, receiving holiday bonus pay, increased salaries, and revised working hours.<sup>136</sup>

The coronavirus pandemic has been unfavorable to copper mine workers. In June of 2020, unions called on mining companies to end their human rights abuses in the face of the pandemic.<sup>137</sup> LSM companies were accused of containing copper miners at their posts, refusing to allow the workers to return to their homes, so the production facilities would not need to shut down and workers would be forced to quarantine at their jobs. A letter was sent on behalf of civil society actors and mine unions to the thirteen accused companies, calling on those companies to provide personal protective equipment (PPE), maintain sanitary conditions, avoid major layoffs, and above all else allow workers to contact their families and to leave the mining site when necessary<sup>138</sup>.

## **V. Child Labor in Copper Mining**

In the formal copper sector of the DRC, companies have demonstrated strong initiative in adhering to their corporate social responsibility to eliminate the use of child labor in all of its forms. However, due to the mixture of ASM and LSM copper products in the refining process, it is difficult for MNCs to confidently state that their products do not rely on child labor in the upstream process. Tech companies that heavily rely on copper mined from the DRC have invested resources in local programs developed by international NGOs to prevent children from seeking employment at mines. Pact is an international development NGO that has partnered with companies like Apple and Dell. The latter of these companies provided laptops for the “Kits for Kids” project, which aims to provide children with school supplies to keep children in school.<sup>139</sup>

One child recipient was thankful for the project because it reduces the shame children experience when attending school without the proper supplies.<sup>140</sup>

Despite the attempts to prevent child labor, there is evidence that was submitted by the International Rights Advocates (IRA) showing that children have been employed in both formal and informal copper mining sectors. Evidence presented shows the maiming and death of children working in ASM locations and sites controlled by the state run entity ~~Carnis~~ privately owned Kamoto Copper Company (KCC), and other concessions.<sup>141</sup> An official from Pact told us that the programs sponsored by MNCs have also provided IRA a second reason to allege that large tech companies are aware of the child labor within their supply chains.

As age of majority laws exist in the DRC, one must be 16 to work and 18 to work in the mines. Despite the laws, many children continue to work in the copper mining sector. Child labor in the artisanal small-scale sector is prolific and dangerous. Of the 255,000 ASM miners working in the copper sector, 35,000 are estimated to be children.<sup>142</sup> Artisanal mining is often a family affair, which is how most children are introduced to the sector, but according to our findings forced child labor was not widely apparent in the copper sector. In a study of 2,635 children, 58% of children were working, 11% were working outside the home with 23% of children who worked outside the home working in a mine related activity in the Copperbelt.<sup>143</sup> The study saw a difference in the types of work being performed depending on the age of the child. Children under 12 years of age were typically working in surface level jobs, whereas children aged 13 to 17 had a higher rate of working within the mines themselves<sup>144</sup>. Children at these mines often face challenges to their health and well-being. An interviewee reported that children who are working in ASM sites are often exposed to uranium byproducts and the mercury that is used in the mining process.<sup>145</sup>

Our research did not find child soldier recruitment to be an issue in the informal and formal copper sector. The relative state of peace existing in the Katanga region and the copper mining process could be reasons that children working in the copper sector are not subject to soldier recruitment as they are in diamond and gold mining. Large and complex machinery is needed to generate sizable profits from copper mining, which is why LSM companies have dominated the sector. LSM companies hire private security forces, which also deters rebel groups operating in the area from preying upon copper miners. In comparison with the DRC as a whole, the Katanga region has existed in relative peace for the last few years, with a reduction in the amount of armed groups operating in the region.

The DRC is aware of the prolific issue of child labor, especially in the ASM copper sector. ECG has partnered with Trafigura, a physical commodity trading group, to improve OECD compliance at ASM sites, which would greatly reduce the amount of child labor in the informal copper sector<sup>146</sup>. This partnership has been influenced by a previous relationship Trafigura had with the Mutoshi Cobalt Mine and is trying to expand upon the successes of that project, such as the reduction in the harassment of women in the workplace<sup>147</sup>.



Mutoshi Socio-Economic Impact Report

## **VI. Women in Copper Mining**

The Mutoshi project provides an interesting example of how formalizing the informal sector can lead to dramatic improvements in the conditions that are seen by women working in the ASM sector. Rampant abuses against women are regularly seen in artisanal mining. This project was an evaluation of a process on formalizing ASM workers that compared the results from Mutoshi mine with a control group at another, unnamed mine.<sup>148</sup> One of the key findings from this project is the improved condition on women's rights and equal opportunity for mining jobs in the ASM space and a reduction in the amount of harassment women said they experienced. The project reports that women in the tested group saw 2.5 times the amount of income than was seen by women in the control group.<sup>149</sup> For the rest of the women working at ASM sites in the DRC's Copperbelt, gendered threats are still a pervasive force many have to endure.



Warning sign near a copper mine in Kolwezi that reads, "Women and children younger than 18 not allowed." (Tsurukawa, N., Prakash, S., & Manhart, A., 2011)

Following the civil war, women's involvement with the ASM copper sector steadily grew due to lower economic output, a decrease in livelihood opportunities, and easy entry into the profession due to a low level of required skill sets.<sup>150</sup> This growth has culminated in women making up 40% of the total ASM workforce.<sup>151</sup> Women employed at ASM sites typically perform jobs that are indirectly related to the mining itself, either cooking or cleaning, but have been known to perform surface level jobs related to mining such as washing, transporting, and selling minerals. Performing these roles are necessary tasks but women only earn about 500 to 10,000 Congolese Francs a day (\$0.25 to \$5)<sup>152</sup>. Local beliefs and social norms are the two factors that would dissuade a woman from performing subterranean labor. Some male miners prevent women from working underground in ASM mines because they believe that the presence of a woman in a mine is "unlucky" and that the minerals will "disappear" at the sight of a woman.<sup>153</sup> Additionally, social norms require that a woman be the primary parent responsible for rearing children. Due to this, many women work above the mine where most of the children also work in order to keep watch over them.

The ASM industry also brings commercial sex work. Both women and girls are employed in this, but according to interviews that have been conducted, no person or organization directly forces them into this line of work; only their economic conditions do. The most vulnerable of these sex workers are those who travel to find work since they lack access to networks of people.<sup>154</sup> High rates of prostitution and promiscuity around the ASM sites have led to an increase in HIV rates in ASM communities. This observation is backed up by a study from the US Department of State's PEPFAR program, which showed that the Haut-Katanga province has a significantly higher HIV/AIDS prevalence rate.<sup>155</sup>

In the formalized sector, LSM companies are beholden to international norms and their corporate social responsibility to ensure that women are employed in a diverse set of jobs, receive equal pay, and do not face discrimination from their male counterparts.<sup>156</sup> Still, issues on women in the formalized mining sector are present. Despite MNCs pushing for women's involvement in the workforce, only 10% of industrial miners are women.<sup>157</sup> Frequently, LSM companies will hire subcontractors for cleaning, cooking, and other work indirectly related to mining. These subcontractors will hire women when companies want to hire them to increase their image, and once awarded the contract they fire the women.<sup>158</sup> There are also social stigmas that are placed on women who work in the mines, which deter them from seeking employment with LSM companies. During the colonial era, the predecessor to ~~Camel Jomali Mining~~ (UMHK), provided its predominantly male employees with food rations, healthcare, education and other welfare provisions, which contributed to a “gendering of social rights”<sup>159</sup>. The present day implications of the gendering of social rights are evident, as LSM companies actively seek female employment but colonial prejudices persist, such as with the use of the pejorative term “~~female~~”.<sup>160</sup> This term (“loose women”) is given to women who seek employment in the formalized mining sector.





Female miner at the Kamoia-Kakula copper mine<sup>161</sup>

## DIAMONDS

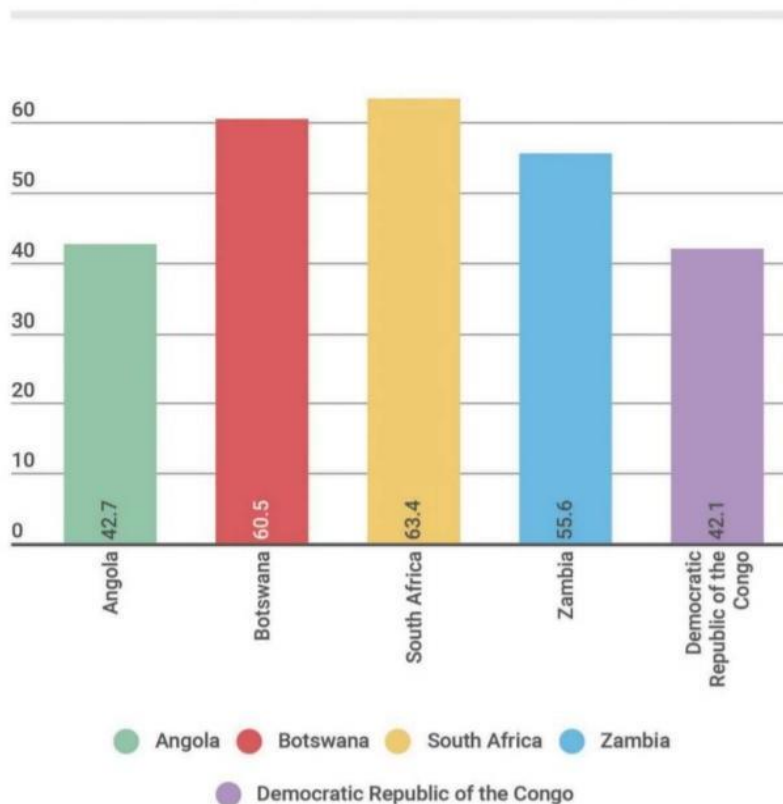
### I. Background

The extensive abundance of natural resources in the Democratic Republic of the Congo could generate multiple avenues of income for the population. However, persistent concerns about the current mining management and the foundations of these extractive resources have been called into question various times. The mismanagement of these resources has extended beyond the Belgian colonial period. In fact, Belgian resource management was highly extractive and violent in nature, leading to the death of up to 10 million Congolese people<sup>162</sup> and creating a regulated extractive regime. Mineral resources have been an integral pillar of the Congo's economy and development. With nearly 33 million carats, diamonds from the Congo at one point

constituted one-third of global production.<sup>163</sup> Diamond production has now significantly decreased with the increased mining of cobalt and other minerals.

Diamonds in the DRC have received significant attention due to concerns over increased violence and illegal mining, which funded local conflicts and led to the displacement of Congolese people. The U.S. Department of State 2019 Trafficking in Persons Report listed

**Gini Coefficient Scores of Diamond Exporting Countries**



13

Verite 2016<sup>164</sup>

diamonds as a mineral resource as having high levels of forced child labor in various countries, specifically in the DRC and Angola.<sup>165</sup> Various types of formal governance infrastructure have been built to protect the rights of various laborers and ensure their safety from violent non-state actors. Diamonds significantly contributed to the increase of armed conflict during the five-year period of 1998-2003. Introduced in 2003, the Kimberley Process has considerably improved the

sourcing of various diamonds. However, various difficulties still arise to this day, including rampant illegal smuggling and various infrastructural issues in creating secure mining facilities for laborers. Various remaining cases of child labor and child soldiers exist within the diamond mines, especially in the Kasai Region.<sup>166</sup>

In 2005, major diamond mining groups failed to generate profits with major mining companies such as MIBA still facing multiple issues in regard to corruption and auditing discrepancies, according to early auditing reports from KPMG in 2005.<sup>167</sup> In 2020, the board and management of MIBA were suspended due to poor governance practices, including major “dysfunctions in compliance, governance and management, production and financial administration.”<sup>168</sup>

MIBA is a DRC state-owned company. Highlighting extensive government control in the gem mining sector, specifically diamonds, within recent years diamond mining has operated at a significant deficit as well, revealing the decrease of diamonds' role in the economy. That being said, diamond mining still plays an important role, especially in artisanal mining. The various increased governance regulations, specifically the Kimberley Process, have helped in significantly decreasing the presence of blood diamonds in the Kasai region, but political and rebel groups still use gem mining as a source for funding their organizations. Most importantly, political violence has fostered difficulties in supporting safe labor environments for miners. In 2017, violence broke out in the Kasai region due to election stalling, which led to Joseph Kabila remaining in power.<sup>169</sup> The political crisis left up to 3,000 people dead by the end of 2017 and 33,000 Congolese refugees who fled to Angola.<sup>170</sup> Rebel groups such as Kamwina Nsapu (Black Ant) and the government-led Bana Mura have been engaging in violent conflicts, potentially creating conflict diamond operations run by militias.

## II. Formal Sector

### a. Governance

Although there are formal sector regulations to combat corruption and human rights violations, significant strides still must be taken in their implementation within the diamond mining sector. The main challenge faced by the DRC government in regard to diamond mining is not in the formal sector but mostly in the artisanal sector that has dominated diamond mining. There are only two major diamond mining companies within the DRC. The first is the state-owned company MIBA, which declared bankruptcy but was reinstated in 2010 with multiple issues still existing, from governance issues to lack of transparency in addition to the company running on a deficit. The second company SACIM is a joint venture between the Congolese and Chinese government, founded in 2013.<sup>171</sup> The fact that both companies are state-owned in some sense conveys the lack of flexibility with other foreign investments but, more importantly, the decrease in foreign investment and focus on diamonds as a profitable mineral, given that the DRC has primarily promoted investments in gold, copper and especially cobalt.

**VERITÉ**  
Fair Labor. Worldwide.



*Verité*<sup>172</sup>

Ratified in 2003, the Kimberley Process is the main formal governance infrastructure created to combat blood diamonds. The Kimberley Process acts as a certification scheme that aims to regulate and protect the legal trade in rough diamonds while halting the flow of conflict diamonds.<sup>173</sup> The revised mining code of 2002 (amended in 2018) acts as another significant formal governance institution that aids the governing diamond mining activities.<sup>174</sup> The 2002 Mining Code brought about a large influx of foreign investment as well as relative stabilization of state control over the supply chain of its mining sites. The recent revisions have been geared towards increasing local development. Under the revised Mining Code, all underground mining minerals are the exclusive property of the state, which must give private companies authorization to conduct any mining activities.<sup>175</sup>

The DRC government offers three types of permits: research permits, exploitation permits (including small-scale mines), and tailing exploitation permits. Foreign companies must commit to mining projects that include state-owned companies or a 10% stake of its share capital will be freely given to the state government.<sup>176</sup> These regulations highlight the significant presence the state has in the regulation of its mining sites and formal companies that are seeking investment. Along with adhering to the Kimberley Process, the DRC government follows the EITI (Extractive Industries Transparency Initiative). The EITI focuses on gathering data regarding governance and transparency, measuring the governance performance against its standards through a validation process.

## **b. Accountability Mechanisms**

The government has been able to secure almost all the formal pipelines through its state-owned major corporations. With the only major formal mining company being state owned or (MIBA and Sacim) , predominantly all formal diamond mining follows the Kimberley Process with due diligence, the DRC government strictly ensures that all buyers and sellers are accounted for to limit the presence of blood diamonds as much as possible, especially in the formal trading markets.<sup>177</sup> However, that has led to multiple cases of mismanagement within the state-owned diamond mining companies. With diamond mining permits mostly supplied to state owned companies has created a monopolization of the industry and difficulty in facilitating formal work spaces for ASM miners<sup>178</sup>. Kimberley Process officials have reported an increase in fake certification schemes being created to supply illegally mined diamonds.<sup>179</sup>

The 2018 Mining Code strengthens existing accountability mechanisms, especially in collaboration with EITI. Highlighting a steady growth in the existing mechanisms, especially in the mining license issuing system, EITI agreed that the “DRC has made meaningful progress in implementing the EITI Standard on 16 October 2019.”<sup>180</sup> With the most recent Resource Governance Index giving it a 64/100 score, within the diamond mining sector and all mining sectors in general,<sup>181</sup> a government decree in 2011 stated that contracts must be fully disclosed between state-owned companies and private companies. However, the posting of contracts is still inconsistent, leading to issues in transparency.<sup>182</sup> “The issue is not the existence of a legislation because in order to be a member of the Kimberley Process certain legislation’s and standards are created, the issue is whether these legislation’s are enforced.”<sup>183</sup>

Transparency is still an ongoing issue that is significantly prevalent in the diamond industry and in the mining industry as whole. Various contracts are misplaced and the state-

owned companies MIBA and SACIM continue to lack any significant transparency in their contracts, internal funding, and running of their operations.

The EITI report highlighted the level of corruption and sensitive information within the formal diamond mining sector with investigations that are tied to political figures in the DRC. The 2016 release of the Panama papers prompted a swift response from the DRC Minister of Interior Lambert Mende issued a public warning to journalists or NGOs investigating any Congolese citizen mentioned in the Panama Papers,<sup>184</sup> a report in 2017 published by the Pulitzer Center highlighting the wealth of the Kabila family and high levels of corruption in the diamond and gold formal mining sectors.<sup>185</sup> EITI data shared by various state-owned enterprises (SOEs) was questioned and critiqued due to the lack of available information that was disclosed, with officials noting that the information disclosed does not meet all the criteria set for the EITI standard.<sup>186</sup> Another significant concern that was highlighted in the EITI report was SOEs that were running on a deficit.<sup>187</sup> MIBA's lack of financial transparency and the consistent reporting of the company still operating on a loss has brought up concerns of mismanagement and how the company is still functional, it is noted that MIBA has lacked the expertise to build a strong infrastructure for diamond mining and has "relied too heavily on diamond artisanal miners to develop the mining licenses it had received."<sup>188</sup>

In the Kasai-Central province, the region best known for diamond mining, there have been findings of an increase in violence by hostile non-state actors, specifically the Kamwina Nsapu (The Black Ant) militia led by Jean-Prince Mpandi, since the outbreak of violence in 2017. Mpandi was accused of diamond trafficking himself before assuming leadership.<sup>189</sup> Mpandi's political alliance with the government opposition led to the subsequent breakout of violence in the region. The conflict has led to severe displacement and ethnic violence in the region. Reports



from AFP (Agence France-Presse) in 2017 showcased an increase of militiamen consolidating diamond mines to fund their operations.<sup>190</sup> The outbreak of violence significantly affected the formal sector and the existing state-owned mining companies, but it affected diamond trade in ASM much more due to the fact that most diamond mining activity is ASM.

### **c. Child labor**

As an SOE, there is no evidence that showcases that MIBA uses child labor or female labor within MIBA diamond mining sites. However, there have been reports and instances of child rights being infringed in formal diamond mining sector sites. This occurs through various “religious” non-state actors capitalizing on orphaned children in the city Mbuji-Mayi who are coerced into joining armed groups and engaging in illegal activities.<sup>191</sup> Various children are sent into rich diamond areas owned by MIBA, where they would be killed for trespassing, die in a gunfight, or suspiciously disappear.<sup>192</sup>

## **III. Informal Sector**

### **a. Governance**

The diamond mining industry in the DRC is highly informal, and plays a significant role in the Kasai-province.<sup>193</sup> According to the EITI report published in 2019, 800,000-1,000,000 artisanal miners were recorded in the diamond mining industry in 2014.<sup>194</sup> The informal diamond mining sector is one of the most difficult mining sectors to quantify and to record data. The DRC government is aware of this struggle, not only due to the significant governance gaps between governing the formal and informal sector but also because most diamond mining in the DRC is informal in nature. The U.S. Dodd-Frank Act also indirectly affected the DRC diamond mining

industry. The United States Securities and Exchange Commission (SEC), which monitors the specifics of the Dodd-Frank Act, has issued a final ruling on addressing conflict minerals in an effort to increase due diligence in the American and international markets.<sup>195</sup>

The Dodd-Frank Act has arguably caused considerable pressure on mineral traders in the DRC creating a quasi-embargo on DRC minerals due to difficulties in tracing them.<sup>196</sup> This created a short-term reaction of foreign buyers that only deal with DRC's minerals that are tagged by the ITSCI traceability scheme.<sup>197</sup> The implementation of this act has implications for both the formal and informal sector. Although diamond mining has come a long way since the implementation of the Kimberley Process, the Dodd-Frank Act has acted as a double edged sword. However, pushing and improving the traceability of minerals on a larger scale has harmed artisanal miners, stopped them from accruing wealth and significantly affected their livelihoods, with 17% of the Congolese population relying on artisanal mining. In particular, artisanal diamond mining has been significantly affected as well.<sup>198</sup>

The 2002 Mining Code has specific regulations that address artisanal mining in general. An official registration apparatus exists to help maintain an informal yet legalized mining space. However, that has remained difficult to implement in practice. For example, Article 7 of the 2002 Mining Code states that all artisanal miners must hold a verification card that shows they can engage in artisanal mining.<sup>199</sup> However, the verification processes tend to benefit large-scale mining, with evident accessibility difficulties for artisanal miners. In practice, the use of verification cards does not come with many incentives or a social safety-net to protect artisanal miners from LSM companies, which can also be expensive to obtain.<sup>200</sup>

## **b. Accountability Mechanisms**

Measuring accountability within the diamond ASM sector is difficult to quantify due to the various difficulties the government has in maintaining, monitoring and reporting how many artisanal miners are present. Another major difficulty facing the DRC government when it comes to artisanal miners reporting to the government is illiteracy. “According to data from UIS (2016), the literacy rate of the population of 15 years and older in the country, is estimated to 77.04%. This rate is 88.5% for men and 66.5% for women.”<sup>201</sup> Some ASM miners are unable to read or understand government documents. An excerpt from a 2016 report from the U.S. Department of State described the accountability measures for the artisanal mining sector to have various loopholes that play a disadvantage to artisanal miners. “Individuals took on debt from intermediaries and dealers to acquire food, supplies, and mining tools and equipment, often at high interest rates despite low wages. Miners who failed to provide sufficient ore to pay debt were at risk of becoming perennial debtors. The government continued to try to formalize the artisanal mining sector but did not attempt to regulate this practice.”<sup>202</sup>

Miners in the diamond industry face other difficulties within the informal space they occupy such as being in debt to financiers and forced to work for significantly lower wages. To ensure continued accountability of the infrastructures in place, the government sends civil servants to monitor various diamond mines. However various diamond mining sites are inaccessible to civil servants, who are unable to properly monitor artisanal miners practices or record their findings. Additionally, working conditions are not properly implemented. “Due to the inaccessibility of ASM mining...many mining sites are difficult to record, or are recently found and not recorded. We need to improve the monitoring mechanisms in the diamond ASM industry in that regard.”<sup>203</sup>

### c. Transparency

Transparency within the artisanal diamond mining sector is inconsistent with its LSM counterpart. However, transparency increases once it starts reaching to third party producers and the selling and purchasing of diamonds. The issue with DRC mining transparency is not the lack of available information but rather the lack of recent information. “The miners, the buyers, the brokers and the contracts. We have records for that; they may need to be updated. It is difficult to keep track because various parties move around; however the records do exist.”<sup>204</sup> The Ministry of Mines publishes a list of the existing mining operations that are active in the DRC, showcasing the projects that are available for all the mining sectors, although as mentioned earlier the frequency of the reports being updated is inconsistent.

The ~~SAESSCAM~~ small-scale mining (SAESSCAM) website showcases an interactive map of ASM activities. Furthermore, the International Peace Information Service (IPIS) has been able to create an interactive map within eastern Congo, showcasing data for active diamond mines.<sup>205</sup> The inconsistencies in showcasing recent reports highlights the discrepancy issues the Democratic Republic of the Congo faces when it comes to dealing with transparency in diamond mining.<sup>206</sup> As highlighted in the EITI report, various concerted efforts have been taken to capture information regarding the ASM sites by attempting to map out available data and clarifying the ongoing difficulties in acquiring information on the ASM sectors. Accurate information is difficult to trace, with diamonds being mostly artisanal. “More work is needed for a comprehensive overview of the informal sector contribution to the economy.”<sup>207</sup>

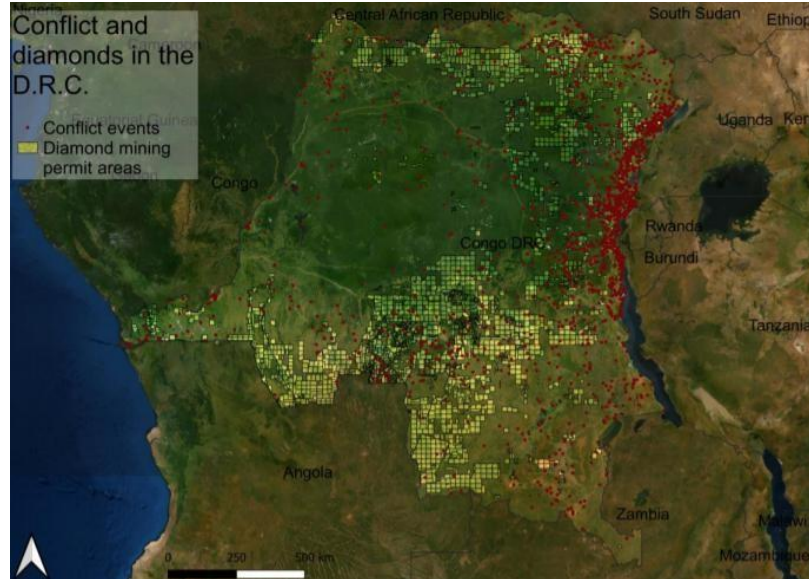
#### **d. Corruption prevention**

Corruption prevention within the artisanal mining sector is a significant issue, especially in the diamond industry. Due to the difficulty in transparency regulations in the artisanal diamond mining sector, diamond smuggling is still highly common. The Kimberley Process has immensely decreased the level of corruption and diamond smuggling. However, due to the significant informality in artisanal diamond mining and the small size of the gem, diamond smuggling is still prevalent. Miners do not have a salary safety net on which to rely, as their earnings are inconsistent and they rely on quickly selling the stones they have found to ensure they have a consistent flow of revenue.<sup>208</sup> The diamond mining supply chain benefits the higher intermediaries significantly, where the first point of sale creates the highest margin of profit for the first intermediary by purchasing it from the artisanal miner. As the diamond moves up the “earth to export” supply chain, the concentration of profits is kept by a small number of dealers and brokers.<sup>209</sup> Creating a hierarchical system that keeps the artisanal miners in poor economic conditions, various high-end dealers and brokers tend not to re-invest in the country's economy and simply sell elsewhere or to foreign buyers.<sup>210</sup> This harbors an extremely exploitative system that the 2018 Mining Code has not fully addressed, with “an ingrained culture of rent seeking and entrenched corruption [instead of] subsistence ‘enterprises.’”<sup>211</sup>

Informal diamond mining showcases a strong governance system that shows satisfactory levels of transparency and fewer cases of corruption from the top of the supply chain, while also weakening regulations and increasing informal spaces that breed a corrupt infrastructure. Through a patronage system, most of the miners are indebted to financiers and intermediaries that offer them mining resources, or in some cases protection, in exchange for significantly low priced diamonds.<sup>212</sup> In various cases the higher-level financiers, intermediaries or sponsors can

manipulate and restrict the expansion of any economic or infrastructural development in the diamond mining area that could benefit the miners.<sup>213</sup> The DRC government acknowledges the difficulties of treating this issue, the significant corruption rate, and extortion occurring in informal mines. Corruption prevention in the DRC is an ongoing problem to implement, not because the DRC government does not want to address corruption but the difficulty of rooting out corrupt and informal practices from its institutions is a big challenge for the Tshisekedi Administration. Diamond mining, specifically the informal sector, is an example of institutions running on illegal patronage systems and within legal loopholes.

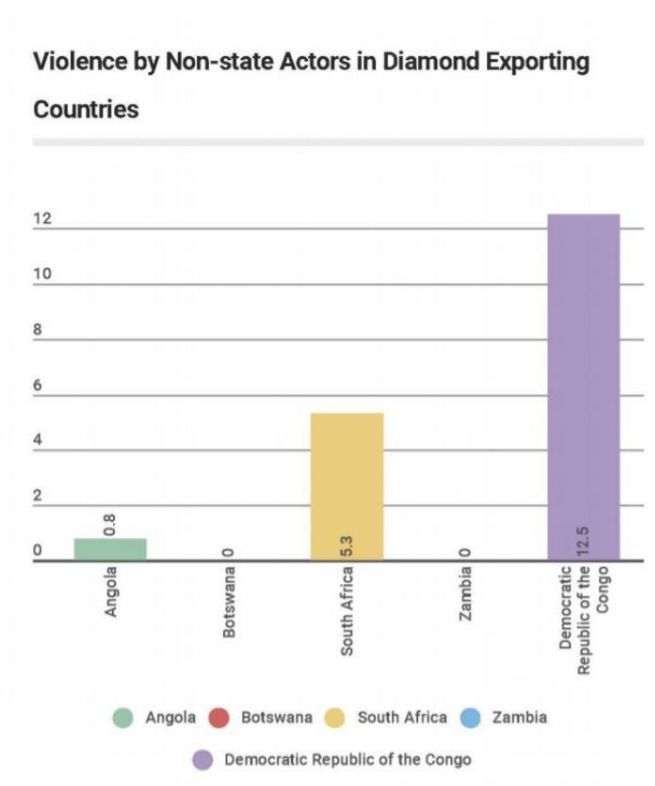
e. **Criminal organizations and non-state actors**



Data on conflicts retrieved from the ACLED database.<sup>214</sup>

Violent non-state actors still play a significant role in artisanal diamond mining as well, where various conflicts are being highlighted especially in the eastern region of DRC bordering Rwanda. The diamond industry is one of the major funding sources for violent non-state actors due to its informal nature, where in 2010 up to 14%-21% of conflicts were occurring in diamond mining areas.<sup>215</sup>





Verite 2016 report<sup>216</sup>

Various reports also exposed the forced labor and sex trafficking of adults and children, particularly women taken from the DRC to Angolan diamond mining sites.<sup>217</sup> This could be due to the ongoing conflict and displacement of various Congolese people who are forced to migrate and work in diamond mines illegally in Angola. Various human rights abuses have been reported from the Angolan military's stance, with the military pushing for a policy of ejecting various Congolese migrants.<sup>218</sup> The Human Rights Watch reported in 2012 multiple human rights abuses and ill treatment from the Angolan military, mentioning in their report the presence of torture and sexual abuse.<sup>219</sup> The Angolan military has denied any claims in regard to these statements.<sup>220</sup>

#### **f. Child labor**

Poverty and lack of education are the major driving forces for the forced labor of children in the diamond mining sector, UNICEF has reported that the DRC has amongst the highest rates of child poverty in Sub-Saharan Africa, specifically in diamond mining regions such as the Kasai provinces.<sup>221</sup> This has led to a significant portion of the child population working in the mines. It is difficult to gain an exact number of active child labor in the diamond mining sector due to its informal nature; however, an investigation conducted by a local NGO named ~~Cosim~~ *Communauté Parentale des Enfants Femelles* (COCOPEF) has concluded after interviewing 2,300 children and teenagers that ~~were~~ *were* active in the diamond and gold mining sectors, that up to 8,000 children work as artisanal miners in the diamond and gold ASM sectors.<sup>222</sup> With 32.4% of children not in school, the greater Kasai region has one of the highest figures for inaccessible education for children in the DRC.<sup>223</sup> UNICEF data has shown a correlation between high mining production areas with poor school attendance.<sup>224</sup> “If the schools open up, kids will go to school and leave the mines.”<sup>225</sup>

#### **g. Child soldier recruitment**

Due to the conflict that has been escalated by the Kamwina Nsapu militia and the murder of Jean-Prince Mpandi, Catholic parishes have recorded a total of approximately 3,000 deaths, with hundreds being sexually assaulted and physically tortured.<sup>226</sup> The United Nations have taken into account 80 mass graves being documented by July 2017.<sup>227</sup> The conflict was the main catalyst behind the refugee crisis that led to the internal displacement of almost 1.4 million people and caused thousands more to flee to Angola, where they faced other human rights abuses and labor violations in the diamond mining sector.<sup>228</sup>

#### **h. Women in Diamond Mining**

The role of women in the mining sector is often understated, especially in the diamond mining sector. Although they have mostly taken secondary roles such as cooks, suppliers of tools and other auxiliary sources in the mine, it is not uncommon to find women who play a primary role in the mine and in some cases play managerial roles. In the 2018 Mining Code, there has been little to no mention of any regulations that protect women's rights or enforcement of regulations that can be resources to them.<sup>229</sup> Neither the Kimberley Process nor EITI reports have addressed any regulations in regard to women, though the Kimberley Process focuses more on the efficacy of the supply chain rather than on the implementation of human rights.<sup>230</sup> The lack of regulations and social safety nets has forced various women with limited options for child care to bring their children with them to the mining sites.<sup>231</sup> This has a detrimental effect on the children's health and education, as it exposes them to dangerous toxins and contaminants that can be released during the mining process, while also keeping them away from their education. In many cases, they work in the mines due to the strenuous economic situations of diamond artisanal miners.<sup>232</sup> This has a significant impact on the children's future causing them to miss the elementary foundations to explore other career options. With a lack of experience and education, they are forced into mining as the only viable career option.<sup>233</sup> Various women also view their children as an additional source of income and some ways a form of protection at diamond mining sites. This is highlighted in the mines of Kolwezi where 24% of child miners work near their mothers.<sup>234</sup>

### **i. Violence against women**

Many mining camps have reported high rates of HIV/AIDS and other sexually-transmitted diseases linked to sex work around the mining sites. The US State Department added in its 2016 report that Congolese migrants, including children, were victims of sex trafficking around mining camps in Angola. Violence against women is still heavily prevalent in the diamond mining industry. However, it is vital to note that violence against women in the DRC is prevalent in general and is not particularly tied to the mines. Within mining areas, various women work as prostitutes with their decisions being economically motivated. A major factor in the prevalence of sexual violence and violence against women is lack of education and high levels of unemployment. This is evident in the city of Mbuji-Mayi, where 66.5% of “Kuluna” gangs are unemployed youth.<sup>235</sup> Women have agency in the matter of prostitution in multiple cases. This is made evident in Tshikapa, a diamond mining town. COCOPF recorded that 7 out of 10 women at mine sites in this region offer sexual favors to mine workers in exchange for money.<sup>236</sup> However this profession does come with an increased risk from sexual abusers and various aggressive miner workers. Up to 42% of perpetrators of sexual violence were in higher positions of power such as tradesmen and diggers.<sup>237</sup>

### **Methodology**

The following section will highlight how the data was gathered and the methodology behind the research that has been conducted. To ensure a detailed understanding of human rights and labor issues in copper, gold, diamonds, and tin in the formal and informal mining sectors in the Democratic Republic of the Congo, the researchers have allocated their time in specializing in one mineral to assure maximum efficiency. The first step taken was desktop research to ensure

a proper foundation and understanding of the minerals and its relation to human rights issues at hand. Secondly, it was followed by collecting qualitative data through conducting interviews with experts who in the field by utilizing the JDI index to be able to quantify the experts' responses. All interviews were documented and recorded if given consent from the interviewees.

## **Secondary Research**

To ensure focus on the various research objectives, desktop research was conducted on various stages to establish significant background knowledge on governance, human rights and conflict in correlation to copper, gold, diamonds and tin. The researchers gathered initial data on the historical, political and economical significance of the minerals involved to better realize the unique variances the minerals have in impacting their respective communities. Additionally, the researchers designed an outline that highlighted the main research objectives: governance, human rights and conflicts in the formal and informal sectors of each respective mineral. Subsections were developed to guide the researchers into enhancing their range of research of the three variables. The researchers developed a two-week timeline to focus on every research variable to facilitate a stronger scope of focus. To aid with our research, DOL/ILAB and the University of Delaware provided multiple sources from IGOs and NGOs that are knowledgeable on the minerals being researched.

To strengthen the range of the research even further, the subsections for each research outline specifically targeted the objectives of the JDI Index with the governance section focusing on accountability mechanisms, transparency, corruption prevention, industry regulations, criminal organizations and non-state actors. The human rights section focused on the rights of women and children, the violence committed against them, forced labor, and the ways in which

existing conflicts have affected the minerals' respective industries. The researchers have assessed these subsections for both the formal and informal sector. However, the limited available secondary data emphasized the need for greater field research on human rights and labor issues in copper, gold, diamonds, and tin in the formal and informal mining sectors in the DRC.

## **Primary Research**

The researchers conducted qualitative research by using the Jewelry Development Impact Index developed by the University of Delaware and American University, creating scores for copper, tin, diamonds and gold in the DRC, based on the governance and human rights record for said minerals. The qualitative data was conducted through collecting 16 interviews from experts in the minerals that were found. ILAB and the University of Delaware aided with providing a contact list of potential interviewee candidates. By using the JDI Index, interviewees were 25 questions on risks to human rights, focusing on workers rights, women's rights, children's rights, indigenous/ethnic group rights, and freedom from violence. Interviewees were also asked 28 questions on governance, focusing on accountability mechanisms, transparency, corruption prevention, industry regulations, criminal organizations and non-state actors. A contact list was developed to be able to reach out to multiple interviewee candidates with a potential of 63 candidates; 59 candidates were contacted. To ensure questions were comprehensible, the researchers translated the JDI questionnaire into French for non-English speakers in the DRC mining sector.

The interviews were conducted via Zoom, Google Meet, and Whatsapp. All interviews were recorded via voice recordings or the accessible recording options in the respective platform used, given the consensual agreement by each interviewee to record the interview. The JDI questionnaire used can be found in the Appendix. The researchers found difficulty in keeping

interviewees on topic with the questions, with multiple interviewees outright refusing to answer various JDI questions. The interviewees' unwillingness to answer every question has caused difficulties in getting the most accurate JDI results.

## **Method of Coding**

The interviewee candidates were chosen based on their position (academic, NGO, IGO, corporate), proximity to the field of study, and experience in a mining site or institution. The following interviewee selection process ensured that the researchers chose the best sources to understand the current issues and to combat evident biases either for or against the respective minerals mining practices. During the interview process, the researchers made the JDI available to the interviewees. The researchers then communicated how the JDI scoring is processed and asked each interviewee to give the most accurate scores in response to the given questions.

The two categories for the JDI Index that have been utilized for this report are governance and human rights, while the three other categories of economy, environment, and human health have been excluded. Both governance and human rights have five subcategories each. Governance includes accountability, transparency, corruption, industry regulation, and criminal non-state actors. The human rights category consists of freedom from violence and the rights of workers, women, children, and indigenous people. The methodology of the JDI Index uses scores from 0 to 7 for responses to the questions. A score of 0 refers to a non-applicable response. For regular scoring, the lowest value of 1 signifies the highest risk to governance or human rights. The most positive score is 7, referring to the lowest risk to human rights or governance in relation to the gold mining industry. For reverse scoring, the value of 1 is the most positive, while 7 is the most negative.



JDI Index							
Question							Values (0 to 7)
<del>None</del> <u>NA</u>	<del>Nor</del>	<del>Red</del>	<del>Occas</del>	<del>Alot</del>	<del>Frequ</del>	<del>Very</del>	
		<del>Frequ</del>	<del>Alot</del>				
		<del>Nor</del> <del>Very</del>	<del>Red</del>		<del>Few</del>		
		<del>Some</del>	<del>Min</del>				
<del>Very</del>	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
			<u>7</u>				

## RESULTS

The JDI Index score for gold is based on interviews and responses to our questionnaire from individuals knowledgeable about gold mining in the DRC, in addition to further research from other sources. The overall JDI Index score for gold is 3.79. Examining the categorical averages, governance in the gold industry received a higher score (3.97) than human rights (3.61). All ten subcategories received a score between 2.75 and 4.25. The women's rights category received the lowest score (2.84), while the corruption prevention category received the highest score (4.13), followed by the category of criminal organizations and non-state actors (4.06) and the transparency category (4.04). The lowest value received for a single regularly scored question (1.50) came in response to whether criminal or illegal government involvement exists in the gold industry. The highest value received for a single regularly scored question (7.00)

pertained to the absence of terrorists in the gold industry, followed by the question of whether the government creates industry regulations (6.20). The most positive answers for a single reverse-scored question responded to whether the gold industry violates the rights of children (2.40) and whether residents of gold mining areas feel less safe (2.40). The most negative response for a single reverse-scored question (5.20) concerned violence stemming from the gold industry.

The following results were gathered from six interviews conducted with experts in the diamond mining field specifically and in DRC mining and conflicts generally. The results have been added in accordance with the JDI Index. A notable limitation was the interviewees' hesitance to answer all of the surveyed questions; therefore, the results may be skewed because some questions were left unanswered due to the interviewees' lack of knowledge on the subject or simple inability to give responses for other reasons. The results presented are based on the JDI Index and the general consensus of all the interviews conducted throughout this research. The results will also take into account the desktop research that and the various findings presented. The JDI score is 4.04 for diamond mining in the DRC.

It is evident that the category scores regarding governance are generally higher than their human rights counterparts, with the governance scores between 3.25 and 5.24, and the human rights scores between 2.1 and 5.28. The highest score found was in the human rights category with a score of 5.28 given for the children's rights subsection. The lowest subsection average score was also within the human rights section, with women's rights being the lowest (2.10). There was a notable apprehension toward answering all the questions that the JDI could score, with various interviewees considering certain questions to be non-applicable to the artisanal nature of the diamond mining sector, especially in the governance category. The total average

scores for the human rights section and governance section are 3.53 and 4.52, respectively. The JDI Index indicated a significant presence of local civil society groups within the diamond mining sector, with the JDI question concerning civil society groups receiving a score of 6.75, in addition to questions concerning the existence of formal governance scoring relatively high.

This is evident from the average scoring of questions such as those relating to the presence of EITI and formal institutions that monitor the industry, both scoring 6.6 and 5.75 respectively. A significant limitation noted by various interviewees was that diamond mining is predominantly artisanal; even with existing formal mining institutions, it would be extremely difficult and unfair to the diamond mining industry to measure it based on its implementations of formal regulations and institutions. With that taken into account, diamond mining in the DRC has scored 5.24 in its average transparency due to strictness in insuring conflict free diamonds in the supply chain. Human rights subsection scores showcase persistent issues with womens rights, child labor, and conflict with scores of 2.1, 5.28 and 2.82 respectively. It must be noted that there were reverse-scored questions that could increase the average score, as highlighted with the scoring of child labor.

The JDI results for copper are based on desktop research and interviews with experts in the field who have visited both LSM and ASM concessions. The overall JDI score for copper is 3.55. Breaking the score down into the two categories that were observed in this study, copper received a slightly higher score in the human rights category (3.75) than in the governance section (3.37). The category of industry regulations received the lowest score (2.31), while the criminal organizations and non-state actors subsection received the highest score (5.33). The lowest value received for a single regularly scored question (1.25) came in response to the question asking if there was confidence that the government could hold industry actors

accountable in the copper industry. The highest value received for a single regularly scored question (7.00) was a tie between the questions on working age limits and the copper industry being free from terrorist organizations and international criminal organizations. It should be noted that while the DRC does have age restrictions on who is able to work in the mines, at copper ASM sites those rules are not followed. The most positive answer for a single reverse-scored question (1.00) responded to whether the copper industry has increased human trafficking. The most negative response for a single reverse-scored question (7.00) concerned the well-being of children's mental or physical health being threatened in some way because of this industry.

The JDI results for tin are based on desktop research and interviews with experts in the field who have research experience at both LSM and ASM concessions. The overall JDI score for tin is 3.45. Breaking the score down into the two categories that were observed in this study, tin received a slightly lower score in the human rights category (3.40) than in the governance category (3.50). The subsection for industry regulations received the lowest score (1.83), while the accountability mechanisms subsection received the highest score (5.75). The lowest value received for a single regularly scored question (1.00) came in response to the question asking if there is an existence of written or formal anti-corruption programs that prohibit bribery in business practices and transactions. The highest value received for a single regularly scored question (7.00) was in response to the question that asked if there is a minimum working age in the industry. It should be noted that, while the DRC does have age restrictions on who is able to work in the mines, those rules are not always adhered to at tin ASM sites.

## Jewelry Development Impact Index Scores

### Gold (Human Rights)

Worker's Rights	Indigenous/Ethnic Rights
-----------------	--------------------------

3.93

3.85

Women's Rights	Children's Rights
----------------	-------------------

2.84

3.60

Freedom from Violence

3.80

## Jewelry Development Impact Index Scores

### Gold (Governance)

Accountability Mechanisms	Corruption Prevention
---------------------------	-----------------------

3.70

4.13

Transparency	Industry Regulations
--------------	----------------------

4.04

3.90

Criminal Organizations/Non-state Actors

4.06

## Jewelry Development Impact Index Scores

### Diamonds (Human Rights)

Worker's Rights	Indigenous/Ethnic Rights
2.54	5.08
Women's Rights	Children's Rights
2.10	5.28
Freedom from Violence	
2.82	

## Jewelry Development Impact Index Scores

### Diamonds (Governance)

Accountability Mechanisms	Corruption Prevention
4.40	4.50
Transparency	Industry Regulations
5.24	4.37
Criminal Organizations/Non-state Actors	
3.25	

## Jewelry Development Impact Index Scores

### Tin (Human Rights)

Worker's Rights	Indigenous/Ethnic Rights
-----------------	--------------------------

2.58

3.25

Women's Rights	Children's Rights
----------------	-------------------

1.80

5.0

Freedom from Violence
-----------------------

2.60

## Jewelry Development Impact Index Scores

### Tin (Governance)

Accountability Mechanisms	Corruption Prevention
---------------------------	-----------------------

5.75

2.60

Transparency	Industry Regulations
--------------	----------------------

3.50

1.83

Criminal Organizations/Non-state Actors
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2.50



## Jewelry Development Impact Index Scores

### Copper (Human Rights)

Worker's Rights	Indigenous/Ethnic Rights
4.23	4.13
Women's Rights	Children's Rights
2.57	4.88
Freedom from Violence	
2.80	

## Jewelry Development Impact Index Scores

### Copper (Governance)

Accountability Mechanisms	Corruption Prevention
2.37	4.34
Transparency	Industry Regulations
3.21	2.31
Criminal Organizations/Non-state Actors	
5.33	

## Findings

Within the copper sector, we can see that there are three critical findings. First, the copper sector is heavily dominated by the large-scale mining industry. This domination is the reason for conflict within the sector, which is almost exclusively between artisanal miners and large-scale companies since artisanal miners often have nowhere to go once they are forced off of a mining concession, despite DRC laws dictating that artisanal mining sites must be provided. The second key finding in the copper sector is that multi-national companies who source their copper from

the DRC can never confirm that child labor is not used in their supply chains due to the prolific use of child labor at artisanal mine sites and the mixing of LSM and ASM copper at refineries. Finally, governance institutions surrounding the copper industry are abundant but lack strong enforcement. There is some evidence to show that formalization institutions that have strong enforcement can lead to improved working conditions, gender equality, and the elimination of child labor, but projects with sufficient resources are lacking and further research is needed to triangulate these preliminary findings.

From expert interviews and secondary research, we can see several key findings in the Congolese gold industry. While the formal gold sector produces more gold from a relatively small number of large-scale mines, the informal gold sector is dominant in terms of having considerably more mines and laborers. Rather than seriously attempt to formalize the gold ASM sector, the government engages in the informal sector to collect taxes and partially regulate artisanal mining. Gold-related conflict often centers on disputes between LSM and ASM laborers over mining land, while a more indirect connection exists through gold profits financing armed groups. Although the government has made significant strides in reducing the number of rebel-controlled gold mines and child soldiers in the eastern DRC, both problems persist. Many communities around gold mining sites tend to be as safe or markedly safer than non-mining communities.

The lack of transparency and information available regarding Alphamin Resources' labor force is concerning. Following numerous attempts to discuss labor violations or human rights around the Bisie Mines, local miners and those involved or employed by Alphamin either declined to comment or withheld any response. This was also the case when the Canadian Embassy in Kinshasa was contacted, as well as the Canadian Chamber of Commerce. According

to the most recent research, gender inequality around the tin mines, sex work, child labor, and forced child labor, are prevalent. ASM continues on a small scale alongside Alphamin Resources, although with great restrictions in accordance with the Mining and Processing Congo Company and Alphamin Resources.

Through the research conducted, five critical findings can be stated in regard to the diamond mining sector in the DRC. Firstly, more extensive field study is required to clarify transparency in regard to human rights practices and labor issues. A significant issue within the diamond mining field is the difficulty in quantifying the struggles of miners, their awareness of labor rights, and the extent to which those rights are violated. Although there are various codes and clauses in the mining code focusing on ASM mining, the mining regulations and the diamond and mineral institutions of the world largely focus on formal and large institutions. This detracts from multiple attempts to formalize the diamond ASM field. However, most methods have focused on formalizing it through existing regulations that have failed, resorting to local or traditional governance to create a pipeline between diamond miners and the government through a middleman or community representative. Given that such roles have existed within diamond mining, it would be necessary to create space for informal practices and governance to flourish under formal governance. Secondly, conflict may contribute to existing forced child labor but high levels of poverty play the largest role in violations. Economic circumstances force children into the mines, within an indebted informal system. If access to educational facilities were to increase near mining sites, it could significantly reduce the presence of children in the mines. Furthermore, a third and important finding is the lack of incentives from the DRC government to invest heavily in the diamond mining industry. The diamonds mined in the DRC are predominantly industrial diamonds, which may generate high volumes and low returns. In 2013,

an IPIS Report highlighted that, out of a total 27,700 carats, 22,000 were industrial.<sup>238</sup> While industrial diamonds made up 85% of a February 2020 shipment from the DRC to Antwerp, only 15% were gem-quality diamonds.<sup>239</sup> This makes investments in formalizing the diamond mining sector a difficult hurdle to bypass, as economically it will not generate the same revenue as copper or tin. In addition, diamond mining does not create conflict; political power grabs and a lack of strong governance apparatuses do. However, diamonds are a major method of funding militias who have seized nearby diamond mines and therefore prolong the conflicts.

Lastly, the role of women is largely secondary in the mines due to traditional and religious beliefs, but women are slowly beginning to play more primary roles in the diamond mining sites. Another significant finding is that various women who work in the mines or engage in sex work view the mines to be a secure place, to some extent. This is due to the formation of different mining groups and mining communities typically attempting to avoid conflict in order to ensure continued revenue. Women engaged in sex work are in danger regardless of where they are in the in the DRC. However, most sex workers are forced into that line of work by their economic circumstances rather than by militia groups. Furthermore, Angola has severely impacted the physical well-being of Congolese refugees. From torture to human trafficking, the role of illegal Congolese diamond miners and the Angolan military's actions must be monitored heavily.

## Limitations

There are various limitations that must be noted in regard to the JDI Index and its usage, although the background research and the interviews conducted have been able to provide notable results in assessing human rights and labor issues in copper, gold, diamonds, and tin in the formal and informal mining sectors in the DRC. The JDI Index was heavily geared towards the formal mining sector, where it was difficult to measure certain sectors that were highly formalized and compare it to other mining sectors that were highly informal and artisanal in nature. The JDI questions have provided certain difficulties for multiple interviewees, in that certain questions were difficult were either difficult to give a single score or were zero-sum in nature (i.e yes or no). A significant limitation was that many interviewees or potential interviewees did not understand the JDI questions due to linguistic differences, notably with French-speakers. The JDI questionnaire must accommodate linguistic differences to improve comprehension of the questions asked, addressing a barrier for potential interviewees.

Our research was limited by refusals to our interview requests and other contacts giving no responses. The survey required for the JDI Index prevented the researchers from conducting full interviews or receiving complete written responses from some potential interviewees, who were unwilling to participate due to the long list of questions. For gold specifically, sources about governance and human rights in the formal industrialized sector are scarcer than the abundance of material about artisanal gold mining. Since the scope of this report covered the four minerals of copper diamonds, gold, and tin, the team as a whole could not devote the same amount of time to each mineral, as would be the case if the scope had been limited to a single mineral. On the other hand, by including copper while excluding cobalt, the researchers were precluded from giving full treatment to two closely related minerals.

## **Recommendations**

Following the extensive research conducted on diamonds, tin, copper, and gold mining in the DRC, we have formed recommendations specific to the categories of governance, children, women, and conflict.

### **I. Governance**

Internationally and within the DRC, numerous mining regulatory bodies govern the country's mineral wealth. All four mineral sectors share these extensive, yet weak governing bodies, institutions, and regulations. Two recommendations can be made from our findings, the first of which concerns issues regarding formalizing informal sectors. SAESSCOM and the 2002 Mining Code give protections to artisanal workers, who nevertheless continue to suffer greatly from poor working conditions, the prolific use of child labor, and gender-based violence at artisanal work sites. With gold and diamonds relying heavily on the artisanal sector and small-scale copper and tin miners experiencing conflict due to their artisanal livelihoods, strong enforcement by existing formalization institutions that collaborate with international guidelines would significantly improve the lives of artisanal workers. Secondly, LSM companies yield a vast amount of political sway over both provincial and federal governments.

### **II. Children**

Child labor occurs extensively in the artisanal sectors of all the minerals studied. Health consequences for these children range from diseases caused by unsanitary working conditions, to serious injuries and death. Families typically introduce their children to the mining sector, either by a mother bringing her children so she can work and watch them simultaneously, or by

children earning money to help their families with expenses. Children have been observed spending the money they earn at mine sites on their own education. From this, we recommend funding and expanding programs that target children who are susceptible to working in the mines and help children to meet the requirements for attending school.

### **III. Women**

Women have seen employment in the mining industry in both the LSM and ASM sectors. Throughout both sectors, women are not considered equal to men. In the LSM sector, a woman actively seeking employment at the mines will be called pejorative names which can prevent women from applying to become miners, transporters, or management staff. Women working in ASM often work in poor conditions that are unsanitary and dangerous. While promoting women's equality and highlighting the visibility of women in mining will help encourage women to seek employment with LSM companies, this will not prevent the conditions women face at ASM sites. Our recommendation for this refers to strengthening formalization efforts. The Mutoshi Mine Project is a model for how responsible formalization processes can promote female equality, increase wages for women, and protect their health by improving sanitary conditions.

### **IV. Conflict**

Conflict related to the four minerals that were studied is one of the few focus areas that differed depending on the mineral. For copper, conflict is centered around the lack of access artisanal miners have to the required artisanal mining zones. This encourages artisanal copper miners to scavenge and loot off of the LSM concessions which frequently employ the use of their



private security guards to arrest artisanal miners or force them off the concession, using violence at times. Concerning gold, conflict often centers on disputes between LSM and ASM laborers over mining land, while a more indirect connection exists through gold profits financing armed groups.

Our recommendation to mitigate conflict in the copper sector is to increase the amount of artisanal mining zones in the former Katanga provinces, specifically Haut-Katanga and Lualaba. President Tshisekedi made promises to create more zones following the Tenke Fungurume protests; however, additional sites have yet to be established. If created, the new sites should follow OECD due diligence guidelines to prevent the use of child labor and improve the working conditions of all laborers involved. An additional recommendation is to increase the number of jobs provided by the state owned ~~CGRD~~ Prior to the economic collapse in the 1970s, a large number of Congolese citizens were employed by ~~CGRD~~ and received significant welfare benefits such as healthcare and food cards to help with grocery payments. Growing this state-owned company will provide stable jobs through which citizens can earn a decent wage in working conditions that significantly reduce the threat of disease, injury, or death.

The JDI Index could benefit from the elimination of redundant questions, yes/no questions, and reverse scoring. Many questions could be formulated in a more comprehensible fashion, including the conversion of reverse-scored questions to regularly scored questions. The legend for the scores could also be made more relevant to the questions and easier to understand. The JDI Index could further benefit from the reduction of available responses, from the 0-7 scale to a 0-5 scale. For the full five categories of the JDI Index to be utilized, the amount of questions should be reduced in order for more complete interviews to take place.

We also offer the following recommendations. JDI questions should be created that focus on artisanal mining and take into account how institution regulations affect them differently. Field data should be gathered to ensure continuity of consistent and current data in the diamond mining field. The JDI Index should differentiate between the reverse grading system and an increasing level. More precise regulations regarding interviewees are necessary to strengthen the criteria needed to be measured. Research on indirect issues playing a role is critical to understanding the factors that facilitate the existing environment in mining sectors.

## **Conclusion**

This research utilized the Jewelry Development Impact Index to measure the status of governance and human rights for each of the mining sectors in the eastern DRC. According to our research, gender inequality, sex work, child labor, and forced child labor, are prevalent around the tin, gold, diamond, and copper mines.

For tin, all information on the majority of activities within the tin production industry is monopolized and held by Alphamin Resources and the Canadian Chamber of Commerce. If more information is to be collected regarding the tin industry in the eastern DRC, it is imperative that one examines these institutions. While the formal gold sector produces more gold from a relatively small number of large-scale mines, the informal gold sector is dominant in terms of having considerably more mines and laborers. Although the government has made significant strides in reducing the number of rebel-controlled gold mines and child soldiers in the eastern DRC, both problems persist. Many communities around gold mining sites tend to be as safe or markedly safer than non-mining communities. Large-scale mining companies dominate the copper industry. Governance institutions for copper are growing, but they still lack strong enforcement. Most of the diamond mining is artisanal in the DRC, where various miners have

not been able to register with the government due to high levels of illiteracy in the greater Kasai diamond mining region as well as lack of financial incentive or personal finances to engage with the formal institutions that attempt to regulate the sector.

Child labor is prolific in the ASM sectors of the four minerals, and women are not free from violence anywhere, including and especially in the mining industry in the Eastern DRC.

Although government institutions and laws exist to regulate the mining sectors, minimal enforcement occurs. For each mineral sector, either the LSM or ASM sector is dominant in the DRC. Moving forward, more precise regulations regarding interviewees along with an updated JDI are necessary to strengthen the criteria needed to continue this research.

## APPENDIX

### JDI Governance Scoring Questions

JDI Index							
Question	Value s (0 to 7)						
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <span><del>None</del> <u>NA</u></span> <span><del>Not</del></span> <span><del>Rare</del></span> <span><del>Occas</del></span> <span><del>Some</del></span> <span><del>Frequent</del></span> <span><del>Very</del></span> </div> <div style="display: flex; justify-content: space-around; font-size: 0.8em; margin-top: 10px;"> <span><del>Never</del></span> <span><del>Very Rare</del></span> <span><del>Rare</del></span> <span><del>Frequent</del></span> <span><del>Very</del></span> </div> <div style="display: flex; justify-content: space-around; font-size: 0.8em; margin-top: 10px;"> <span><del>Very</del></span> <span><del>0</del></span> <span><del>1</del></span> <span><del>2</del></span> <span><del>3</del></span> <span><del>4</del></span> <span><del>5</del></span> </div> <div style="display: flex; justify-content: space-around; font-size: 0.8em; margin-top: 10px;"> <span><del>6</del></span> <span><del>7</del></span> </div>							
Risk to Governance							
Questions on Accountability Mechanisms							
<ul style="list-style-type: none"> <li>• Is there presence of formal institutions to monitor the industry? If yes, how effective are the institutions?</li> </ul>							
<ul style="list-style-type: none"> <li>• Are violators of the rule of law in regards to the industry held accountable?</li> </ul>							
<ul style="list-style-type: none"> <li>• Are the locations of industry actors, such as mining companies, etc., physically accessible to the government?</li> </ul>							
<ul style="list-style-type: none"> <li>• Is there confidence that the government holds industry actors accountable?</li> </ul>							
<ul style="list-style-type: none"> <li>• Are there informal institutions that monitor the industry on a micro-level?</li> </ul>							

Questions on Transparency	
• Is data about industry actors easily accessible and publicly available?	
• Is the government a participant member of the Open Government Partnership?	
• Are there any civil society actors focused on industry issues present?	
• Is information about the issuing of prospecting and mining permits open and available to the public?	
• Does the government have a framework to ensure the traceability of the mined resources?	
• Are whistleblowers in the industry protected under the law?	
• Is the country an implementer of the Extractive Industries Transparency Initiative (EITI)?	
• Are any of the below OECD due diligence guidelines followed? - Responsible Business Conduct (human rights, environment, corruption, and government) - OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas	
Questions on Corruption Prevention	
• Are there specific anti-corruption laws for the industry?	
• Are anti-corruption laws enforced in relation to the industry?	
• Do government officials publicly disclose their finances?	
• Does rent-seeking have a presence in the industry?	
• Is there existence of written or formal anti-corruption programs that prohibit bribery in business practices and transactions?	
Questions on Industry Regulation	

• Is there active government body or structure that establishes industry regulations?	
• Does the government enforce industry regulations?	
• Are there penalties for violating industry regulations?	
• Are industry actors incentivized, either in terms of financial returns or threat of prosecution, to abide by industry regulations?	
• Is the process of obtaining permits or licenses related to the industry accessible?	
• Is the process of obtaining permits or licenses related to the industry timely?	
<b>Questions on Criminal Organizations/Non-State Actors</b>	
• Is the illegal industry free of international criminal organizations?	
• Is the illegal industry free of terrorist organizations?	
• Is the illegal industry free of national or local criminal organizations?	
• Is the industry free of illegal or criminal government involvement?	

JDI Human rights questions.

JDI Index





the industry?	
• Are indigenous and/or ethnic groups barred from employment in this industry, formally and informally?	
<b>Questions on Women's Rights</b>	
• Are women able to participate in this industry equally to men?	
• Do women receive economic benefits from this industry equal to men, e.g., in terms of wages or resettlement compensations?	
• Are women free from violence in association with the industry?	
• Are women able to profit from the industry independently of men?	
• Are women/girls sexually exploited in direct or indirect connection, e.g., concentrated presence of miners in mining towns, with the industry?	
<b>Questions on Children's Rights</b>	
• Are children subject to forced labor in the industry?	
• Are children denied education because of this industry?	
• Are children's health or mental well-being threatened in some way because of this industry?	
• Does the government have laws to protect children's rights in general and or specific to the industry?	
• Are children's physical rights violated because of the industry? (including harmful practices based on tradition, culture, religion, or superstition)	

• Are children sexually exploited in direct or indirect connection to the industry?	
Questions on Freedom from Violence	
• Has violence/conflict emerged as the result of the industry, e.g., from worker protests, illegal mining, etc.?	
• Has human trafficking increased as the result of this industry?	
• Has domestic violence increased as the result of this industry, e.g., as a result of male miner's behavior at home and with "hot money"?	
• Do communities in or around industry mining sites feel less secure?	

## REFERENCES

Alphamin. ~~Responsible Supply Chain Policy~~

~~AB/Bar/3/Nov/4/Bar/5/Dec/28~~ Alphamin Resources, 2018,

[https://alphaminresources.com/wp-](https://alphaminresources.com/wp-content/uploads/2020/EN%20Responsible%20Supply%20Chain%20Policy.pdf)

[content/uploads/2020/EN%20Responsible%20Supply%20Chain%20Policy.pdf](https://alphaminresources.com/wp-content/uploads/2020/EN%20Responsible%20Supply%20Chain%20Policy.pdf).

“Alphamin Announces Acquisition of Final 30% of the Bisie Tin Project, Democratic Republic of the Congo .” *Mig* <https://www.facebook.com/miningdotcom/>, 24 July

2012, <https://www.mining.com/alphamin-announces-acquisition-of-final-30-of-the-bisie-tin-project-democratic-republic-of-the-congo/>.

“Alphamin Resources | About Us.” ~~Alphamin Resources | About Us~~

~~Alphamin Resources~~ <https://alphaminresources.com/about-us/>. Accessed 17 Apr. 2021.

Amnesty International (2002). Democratic Republic of Congo: Making a killing: The diamond trade in government-controlled DRC. Retrieved from <https://www.amnesty.org/download/Documents/112000/afr620172002en.pdf>

Amnesty International. (2016). ~~This War Is Not Ours~~ ~~Democracy and Human Rights in the Democratic Republic of the Congo~~  
London: Amnesty International Ltd.

Bafilemba, F., & Lezhnev, S. (2015). ~~Congo's Civil War: Bringing the Peace Process to the Enough Project~~  
Project.

Baker, A. (2015). Inside the Democratic Republic of Congo’s diamond mines. Retrieved from <https://time.com/4011617/inside-the-democratic-republic-of-congos-diamond-mines/>

Barnett, S. (2010). ~~Can Congo's War Be Ended?~~  
~~Shrinking the Role of the Congo~~ London: CAFOD.

Barrick Gold Corporation. (2020). ~~Annual Report~~ Toronto: Barrick. Bashwira, M., & Van der Haar, G. (2020). Necessity or choice: Women’s migration to artisanal mining

regions in Eastern DRC. ~~Cong. Ind. Min. Sé/Re Congo De~~

~~de/Ind~~ 1), 79-99. doi:10.1080/00083968.2019.1674170

BBC News. “DR Congo Bans Mining in Eastern Provinces - BBC News.” ~~BBC News~~

BBC News, 11 Sept. 2010, <https://www.bbc.com/news/world-africa-11269360>.

BBC News. “DR Congo lifts ban on mining gold tin and coltan.” ~~BBC News~~ BBC News,

10 Mar. 2011, <https://www.bbc.com/news/world-africa-12700898>.

Bockstael, S. V., & Vlassenroot, K. (2012). ~~Africa's Artisanal~~

~~mining in West Africa~~ Gent: Academia Press.

Bureau of International Labor Affairs. (2019). ~~Child Labor Report Congo Democratic Republic (DR)~~ From US

Department of Labor: [https://www.dol.gov/agencies/ilab/resources/reports/child-](https://www.dol.gov/agencies/ilab/resources/reports/child-labor/congo-democratic-republic-drc)

[labor/congo-democratic-](https://www.dol.gov/agencies/ilab/resources/reports/child-labor/congo-democratic-republic-drc)

[republic-drc](https://www.dol.gov/agencies/ilab/resources/reports/child-labor/congo-democratic-republic-drc)

Byemba, Gabriel Kamundala. “Formalization of Artisanal and Small-Scale Mining in Eastern Democratic Republic of the Congo: An Opportunity for Women in the New Tin,

Tantalum, Tungsten and Gold (3TG) Supply Chain?” ~~The Extractive Ind~~

~~Soc~~ no. 2, Elsevier BV, Apr. 2020, pp. 420–27. ~~Conf~~

doi:10.1016/j.exis.2020.03.001.

Callaway, A. (2017). *Deadly Politics: How the Fight for Copper in the Congo Became a War*. The Enough Project.

Callaway, A. (2018). *Power and Politics in the Congo: How the Fight for Copper Became a War*. The Enough Project.

Carrigan, M., McEachern, M., Moraes, C., & Bosangit, C. (2017). The Fine Jewellery Industry: Corporate Responsibility Challenges and Institutional Forces Facing SMEs. *Ind. Bus. Res.*, 681-699.

Copper Development Association Inc. (2017). *Copper Development Association Inc.*

Côté, G. E. (2014). *Women and Mining in the Democratic Republic of Congo*. Ottawa: Partnership Africa Canada.

CowaterSogema Independent Validator. (2019). *Validator Report for the Sogema Project*.

Cuvelier, J. (2020). Making Sense of Repressive Actions Against Artisanal Miners in Souteastern Democratic Republic of Congo. *Geopolit.*, 15.

Davies, V., Gicquel, C., & Bossogo, P. E. (2019). *MF Country Notes*.  
Washington: International Monetary Fund.

De Brier, G., & Merket, H. (2017). *Antwerp Mining*.  
Antwerp: IPIS.

Dranginis, H. (2016). *Refugees and the DRC*.  
*iCongo* The Enough Project.

DW. (2020). *DRC Mining Collapse*. Retrieved April 10,  
2021, from DW: <https://www.dw.com/en/dr-congo-more-than-50-killed-in-gold-mine-collapse/a-54905575>

EITI Report. (2019). Democratic Republic of the Congo validation 2018. Retrieved April  
10, 2021, from <https://eiti.org/document/democratic-republic-of-congo-validation-2018>

Enterprise Générale du Cobalt. (2021). *ECR* *Rep. Congo* Kolwezi.

Extractive Industries Transparency Initiative. (2012). *DRC*  
*2012* Extractive Industries Transparency Initiative.

Extractive Industries Transparency Initiative. (2019). *Validation*  
*Republic of Congo* Extractive Industries Transparency Initiative.

Extractive Industries Transparency Initiative. (n.d.). ~~Who we are~~ From EITI:

<https://eiti.org/who-we-are>

Faber, B., Krause, B., & Sanchez, R. (2017). ~~Dig Deep Under Africa's Surface: How Mining Companies are Exploiting the Congo~~  
~~to Cash in on the Congo's Natural Resources~~

Filipe Calvão, B. M., & McDonald, C. E. (2021). Cobalt mining and the corporate outsourcing of responsibility in the Democratic Republic of Congo. ~~Extraction~~.

Fitzgibbon, W., Fitzgibbon, W., Images, I., & Coordinator, S. (2021). US sanctions mining magnate accused of corruption in the Congo, reversing Trump-era move. Retrieved from <https://www.icij.org/investigations/paradise-papers/us-sanctions-mining-magnate-accused-of-corruption-in-the-congo-reversing-trump-era-move/>

Galli, N., Danilo Chiarelli, D., D'Angelo, M., & Rulli, M. (2020). Environmental impacts of diamond mining in the Democratic Republic of Congo. Retrieved from <https://ui.adsabs.harvard.edu/abs/2020EGUGA..2220634G/abstract>

Geenen, S. (2011). Relations and regulations in local gold trade networks in South Kivu, Democratic Republic of Congo. ~~Indigena~~ 5 (3), 427-446.



Gerig, L., Ndagano, P., Schneck, N., & Hoex, L. (2020). *Diamonds and Conflict in the Congo*. Delve.

Global Communities Partners for Good. (2018). *Diamonds and Conflict in the Congo*. From Global Communities Partners for Good: <https://www.globalcommunities.org/drc>

Global Witness. (2004). *State of the Sector: Diamonds and Conflict in the Congo*. Global Witness.

Global Witness. (2006). Reforming the DRC Diamond sector. Retrieved from <https://resourcegovernance.org/sites/default/files/Global%20Witness-Reforming%20the%20DRC%20Diamond%20Sector.pdf>

Gobbers, E., Jaillon, A., & Kamundala, G. (2020). *Transparency and Accountability in the DRC*. Antwerp : IPIS.

Goldman, H. (2009). Between a ROC and a hard place: The Republic of Congo's illicit trade in diamonds and efforts to break the cycle of corruption. Retrieved from <https://scholarship.law.upenn.edu/jil/vol30/iss1/5/>

GRF. "The Gender Dimensions of Tin, Tantalum and Tungsten Mining in the Great Lakes Region." *Gender Equity* 2016, p. 2.

Haider, Huma. "Modern Slavery in the Democratic Republic of Congo." ~~Kobale~~  
~~File:///C:/Users/Huma/Desktop/~~University of Birmingham, 2017, [http://gsdrc.org/wp-](http://gsdrc.org/wp-content/uploads/2017/03/052-Modern-slavery-in-the-DRC-v2.pdf)  
content/uploads/2017/03/052-Modern-slavery-in-the-DRC-v2.pdf.

Hayes, K., & Perks, R. (2012). Women in the Artisanal and Small-Scale Mining Sector of  
the Democratic Republic of the Congo. In P. Ljala, & S. A. Rustad, ~~How Not to Run a~~  
~~Company~~ (pp.529-544). London: Earthscan.

Hearing before the subcommittee on monetary policy and trade of the committee on  
financial services: U.S House Of Representatives. (2013). The unintended consequences  
of dodd-frank's conflict minerals provision. Retrieved from  
[https://www.govinfo.gov/content/pkg/CHRG-113hhrg81758/html/CHRG-](https://www.govinfo.gov/content/pkg/CHRG-113hhrg81758/html/CHRG-113hhrg81758.htm)  
[113hhrg81758.htm](https://www.govinfo.gov/content/pkg/CHRG-113hhrg81758/html/CHRG-113hhrg81758.htm)

Hecht, D. (2015). Diamonds, children and witchcraft. [www.the humanitarian.org](http://www.thehumanitarian.org).  
Retrieved from <https://www.thenewhumanitarian.org/fr/node/226819>

Hoebeke, H. (2017). Kamuina Nsapu insurgency adds to dangers in DR Congo. Retrieved  
from [https://www.crisisgroup.org/africa/central-africa/democratic-republic-](https://www.crisisgroup.org/africa/central-africa/democratic-republic-congo/kamuina-nsapu-insurgency-adds-dangers-dr-congo)  
congo/kamuina-nsapu-insurgency-adds-dangers-dr-congo

IMPACT. (2020). ~~Tel Aviv: Tel Aviv University~~

~~Congress~~

~~For~~ Ottawa: IMPACT.

“Incident Summaries - Public - ITSCI.” ~~IT~~ 2020, <https://www.itsci.org/incident-summaries-public/>.

International, A., Human Rights Watch, Rights and Accountability in Development, Action Contre l'Impunite pour les Droits Humains, Action pour la Defense des Droits Humains, African Resources Watch, et al. (2020, June 11). Public Letter to Industrial Copper-Cobalt Mining Companies Operating in Lualaba/Haut Katanga. Lubumbashi, Haut-Katanga, Democratic Republic of the Congo.

International Crisis Group. (2020). ~~McGraw-Hill~~ ~~IR~~

~~Group~~ Brussels: International Crisis Group.

International Development Research Centre (2012). Urban Violence and Exclusion in the Democratic Republic of Congo. ~~Un~~ ~~Vice~~ ~~Un~~ ~~Vice~~

~~Public~~ Retrieved from

[https://www.idrc.ca/sites/default/files/sp/Documents%20EN/urban\\_violence\\_and\\_exclusion\\_in\\_the\\_drc\\_-\\_letter\\_-\\_rgb\\_-\\_online.pdf](https://www.idrc.ca/sites/default/files/sp/Documents%20EN/urban_violence_and_exclusion_in_the_drc_-_letter_-_rgb_-_online.pdf)

International Energy Agency. (2020, June). ~~Global~~ ~~Outlook~~ From IEA:

<https://www.iea.org/reports/global-ev-outlook-2020#the-global-electric-vehicle-fleet->

expanded-significantly-over-the-last-decade-underpinned-by-supportive-policies-and-technology-advances

International Peace Information Centre. (2021). IPIS map DRC V5. Retrieved from <https://ipisresearch.be/mapping/webmapping/drcongo/v5/#0.4703448126842602/25.326225940293853/5.760340568549997/2/1/2.157bpc>

International Peace Information Centre. (2021). IPIS Open Data dashboard on Artisanal and Small-Scale Mining in eastern DRC. Retrieved from <https://ipisresearch.be/publication/ipis-open-data-dashboard-on-the-artisanal-and-small-scale-mining-sector-in-eastern-drc/>

International Peace Information Service. (2012). The Report on the formalization of artisanal mining in the Democratic Republic of the Congo and Rwanda. Retrieved, from <https://www.planetgold.org/sites/default/files/2019-10/IPFS.%202012.%20The%20Formalisation%20of%20Artisanal%20Mining%20in%20the%20DRC%20and%20Rwanda.pdf>

International Rights Advocates v. Apple, Microsoft, Dell, Tesla, 1:19-cv-03737 (United States District Court for the District of Columbia December 15, 2019).

“INTERVIEW: Janvier Murairi, Community Researcher & Mining Sector Specialist.”

~~Pragmora~~ The Pragmora Institute, Sept. 2014,

<https://pragmora.com/analysis/interviews/janvier-murairi/>.

IPIS. (2019). ~~Religion and Mining in the DRC~~ Antwerp: IPIS.

IPIS/Ulula. (2019). ~~Assessing the Impact of Mining on the Environment in the DRC~~ Antwerp/Toronto: IPIS.

Ivanhoe Mines. (2021). ~~Kakula~~ From Ivanhoe Mines New Horizons:

<https://www.ivanhoemines.com/projects/kamoa-kakula-project/>

Ivanhoe Mines. (2018). ~~Site Report~~ Vancouver.

Ivanhoe Mines Ltd. (2021, February). *Our People*. Retrieved from Ivanhoe Mines:

<https://www.ivanhoemines.com/community/our-people/>

Jamasmie, C. (2020, June 15). ~~DRC gold being smuggled out~~

Retrieved March 11, 2021, from MINING.COM: <https://www.mining.com/drcs-gold-worth-billions-being-smuggled-out-says-un/>

Journal De Officiel de la République Démocratique du Congo. (2018) Updated Mining Codes. Retrieved from

<https://eiti.org/files/documents/j o ndeg speicial du 28 mars 2018 code minier.pdf>

Just Results. (2020). ~~Machipisa nguluwa kas et Min N Koul N Vign S K D et~~  
~~Rphf Congo~~ Just Results.

Kapelus, P., Tomlinson, K., Sherwin, H., Jones, G., Huggins, G., Lappeman, G., et al.  
(2009). ~~Compa S D et Q i R~~ Oxford: Synergy  
Global Consulting Ltd.

Katz-Levigne, S. (2019). Artisanal copper mining and conflict at the intersection of property rights and corporate strategies in the Democratic Republic of Congo. ~~The~~  
~~Fieldwork~~, 399-409.

Kavanagh, M. (2020). Congo Suspends Management and Board of State Diamond Company. Retrieved from <https://www.bloomberg.com/news/articles/2020-05-30/congo-suspends-management-and-board-of-state-diamond-company>

Kayembe-Kitenge, T., Umba, I. K., Obadia, P. M., Mbuyi-Msanzyi, S., Banza, P. N., Katoto, P. D., et al. (2020). Respiratory Health and Urinary Trace Metals among

Artisanal Stone-Crushers: A Cross-Sectional Study in Lubumbashi, DR Congo.

### *Journal of Financial Research*

Kelly, A. (2019). Apple and Google named in US lawsuit over congolese CHILD cobalt mining deaths. Retrieved from <https://www.theguardian.com/global-development/2019/dec/16/apple-and-google-named-in-us-lawsuit-over-congolese-child-cobalt-mining-deaths>

Kimberley Process. (2021). Kimberley Process. Retrieved from <https://www.kimberleyprocess.com/en/enforcement>

Kimberley Process (2021). What is the Kimberley Process. Retrieved from <https://www.kimberleyprocess.com/en/what-kp>

Krause, B. (2020, March 30). (R. Oberlag, Interviewer)

Lezhnev, S. (2016). *Амгун Уулзун Энгийн Гэрлэлтийн Дотоод Байдал*. The Enough Project.

Lezhnev, S., & Prendergast, J. (2017). *Significance*.

~~New Testament Development Initiative~~ **DC** The Enough Project.

Lindsay, A., & McDonald, G. (2006). ~~Unfulfilled~~  
London: CAFOD.

Loffman, R. (2017). 2017: The year the Democratic Republic of Congo would like to forget. Retrieved from <https://theconversation.com/2017-the-year-the-democratic-republic-of-congo-would-like-to-forget-88170>

Magnowski, Daniel. “ANALYSIS-Tin Price Spike Shows Congo’s Growing Origin Role | Reuters.” ~~US~~Reuters, 30 Oct. 2008, <https://www.reuters.com/article/idUSLU661455>.

Martin, A., & Taylor, B. (2014). ~~At the Core of the Congo Basin~~ Partnership Africa  
Canada.

Matthysen, K., & Clarkson, I. (2013). Gold and diamonds in the Central African Republic The country’s mining sector, and related social, economic and environmental issues. ~~IndRefinSe~~  
doi:<https://reliefweb.int/sites/reliefweb.int/files/resources/Gold%20and%20diamonds%20in%20the%20Central%20African%20Republic.pdf>

MSA Group. “Alphamine Resources Corporation: Bisie Tin Project: North Kivu Province.” ~~Mining~~ 2014,  
<https://web.archive.org/web/20160304091330/http://alphaminresources.com/wp->



content/uploads/2014/02/Alphamin-Bisie-Tin-Project-NI-43-101-Report-Jan-2014.pdf?4737e9.

National Resource Governance Institute. (2017). Democratic Republic Of Congo Mining: Resource Governance Index. Retrieved from <https://resourcegovernanceindex.org/country-profiles/COD/mining>

Nkuba, B., Bervoets, L., & Geenen, S. (2019). Invisible and ignored? Local perspectives on mercury in Congolese gold mining. *Journal of cleaner production*.

NS Energy Staff. "Bisie Tin Project." ~~May~~ May 2019, <https://www.nsenergybusiness.com/projects/bisie-tin-project/>.

Nyaungwa, M. (2013). Chinese firm in DRC diamond MINING JV. Retrieved from <https://www.rough-polished.com/en/news/75820.html>

O'Driscoll, D. (2017). Overview of child labour in the artisanal and small-scale mining sector in Asia and Africa. Retrieved from <https://assets.publishing.service.gov.uk/media/5a5f34feed915d7dfb57d02f/209-213-Child-labour-in-mining.pdf>

Obale, O. (2016). From Conflict to Illicit: Mapping the Diamond Trade from Central African Republic to Cameroon. Retrieved from <https://impacttransform.org/wp->

[content/uploads/2017/09/2016-Dec-From-Conflict-to-Illicit-Mapping-the-diamond-trade-from-Central-African-Republic-to-Cameroon.pdf](https://content/uploads/2017/09/2016-Dec-From-Conflict-to-Illicit-Mapping-the-diamond-trade-from-Central-African-Republic-to-Cameroon.pdf)

OECD. (2015). *Much Blood, Much Conflict in the Democratic Republic of Congo*

Organisation for Economic Co-operation and Development . (2019). *Human Development Report 2019: Without too much blood, too much conflict in the Democratic Republic of Congo* Paris: OECD.

Pact. (2019, August 19). *Kits-Kids-Keeping Children in the Classroom and Out of Mines in the DRC* From Pact: <https://www.pactworld.org/blog/kits-kids-keeping-children-classroom-and-out-mines-drc>

Pact, Inc. (2010). *Human Rights and Mining in the Democratic Republic of Congo* Washington: Pact, Inc.

Peoples Dispatch. (2020, June 12). *Mining Companies in DRC Warned Against Confining Workers at Mining Sites* From Peoples Dispatch: <https://peoplesdispatch.org/2020/06/12/mining-companies-in-drc-warned-against-confining-workers-at-mining-sites/>

PEPFAR. (2018). *Democratizing Congo's Natural Resources*. Washington: US Department of State.

Polgreen, Lydia. "Congo's Riches, Looted by Renegade Troops - The New York Times." *The New York Times*. ~~US News and World Report~~ 15 Nov. 2008, <https://www.nytimes.com/2008/11/16/world/africa/16congo.html?ref=africa>.

Privacy Shield Framework. (2017). *Congo Democratic-Republic-Mining-and-Minerals*. From Privacy Shield: <https://www.privacyshield.gov/article?id=Congo-Democratic-Republic-Mining-and-Minerals>

Pugliese, F. (2020). Mining Companies and Gender(ed) Policies: The Women of the Congolese Copperbelt, Past and Present. *Teaching Social Science*.

Putzel, L., & Kabuyaya, N. (2011). Chinese aid, trade and investment and the forests of the Democratic. *African Affairs*.

Radio Okapi. (2018, November 24). *TFM des Travaillants Miniers*. From Radio Okapi: <https://www.radiookapi.net/2016/11/24/actualite/economie/tfm-les-travailleurs-entament-des-discussions-avec-la-direction-de>

Radio Okapi. (2018, November 28). ~~Reprise de travail~~ *Reprise de travail*  
 From Radio Okapi: <https://www.radiookapi.net/2016/11/28/actualite/economie/reprise-de-travail-tenke-fungurume-mining>

Radley, B., & Geenen, S. (2021). Struggles over value: corporate–state suppression of locally led mining mechanisation in the Democratic Republic of the Congo. ~~Review of African Politics~~ *Review of African Politics*

Reliefweb: News and press release (2017). Keeping watch in Kasai in Congo - Democratic Republic of the Congo. Retrieved from <https://reliefweb.int/report/democratic-republic-congo/keeping-watch-kasai-congo>

Reuters. (2018, May 25). ~~Civilian DR Congo~~ Retrieved April 10, 2021, from DefenceWeb: <https://www.defenceweb.co.za/security/civil-security/gold-mine-in-dr-congo-attacked/>

Reuters. (2019, June 19). ~~Congolese Army in Congo~~ *Congolese Army in Congo*  
 From Reuters: <https://www.reuters.com/article/us-congo-mining-cmoc/congo-deploys-army-to-protect-china-molys-copper-mine-from-illegal-miners-idUSKCN1TK1HX>

Reuters. (2019, July 17). ~~Sale of Top Congo Resources~~ *Sale of Top Congo Resources*

From Reuters: <https://www.reuters.com/article/us-congo-mining-insight/send-in-the-troops-congo-raises-the-stakes-on-illegal-mining-idUSKCN1UC0BS>

Reuters News. (2020, June 23). ~~Africa Mining Market~~ Retrieved April 5, 2021, from

African Mining Market: <https://africanminingmarket.com/banro-agrees-sale-of-troubled-namoya-gold-mine-in-congo/7213/>

SAESSCAM. (n.d.). ~~Gold Sales~~ From SALES SCAM:

<http://www.saesscam.cd/SAESSCAM/pages/creation.php>

Sanderson, H. (2019, October 29). Robert Friedland, China and the rush for Copper in the DRC. *Frontiers*.

Schoutheete, A., Hollanders, T., & Longompul, M. (2020). The Mining Law Review: Democratic Republic of Congo. Retrieved April from

<https://thelawreviews.co.uk/title/the-mining-law-review/democratic-republic-of-congo>

Shaw, K. (2018). Top 5 things to know about the violence in the Kasai region -

Democratic Republic of the Congo. Reliefweb.int. Retrieved April from

<https://reliefweb.int/report/democratic-republic-congo/top-5-things-know-about-violence-kasai-region>

Silva, S. J., Strauss, T., & Morisho, N. (2019). *Trafigura*.

Sjöström, T. (2016). New report: Childhood lost ,Child labour in diamond mines in the DR Congo. Retrieved from [https://swedwatch.org/wp-content/uploads/2017/05/pr\\_childhoodlost\\_swedwatch.pdf](https://swedwatch.org/wp-content/uploads/2017/05/pr_childhoodlost_swedwatch.pdf)

Sovacool, B. K. (2021). When subterranean slavery supports sustainability transitions? power, patriarchy, and child labor in artisanal Congolese cobalt mining. *The Extractive Industries & Society* 8(1), 271–293. <https://doi.org/10.1016/j.exis.2020.11.018>

Swope, C. (2019). Congolese diamond Miners expelled from Angola. Retrieved from <https://stand.ie/congolese-diamond-miners-expelled-from-angola/>

Tetra Tech. (2018). CBRMT: *Handbook for Africa*. Washington: United States Agency for International Development.

The Diamond Loupe. (2020). Another major tender Of Drc rough Diamonds commences in Antwerp. [www.the diamond loupe.com](http://www.the diamond loupe.com). Retrieved from <https://www.thediamondloupe.com/rough-market/2020-02-06/another-major-tender-drc-rough-diamonds-commences>

The Economist. (2020, December 19). *Congolese gold rush*. Retrieved April 10, 2021, from <https://www.economist.com/middle-east-and-africa/2020/12/19/in-congos-gold-rush-the-money-is-in-beer-and-brothels>



United States Department of Labor. (2021). List of goods produced by child labor or forced labor. Retrieved from <https://www.dol.gov/agencies/ilab/reports/child-labor/list-of-goods-print>

United States Department of State. (2019). 2019 Country Reports on Human Rights Practices: Democratic Republic of the Congo. <https://2017-2021.state.gov/>. Retrieved from <https://2017-2021.state.gov/reports/2019-country-reports-on-human-rights-practices/democratic-republic-of-the-congo/index.html>

United States Department of State. (2020). ~~Human Rights Report~~  
Washington: United States Department of State. Retrieved from <https://www.state.gov/reports/2019-trafficking-in-persons-report/>

United States Department of State (2021). Bureau of Democracy, Human Rights and Labor: Custom reports excerpts. Retrieved from <https://www.state.gov/report/custom/b257cb29f4/>

United States Department of State (2021). U.S. relations with Democratic Republic of the Congo - United States Department of State. Retrieved from <https://www.state.gov/u-s-relations-with-democratic-republic-of-the-congo/>



United States Department Of State (2021). 2020 trafficking in persons report - United States Department of State. Retrieved from <https://www.state.gov/reports/2020-trafficking-in-persons-report/>

United States Geological Survey. (2011). ~~at-Fogal~~ Reston:  
United States Geological Survey.

Verite. (2018). Verite commodity report: Diamonds. Verite.org.  
<https://www.verite.org/wp-content/uploads/2018/01/SSA-Verite-Commodity-Report-Diamonds.pdf>

Vivuya, B. (2020). As incremental efforts to end child labour by 2025 persist, Congo's child miners— exhausted and exploited— ask the world to "pray for us". Retrieved from <https://www.equaltimes.org/as-incremental-efforts-to-end?lang=en#.YHWzQ-hKhPZ>

Vlassenroot, K., & Bockstael, S. V. (2008). Artisanal diamond mining: Perspectives and challenges. Retrieved from [https://books.google.com/books/about/Artisanal\\_Diamond\\_Mining.html?id=1hsb0nqOyEUC](https://books.google.com/books/about/Artisanal_Diamond_Mining.html?id=1hsb0nqOyEUC)

Webster, G. (2020). Leopold II: Belgium 'wakes up' to its bloody colonial past. Retrieved from <https://www.bbc.com/news/world-europe-53017188>

Wild, F. (Ed.). (2021). Dan Gertler - the man at the centre of DR Congo corruption allegations. Retrieved from <https://www.bbc.com/news/world-africa-56444576>

Wilson, T. (2017). A desperate hunt for diamonds in a forgotten corner of Congo. Retrieved from <https://slate.com/news-and-politics/2017/04/in-the-democratic-republic-of-congo-artisanal-mining-is-a-remnant-of-the-once-booming-gem-industry.html>

Wimmer, Sarah, and Filip Hilgert. "Bisie. A One-Year Snapshot of the DRC's Principal Cassiterite Mine." *IPS* International Peace Information Service, 2011, [https://ipisresearch.be/wp-content/uploads/2011/11/20111128\\_Bisie\\_FHilgert\\_SZingg.pdf](https://ipisresearch.be/wp-content/uploads/2011/11/20111128_Bisie_FHilgert_SZingg.pdf).

World Bank. (2013). Artisanal and small-scale mining. [www.worldbank.org](http://www.worldbank.org). Retrieved from <https://www.worldbank.org/en/topic/extractiveindustries/brief/artisanal-and-small-scale-mining>

Zounmenou, D., Alusala, N., Lewis, J., Monchy, V., & Vanthomme, B. (2019). *Full profile of artisanal and small-scale mining in the Democratic Republic of the Congo*. United Nations Security Council.

---

<sup>1</sup> <https://sites.udel.edu/ceoe-mms/the-jewelry-development-impact-index-jdi/>

<sup>2</sup> BBC News, 2010

<sup>3</sup> BBC News, 2011

<sup>4</sup> The term Mai-Mai refers to any kind of community-based militia group active in the Democratic Republic of the Congo.

<sup>5</sup> Polgreen, 2008

<sup>6</sup> An open-air pit used for mining.

<sup>7</sup> Magnowski, 2008

- 
- <sup>8</sup> BBC News, 2010
- <sup>9</sup> Wimmer & Hilgert, 2011
- <sup>10</sup> MSA Group, 2014
- <sup>11</sup> MSA Group, 2014
- <sup>12</sup> “Alphamin Announces Acquisition of Final 30% of the Bisie Tin Project, Democratic Republic of the Congo”, 2012
- <sup>13</sup> NS Energy Staff, 2019
- <sup>14</sup> “Alphamin Resources | About Us”, 2021
- <sup>15</sup> “Alphamin Resources”, 2021
- <sup>16</sup> “Third Party Review of the Bisie Security Report”, 2016
- <sup>17</sup> NS Energy Staff, 2019
- <sup>18</sup> “INTERVIEW: Janvier Murairi, Community Researcher & Mining Sector Specialist,” 2014, p.9
- <sup>19</sup> *Responsible Supply Chain Policy* (Alphamin Resources, 2018, pp. 1-2): “While sourcing from, or operating in, conflict-affected and high-risk areas, we will neither tolerate nor by any means profit from, contribute to, assist with or facilitate the commission by any party of:

- i. any forms of torture, cruel, inhuman and degrading treatment;
- ii. any forms of forced or compulsory labour, which means work or service which is exacted from any person under the menace of penalty and for which said person has not offered himself voluntarily;
- iii. any form of child labour;
- iv. other gross human rights violations and abuses such as widespread sexual and gender-based violence; and
- v. war crimes or other serious violations of international humanitarian law, crimes against humanity or genocide.”

- <sup>20</sup> Alphamin, 2018
- <sup>21</sup> “Incident Summaries - Public - ITSCI”, 2020
- <sup>22</sup> GRF, 2016
- <sup>23</sup> GRF, 2016
- <sup>24</sup> Byemba, 2020
- <sup>25</sup> GRF, 2016.
- <sup>26</sup> GRF, 2016.
- <sup>27</sup> GRF, 2016.
- <sup>28</sup> Haider, 2017
- <sup>29</sup> Radley & Geenen, 2021
- <sup>30</sup> Gobbers, Jaillon, & Kamundala, 2020
- <sup>31</sup> OECD, 2015
- <sup>32</sup> Global Witness, 2004
- <sup>33</sup> Barrick Gold Corporation, 2020
- <sup>34</sup> Extractive Industries Transparency Initiative, 2012
- <sup>35</sup> Nkuba, Bervoets & Geenen, 2019
- <sup>36</sup> Gobbers, Jaillon, & Kamundala, 2020
- <sup>37</sup> The Economist, 2020
- <sup>38</sup> Pact, Inc., 2010

- 
- <sup>39</sup> Martin & Taylor, 2014  
<sup>40</sup> IPIS, 2019  
<sup>41</sup> Gerig, Ndagano, Schneck, & Hoex, 2020  
<sup>42</sup> IMPACT, 2020  
<sup>43</sup> Zounmenou, Alusala, Lewis, Monchy, & Vanthomme, 2019  
<sup>44</sup> CowaterSogema Independent Validator, 2019  
<sup>45</sup> IMPACT, 2020  
<sup>46</sup> Gobbers, Jaillon, & Kamundala, 2020  
<sup>47</sup> Gerig, Ndagano, Schneck, & Hoex, 2020  
<sup>48</sup> De Brier & Merket, 2017  
<sup>49</sup> Gobbers, Jaillon, & Kamundala, 2020  
<sup>50</sup> Geenen, 2011  
<sup>51</sup> Just Results, 2020  
<sup>52</sup> Reuters News, 2020  
<sup>53</sup> Davies, Gicquel, & Bossogo, 2019  
<sup>54</sup> Radley & Geenen, 2021  
<sup>55</sup> Geenen, 2011  
<sup>56</sup> Just Results, 2020  
<sup>57</sup> Radley & Geenen, 2021  
<sup>58</sup> Amnesty International, 2016  
<sup>59</sup> Radley & Geenen, 2021  
<sup>60</sup> Gerig, Ndagano, Schneck, & Hoex, 2020  
<sup>61</sup> Just Results, 2020  
<sup>62</sup> IMPACT, 2020  
<sup>63</sup> United States Department of State, 2020  
<sup>64</sup> Bafilemba & Lezhnev, 2015  
<sup>65</sup> Pact, Inc., 2010  
<sup>66</sup> Nkuba, Bervoets & Geenen, 2019  
<sup>67</sup> Gobbers, Jaillon, & Kamundala, 2020  
<sup>68</sup> Lezhnev, 2016  
<sup>69</sup> Martin & Taylor, 2014  
<sup>70</sup> Callaway, 2018  
<sup>71</sup> United States Department of Labor, 2020  
<sup>72</sup> United States Department of State, 2020  
<sup>73</sup> Jamasmie, 2020  
<sup>74</sup> United States Department of State, 2020  
<sup>75</sup> United States Department of State, 2020  
<sup>76</sup> Reuters, 2018  
<sup>77</sup> Dranginis, 2016  
<sup>78</sup> United States Department of Labor, 2020  
<sup>79</sup> United States Department of State, 2020  
<sup>80</sup> Callaway, 2017  
<sup>81</sup> Lezhnev, 2016  
<sup>82</sup> Callaway, 2018  
<sup>83</sup> Kapelus, et al., 2009  
<sup>84</sup> Carrigan, McEachern, Moraes, & Bosangit, 2017  
<sup>85</sup> Lezhnev & Prendergast, 2017  
<sup>86</sup> Callaway, 2018  
<sup>87</sup> Just Results, 2020  
<sup>88</sup> Pact, Inc., 2010

- 
- <sup>89</sup> Lindsay & McDonald, 2006  
<sup>90</sup> Barnett, 2010  
<sup>91</sup> Kapelus, et al., 2009  
<sup>92</sup> Kapelus, et al., 2009  
<sup>93</sup> De Brier & Merket, 2017  
<sup>94</sup> Lindsay & McDonald, 2006  
<sup>95</sup> International Crisis Group, 2020  
<sup>96</sup> Kapelus, et al., 2009  
<sup>97</sup> Radley & Geenen, 2021  
<sup>98</sup> Amnesty International, 2016  
<sup>99</sup> Lindsay & McDonald, 2006  
<sup>100</sup> Journal Officiel de la République Démocratique du Congo, 2018  
<sup>101</sup> Côté, 2014  
<sup>102</sup> IPIS/Ulula, 2019  
<sup>103</sup> Côté, 2014  
<sup>104</sup> Just Results, 2020  
<sup>105</sup> Côté, 2014  
<sup>106</sup> PIS/Ulula, 2019  
<sup>107</sup> DW, 2020  
<sup>108</sup> Tetra Tech, 2018  
<sup>109</sup> Côté, 2014  
<sup>110</sup> United States Geological Survey, 2011  
<sup>111</sup> Krause, 2021  
<sup>112</sup> Krause, 2021  
<sup>113</sup> Filipe Calvão & McDonald, 2021  
<sup>114</sup> Katz-Levigne, 2019  
<sup>115</sup> Cuvelier, 2020  
<sup>116</sup> Reuters, 2019  
<sup>117</sup> Global Communities Partners for Good, 2018  
<sup>118</sup> International Crisis Group, 2020  
<sup>119</sup> SAESSCAM, n.d.  
<sup>120</sup> Organisation for Economic Co-operation and Development, 2019  
<sup>121</sup> Putzel & Kabuyaya, 2011  
<sup>122</sup> Putzel & Kabuyaya, 2011  
<sup>123</sup> Putzel & Kabuyaya, 2011  
<sup>124</sup> Enterprise Générale du Cobalt, 2021  
<sup>125</sup> Extractive Industries Transparency Initiative, n.d.  
<sup>126</sup> Validation of the Democratic Republic of the Congo, 2019  
<sup>127</sup> Validation of the Democratic Republic of the Congo, 2019  
<sup>128</sup> Privacy Shield Framework, 2017  
<sup>129</sup> Sanderson, 2019  
<sup>130</sup> Copper Development Association Inc., 2017  
<sup>131</sup> International Energy Agency, 2020  
<sup>132</sup> Ivanhoe Mines, 2021  
<sup>133</sup> Ivanhoe Mines, 2018  
<sup>134</sup> Kayembe-Kitenge, et al., 2020  
<sup>135</sup> Radio Okapi, 2018  
<sup>136</sup> Radio Okapi, 2018  
<sup>137</sup> Peoples Dispatch, 2020  
<sup>138</sup> International, et al., 2020

- 
- <sup>139</sup> Pact, 2019  
<sup>140</sup> Pact, 2019  
<sup>141</sup> International Rights Advocates v. Apple, Microsoft, Dell, Tesla, 2019  
<sup>142</sup> Bureau of International Labor Affairs, 2019  
<sup>143</sup> Faber, Krause, & Sanchez, 2017  
<sup>144</sup> Faber, Krause, & Sanchez, 2017  
<sup>145</sup> Krause, 2021  
<sup>146</sup> Trafigura, 2020  
<sup>147</sup> Silva, Strauss, & Morisho, 2019  
<sup>148</sup> Silva, Strauss, & Morisho, 2019  
<sup>149</sup> Silva, Strauss, & Morisho, 2019  
<sup>150</sup> Hayes & Perks, 2012  
<sup>151</sup> The World Bank, 2017  
<sup>152</sup> Hayes & Perks, 2012  
<sup>153</sup> Hayes & Perks, 2012  
<sup>154</sup> Sovacool, 2021  
<sup>155</sup> PEPFAR, 2018  
<sup>156</sup> Hönke & Hönke, 2013  
<sup>157</sup> The World Bank, 2017  
<sup>158</sup> Pugliese, 2020  
<sup>159</sup> Cuvelier, 2014  
<sup>160</sup> Pugliese, 2020  
<sup>161</sup> Ivanhoe Mines Ltd., 2021  
<sup>162</sup> Webster, 2020  
<sup>163</sup> Wilson, 2017  
<sup>164</sup> Verite, 2018  
<sup>165</sup> United States Department of State, 2021  
<sup>166</sup> United States Department of State, 2021  
<sup>167</sup> Global Witness, 2006  
<sup>168</sup> Kavanagh, 2020  
<sup>169</sup> Loffman, 2017  
<sup>170</sup> Loffman, 2017  
<sup>171</sup> Nyaungwa, 2013  
<sup>172</sup> Verite, 2018  
<sup>173</sup> Kimberley Process, 2021  
<sup>174</sup> Schoutheete, Hollanders, & Longompul, 2020  
<sup>175</sup> Schoutheete, Hollanders, & Longompul, 2020  
<sup>176</sup> Schoutheete, Hollanders, & Longompul, 2020  
<sup>177</sup> Amnesty International, 2002  
<sup>178</sup> Galli, Danilo Chiarelli, D'Angelo, & Rulli, 2020  
<sup>179</sup> Kimberley Process, 2021  
<sup>180</sup> EITI Report, 2019, p.84  
<sup>181</sup> National Resource Governance Institute, 2017  
<sup>182</sup> National Resource Governance Institute, 2017  
<sup>183</sup> CEEC DRC government official, 2021  
<sup>184</sup> “EITI Report”, 2019, p.82  
<sup>185</sup> “EITI Report”, 2019  
<sup>186</sup> “EITI Report”, 2019  
<sup>187</sup> “EITI Report”, 2019  
<sup>188</sup> “EITI Report”, 2019

- 
- <sup>189</sup> Shaw, 2018
- <sup>190</sup> AFP, 2017
- <sup>191</sup> Hecht, 2015
- <sup>192</sup> Hecht, 2015
- <sup>193</sup> MiningAfrica, (2020). **DRC - A Major Mining Country in Africa**. Retrieved from <https://miningafrika.net/mining-countries-africa/democratic-republic-of-congo>
- <sup>194</sup> EITI Report, 2019
- <sup>195</sup> EITI Report, 2019
- <sup>196</sup> EITI Report, 2019
- <sup>197</sup> EITI Report, 2019
- <sup>198</sup> “Hearing before the subcommittee on monetary policy and trade of the committee on financial services”, 2013
- <sup>199</sup> Journal De Officiel de la République Démocratique du Congo, 2018
- <sup>200</sup> International Peace Information Service, 2012
- <sup>201</sup> Chatzigianni, 2020
- <sup>202</sup> Chatzigianni, 2020
- <sup>203</sup> CEEC DRC government official, 2021
- <sup>204</sup> CEEC DRC government official, 2021
- <sup>205</sup> EITI Report, 2019
- <sup>206</sup> EITI Report, 2019
- <sup>207</sup> EITI Report, 2019, p.152
- <sup>208</sup> Vlassenroot & Bockstael, 2008
- <sup>209</sup> Vlassenroot & Bockstael, 2008
- <sup>210</sup> Vlassenroot & Bockstael, 2008
- <sup>211</sup> Vlassenroot & Bockstael, 2008, p.119
- <sup>212</sup> Vlassenroot & Bockstael, 2008
- <sup>213</sup> Vlassenroot & Bockstael, 2008
- <sup>214</sup> Galli, Danilo Chiarelli, D'Angelo, & Rulli, 2020
- <sup>215</sup> Galli, Danilo Chiarelli, D'Angelo, & Rulli, 2020
- <sup>216</sup> Verite, 2018
- <sup>217</sup> Verite, 2018
- <sup>218</sup> Verite, 2018
- <sup>219</sup> Verite, 2018
- <sup>220</sup> Verite, 2018
- <sup>221</sup> Sjöström, 2016
- <sup>222</sup> Sjöström, 2016
- <sup>223</sup> Sjöström, 2016
- <sup>224</sup> Sjöström, 2016
- <sup>225</sup> Crisis Group DRC Expert, 2021
- <sup>226</sup> Reliefweb, 2017
- <sup>227</sup> Reliefweb, 2017
- <sup>228</sup> Reliefweb, 2017
- <sup>229</sup> Hayes & Perks, 2012
- <sup>230</sup> Hayes & Perks, 2012
- <sup>231</sup> Hayes & Perks, 2012
- <sup>232</sup> Hayes & Perks, 2012
- <sup>233</sup> Hayes & Perks, 2012
- <sup>234</sup> Enterprise Générale du Cobalt, 2021
- <sup>235</sup> International Development Research Centre, 2012
- <sup>236</sup> Sjöström, 2016

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<sup>237</sup> Sjöström, 2016

<sup>238</sup> Matthysen & Clarkson, 2013

<sup>239</sup> The Diamond Loupe, 2020