

Enhancing Human Rights and Sustainable Practices in Cobalt Mining: The Role of Supply Chain Due Diligence

Zachary Deutsch

Abstract

Artisanal and small-scale cobalt miners in the Democratic Republic of Congo (DRC) face numerous human rights abuses, including poor working conditions and child labor exploitation. As the DRC remains a global leader in cobalt production, driven by the increasing demand for lithium-ion batteries, concerns over the health and well-being of these miners have escalated. While previous attempts to address the issue, such as Law No. 007/2002, fell short, this research paper proposes a solution centered around international legislative regulations requiring supply chain due diligence and responsible cobalt standards. This research paper examines the effectiveness of supply chain due diligence through a case study of two artisanal and small-scale mining (ASM) sites in the DRC. Results reveal that implementing due diligence significantly curtails common human rights violations, such as child labor, by enforcing strict age control systems. Moreover, supply chain due diligence improves health and safety conditions in ASM mines, thus reducing occupational accidents and mitigating health risks associated with elevated cobalt exposure. Despite a counterargument questioning the efficacy of due diligence initiatives, the paper highlights the adverse welfare impacts of eliminating ASM mining, emphasizing the need for sustainable solutions. The proposed implementation involves an international cobalt supply chain management system, promoting ethical and safe standards for cobalt mining. While short-term challenges may arise during the certification process, strict enforcement of supply chain due diligence promises long-term benefits for ASM cobalt miners in the DRC. By safeguarding their human rights and improving working conditions, this solution aims to strike a balance between economic demands and social responsibility in the cobalt mining industry.

Introduction

Artisanal and small-scale cobalt miners in the Democratic Republic of Congo (DRC) experience human rights abuses through poor working conditions and child labor exploitation. As defined by the National Minerals Information Center, cobalt is a metal mined as a byproduct of copper or nickel (National Minerals Information Center). Although many countries produce cobalt, the DRC is a global

leader in cobalt production. According to the European Commission, a politically independent executive arm of the European Union, "The DRC produces about 60% of worldwide cobalt" (European Commission). Cobalt is widely used in producing goods, including lithium-ion batteries for smartphones, computers, and electric vehicles, for which demand is growing. Specifically, the electric vehicle industry heavily relies on cobalt production. According to the

Columbia Center on Sustainable Investment, a university-based applied research center and forum dedicated to studying, practicing, and discussing sustainable international investment, lithium-ion batteries are an "integral component to powering electric vehicles" (Ali, Saleem, et al). Furthermore, Raphael Deberdt and Philippe Le Billon, professors of anthropology and geography, respectively, at the University of British Columbia, state that electric vehicle production is rising because of climate change initiatives (Deberdt and Philippe Le Billon). Therefore, cobalt production in the DRC is essential in both global economies and climate change technologies. However, this recent evolution comes at the cost of

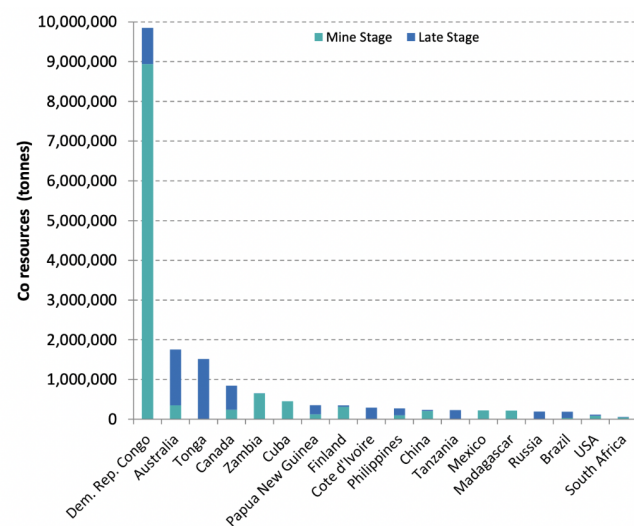


Figure 1. Illustrates 2023 cobalt deposits (in tonnes) by country, including mine stage and late stage.
 Note. 'Critical Raw Materials'. *Internal Market, Industry, Entrepreneurship and SMEs*, https://single-market-economy.ec.europa.eu/sectors/raw-materials/areas-specific-interest/critical-raw-materials_en. Accessed 25 July 2023.

the health of artisanal and small-scale cobalt miners in the DRC. The International Labor Organization defines artisanal and small-scale mining (ASM) as "mineral extraction undertaken by individuals, small groups of individuals, or cooperatives working with hand tools or elementary forms of mechanization" (Hentschel et al.). As nations attempt to remain resilient in the fight against climate change, they also become tolerant of poor ASM

conditions. Tomas Chamorro-Permuzic and Derek Lusk corroborate this idea in *The Dark Side of Resilience*. They claim that "when resilience is taken too

far, it may focus individuals on

impossible goals and make them

unnecessarily tolerant of unpleasant or

counterproductive circumstances" (Chamorro-Permuzic and Derek Lusk). Addressing climate is a

necessary goal, but it must not infringe upon the human rights of ASM cobalt miners to achieve this goal.

Célestin Banza Lubaba Nkulu, a professor of public health at the University of Lubumbashi, claims, "A substantial proportion (estimated at 15-20%) of cobalt in the DRC is being extracted by artisanal miners"

(Célestin Banza Lubaba Nkulu et al., 2018). Also, due to the increasing demand for cobalt to make electric vehicles, children have been employed to extract cobalt. Currently, "12.65% of the mining

workforce living in mining communities is below the age of 18" (Benjamin Faber et al.). Ultimately, ASM

cobalt miners in the DRC are vulnerable to severe health conditions because of the hazardous ASM

conditions. International legislative regulations requiring supply chain due diligence and responsible

cobalt standards should be implemented to solve this issue of human rights abuses, poor working

conditions, and child labor exploitation among ASM cobalt miners in the DRC.

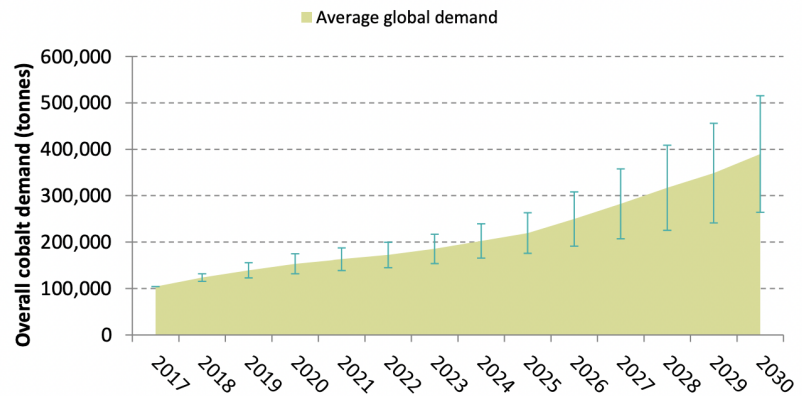


Figure 2. Displays global cobalt demand (in tonnes) from 2017 to 2030.
Note. 'Critical Raw Materials'. *Internal Market, Industry, Entrepreneurship and SMEs*, https://single-market-economy.ec.europa.eu/sectors/raw-materials/areas-specific-interest/critical-raw-materials_en. Accessed 25 July 2023.

Previously Attempted Solution

Law No. 007/2002, implemented by President Joseph Kabila, was the primary solution to improve the disadvantageous conditions for artisanal and small-scale miners. Filipe Calvão, an anthropology and sociology associate professor at the Geneva Graduate Institute, describes, "This 2002 law aimed to formalize ASM and fuel growth of DRC's mining industry through the creation of artisanal mining zones" (Calvão et al.). To operate legally under this new law, ASM miners were required to obtain a mining permit to mine in designated areas. However, the law also included some harsh restrictions. Calvão notes, "Should the permit be lost, destroyed, or stolen, authorization for artisanal mining would not be reissued, adding to the vulnerability of miners." Additionally, the 2002 mining code stated that ASM zones should be developed where the "technological and economic factors are not suited for the site to be industrially exploited." Thus, ASM zones would be limited to the least profitable areas with poorer cobalt deposits. Ultimately, the passage of Law No. 007/2002 failed to formalize ASM because it increased the financial burden on ASM cobalt miners and reduced their mining security.

Solution Claim One

International legislative regulations requiring supply chain due diligence based on responsible cobalt standards and mineral traceability systems would help to address human rights abuses. Supply chain due diligence occurs at ASM mines to ensure the safety and ethics of ASM. Lucia Mancini, a professional research councilor at the Slovenian National Building and Civil Engineering Institute, assesses the impacts of supply chain due diligence in ASM for cobalt through a case study of two ASM sites in the DRC. The first case of supply chain due diligence is *Better Mining*, an ASM site that regularly monitors working conditions and incident reports (Lucia Mancini et al.). Additionally, access to this site is

only possible through dedicated doors, which are constantly supervised. To enter, miners must provide a document certifying they are over 18 years old. The second case of ASM supply chain due diligence is the *Mutoshi Cobalt Pilot Project*, which also aims to improve safe working conditions by site monitoring and reporting information on incidents. Similarly, miners must enter through designated gates by showing their membership cards. Additionally, miners must wear personal protective equipment and closed shoes to enter the site. Overalls and hard hats are offered free of charge to the miners, ultimately ensuring the safety of ASM cobalt miners. Lucia Mancini et al. conclude that "in contrast to the baseline, where child labor is a serious risk, no cases of child labor or young adolescents working on sites have been either directly observed or reported by the Chief Security officers or miners consulted." Both pilot sites rigorously enforce age control systems to avoid the presence of minors on site. Although human rights violations are a severe risk in the ASM sector, this case study demonstrates that ASM due diligence entirely suppresses these common human rights violations.

Solution Claim Two

Mandatory supply chain due diligence also improves egregious health and safety conditions in ASM mines in the DRC. Elevated cobalt exposure (especially in children) increases the rate of birth defects and erectile dysfunction among ASM miners in the DRC (Lucia Mancini et al.). Additionally, ASM sites in the DRC exhibit hazards and report a high frequency of occupational accidents. These poor working conditions cause both mental and physical suffering among artisanal and small-scale miners. The human rights abuses faced by ASM cobalt miners in the DRC are analogous to the human rights abuses faced by Nelson Mandela, as described in Ch. 60 of *Long Walk to Freedom*. Mandela describes the difficulties that he and other Africans faced while in prison, detailing, "Prison is designed to break one's spirit and to destroy one's resolve. To do this, the authorities attempt to exploit every weakness, demolish

every initiative, and negate all signs of individuality with the idea of stamping out that spark that makes us human and who we are" (Mandela). Just as the prison authorities dehumanized Mandela, ASM cobalt miners face similar human rights abuses from the poor conditions of ASM cobalt mines in the DRC. However, the case study presented by Lucia Mancini et al. reveals success in combating these mines' egregious health and safety conditions. *Better Mining* and the *Mutoshi Cobalt Pilot Project* both demonstrated that supply chain due diligence improved the health and safety conditions for ASM cobalt miners. Mancini concludes, "Compared to the baseline, the occupational health and safety conditions on both sites are significantly better as neither has recorded any fatalities during the last year and the level of risk has decreased markedly according to both miners and consulted Chief Security Officers" (Lucia Mancini et al.). Thus, regulations requiring supply chain due diligence would improve the human rights of ASM cobalt miners by eliminating the exploitation of child laborers and improving the working conditions for all ASM cobalt miners.

Counterargument

However, Christoph Vogel, a former UN Security Council expert on the DRC, suggests that supply chain due diligence may be ineffective. Vogel points out that "supply chain due diligence initiatives have ambivalent effects on the livelihoods of local communities and that the income of artisanal miners has decreased in some areas" (Vogel et al.). There were numerous reasons for these effects. For instance, ASM mines had to shut down for long periods until certification processes were completed, authorities rarely issued clear titles for land and mining, and there was a general lack of technical and financial support for artisanal miners. Furthermore, the supply chain due diligence and traceability reforms destroyed many of the existing local regulations for ASM mining sites and frequently created tensions among different newly established mining cooperatives (Vogel et al.). One alternative solution to the

ongoing human rights abuses of ASM cobalt miners in the DRC is to reduce or even eliminate ASM cobalt miners in favor of industrially mined cobalt by large-scale companies. This solution would eliminate the need for new regulations requiring supply chain due diligence.

Rebuttal

Removing ASM mining can have detrimental welfare impacts. Benjamin Faber, an associate professor at the Department of Economics at the University of California Berkeley, points out that since a significant number of households, and children, depend on artisanal mining for their income, interventions that reduce demand for artisanal mining output are likely to harm the livelihoods of children and families living in the DRC (Faber et al.). The risks are especially high because, on average, households in the DRC are poor, have limited ability to save, and are particularly vulnerable to regional demand shocks. Furthermore, since the search for additional household income is the primary reported cause of child labor, adverse shocks to ASM miners' income by forcing households to search for alternative, often less profitable activities could increase child labor in the region. For these reasons, efforts to reduce or eliminate the sourcing of ASM of cobalt risk harming many households in the DRC.

Why the Proposed Solution Is Better Than the Counterargument Solution

Although the income of artisanal miners may have slightly decreased, it is only temporary. Once artisanal mines are certified, they need not be shut down again for certification. Additionally, destroying many of the existing informal local regulations for ASM mining sites creates safety standards and regulations to ensure that all ASM mines have safe working conditions.

Implementation

International legislative regulations requiring supply chain due diligence and responsible cobalt standards can be implemented through a cobalt supply chain management system. This system would be facilitated through partnerships on a cross-country level, regulated by international trade and investment organizations. An international supply chain management system ensures an ethical and safe standard for ASM.

Conclusion

Mandatory supply chain due diligence of cobalt becomes ineffective when they are no longer enforced. It is the responsibility of countries and international organizations to enforce such regulations. However, if supply chain due diligence is enforced, it will present both short and long-term effects for ASM. In the short-term, cobalt mines may have to be shut down for certification of health and safety standards, thus resulting in temporary unemployment of ASM cobalt miners and a shortage of cobalt supply. In the long term, supply chain due diligence will improve ASM mines' working conditions and health outcomes among ASM miners. Ultimately, supply chain due diligence will improve the human rights and working conditions of artisanal and small-scale miners in the Democratic Republic of Congo.

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