

A European Union corporate due diligence act for whom? Considerations about the impact of a European Union due diligence act on artisanal and small-scale cobalt miners in the Democratic Republic of Congo

Citation for published version (APA):

Elbel, J., O'Reilly, S. B., & Hrzic, R. (2023). A European Union corporate due diligence act for whom? Considerations about the impact of a European Union due diligence act on artisanal and small-scale cobalt miners in the Democratic Republic of Congo. *Resources Policy*, 81(1), Article 103241. <https://doi.org/10.1016/j.resourpol.2022.103241>

Document status and date:

Published: 01/03/2023

DOI:

[10.1016/j.resourpol.2022.103241](https://doi.org/10.1016/j.resourpol.2022.103241)

Document Version:

Publisher's PDF, also known as Version of record

Document license:

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A European Union corporate due diligence act for whom? Considerations about the impact of a European Union due diligence act on artisanal and small-scale cobalt miners in the Democratic Republic of Congo

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ARTICLE INFO

Keywords:

Artisanal and small-scale mining (ASM)
Cobalt
Democratic Republic of Congo (DRC)
Due diligence
Corporate accountability
Capacity approach

ABSTRACT

Background: Cobalt is a key mineral for the European Unions (EU) growing electrical vehicle market. It is widely held by international NGOs and researchers that the extraction of this mineral is associated with human rights violations. This study investigates the expected consequences of an EU Due Diligence Act on the health of artisanal and small-scale cobalt miners in the Democratic Republic of Congo (DRC) based on the perspectives of stakeholders.

Methods: Semi-structured open-ended qualitative interviews (n = 7) with researchers, non-governmental workers, representatives of a trade organisation and policymakers were conducted between February 2021 and April 2021. The Capability Approach focusing on agency and participation of the DRC's mining population was operationalised in the coding scheme. The software NVivo was used for coding and analysing the data.

Results: An EU Due Diligence Act was welcomed by the interviewed stakeholders. They expect the act to positively impact supranational human rights and environment protection standards in non-European regions. The impact on the health of miners will occur indirectly through monitoring and formalisation efforts and is expected to be positive when accounting for complex contextual factors.

Conclusions: Artisanal and small-scale cobalt miners should be included in international discussions about due diligence and their needs considered in the final version of the law to ensure it positively impacts health outcomes. Mandatory proactive engagement of businesses in the artisanal and small-scale cobalt mining sector with a focus on long-term approaches, partnerships, and collaborative efforts is recommended.

1. Introduction

1.1. Global demand and supply of cobalt

Cobalt (Co) is a key mineral in the production of electric vehicles (EVs) and other battery-powered products. Sixty-eight percent of cobalt supplied to the EU originates in the Katanga Copperbelt region in the Democratic Republic of Congo (DRC) of which approximately 20% come from artisanal and small-scale mines (ASM) (European Commission, 2017). Current efforts to tackle the climate crisis have allowed the EV industry to thrive. In the European Union (EU), the demand for EVs is projected to grow 22–34% annually, hence the quantity of these novel

vehicles will increase from 2 million in 2020 to up to 61 million in 2030 (Alves Dias et al., 2018). The supply of cobalt has to be assured to confirm the projected trend, as the demand for resources used for their production will simultaneously increase. Thus, an almost nine-fold increase of cobalt demand in the EU is forecasted between 2020 (20 000 tonnes) and 2030 (170 000 tonnes) (Alves Dias et al., 2018).

1.2. The Democratic Republic of Congo as a context for cobalt mining

Artisanal and small-scale miners in the DRC are vulnerable to exploitative working conditions. Years of unstable political leadership and governance followed independence in 1960, with two major civil wars until 2003. At the same time, the Republics' role as a global

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<https://doi.org/10.1016/j.resourpol.2022.103241>

Received 4 March 2022; Received in revised form 12 September 2022; Accepted 14 December 2022

Available online 11 January 2023

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List of abbreviations		LMIC	Low-Middle-Income Countries
ASM	Artisanal and Small-Scale Mining	LSM	Large-Scale Mining
ASCM	Artisanal and Small-Scale Cobalt Mining	NGO	Non-Governmental Organisation
DNA	Deoxyribo Nucleic Acid	OECD	Organisation for Economic Co-operation and development
DRC	Democratic Republic of Cong	OHS	Occupational Health and Safety
EGC	Enterprise General du Cobalt	TEU	Treaty on European Union
EU	European Union	TFEU	Treaty on the Functioning of the European Union
EUDDAct	European Union Due Diligence Act	UK	United Kingdom
EP	European Parliament	UN	United Nations
EV	Electrical Vehicles	UNDP	United Nations Development Programme
GDP	Gross Domestic Product	US	United States
HDI	Human Development Index	ZEA	Zone d'Exploitation Artisanale (Zone for Artisanal Exploitation)
ILO	International Labour Organisation		

supplier of essential industrial minerals solidified. Unofficial trading of these minerals predominates (Jameson et al., 2016). Today, miners make up the second biggest group of employees in the DRC after the agriculture sector. Most of the 1.2 million artisanal and small-scale miners, and 10 million dependents, live below the international poverty line (Banza Lubaba Nkulu et al., 2018). While cobalt mines do not lie in the provinces affected by violent war currently, a report by the International Crisis Group from 2020 points towards increased violence in the south-east provinces, Haut-Katanga and Lualaba, and stresses the relation of these conflicts to tensions between ASM and industrial mining sites and the increase of government violence against civilians in those areas (International Crisis Group, 2020) (see Fig. 1).

1.3. Health consequences of artisanal and small-scale cobalt mining

Artisanal and small-scale miners and their communities experience poor health outcomes due to the direct and indirect effects of their working environment (see Fig. 2) The miners working in ASM are exposed to severe health hazards as a result of the lack of occupational health and safety (OHS) (Banza Lubaba Nkulu et al., 2018), including

poor sanitation situations, a lack of access to safe water and food, and frequent exposure to inflammatorogenic dust and loud noises. In addition, miners are exposed to a high risk of injury related to low levels of safety training and awareness of potential hazards (Hentschel et al., 2002). The artisanal miners and individuals living in and around mining communities have also been shown to carry toxic levels of cobalt in their blood and urine (Banza Lubaba Nkulu et al., 2018), which is associated with increased risk of cancer, cognitive impairment, liver, and kidney disfunction, and birth defects. Moreover, DNA damage was observed to occur among individuals with particularly high exposures to cobalt (Banza Lubaba Nkulu et al., 2018; van Brusselen et al., 2020).

In addition to physical harms, complex psychosocial hazards are present in artisanal and small-scale mining. Miners often migrate from their home villages to self-regulated mining communities, within which substance abuse, violence, sex work, and the spread of sexually transmitted diseases are common (Basu et al., 2015). The lack of available healthcare facilities worsens the miners' situation. Sexual and physical abuse of children and women has been documented in several mining areas in some regions of the DRC (Hinton et al., 2003; International Labour Organization, 1999). The number of children working in ASM in

Box 1

Democratic Republic of Congo – Key facts and figures (2020)

- HDI 2019: **0.48** (rank: 174 of 189)
- Average life expectancy: **60.7 years**
- Average years at school: **6.8** (mean)
- % of the population living below international poverty line (US\$1.90/day): **76.6%**
- **Independency** from Belgium colonisers since **1960**
- First multi-party elections in 2006
- Former President: Joseph Kabila (2006 – 2019)
- Current President: Félix Tshisekedi
- Fastest growing trade relation for cobalt in 2019: DRC to China (97% of cobalt exports)

Fig. 1. Democratic Republic of Congo: Key facts and figures.

Source: Chatham House, 2020; Jameson et al. (2016); United Nations Development Programme, 2020.

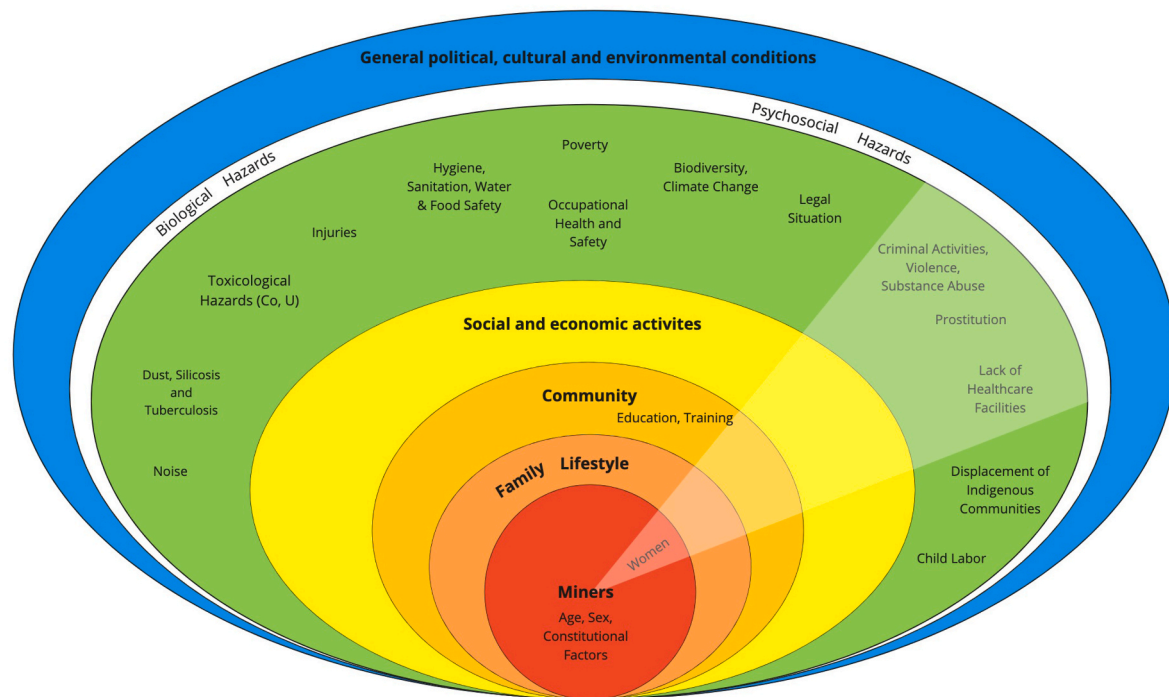


Fig. 2. Determinants of health of ASCM

Source: Own compilation; adapted from Dahlgren and Whitehead (1991).

the DRC is not exactly known, numbers like 40000 are discussed in the literature. These children may be wholly or partially deprived of education and can experience high levels of violence (Amnesty International, 2016; Amon et al., 2012; International Labour Organisation, 2019; International Labour Organization, 1999).

1.4. Towards a European Union due diligence act

Consumer and investor preferences increasingly steer companies towards climate neutrality and *fair-trade* and *conflict-free* production. Additionally, international NGOs played a key role putting pressure on EV producers to mitigate the negative effects of cobalt mining in the DRC, including the alleged human rights abuses at mining sites, and the disastrous health effects of mining. Besides consumer preferences, legal obligations direct companies towards due diligence efforts (Smit et al., 2020).

Due diligence requirements, built on the UN Guiding Principles on Business and Human Rights, the OECD Due Diligence Guidance, and the OECD Guidelines for Responsible Business Conduct, are implemented in various European Union member states. These laws demand traceability and identification of risks and violations related to human rights and the environment. France, for example, implemented the French Corporate Duty of Vigilance Law in 2017. Since 2019, the Netherlands has used due diligence regulation to specifically target child labour. Germany adopted a Supply Chain Law on the June 11, 2021 that enters into force in 2023 (BMZ, 2021) - a law disputed for being too much of a compromise with little consequences (Initiative Lieferkettengesetz, 2021). Finland, Denmark, and Italy are also considering similar laws. Outside the EU, the UK has implemented a Modern Slavery Act in 2015 (Smit et al., 2020) while the Swiss voted in favour of an ultimately failed due diligence law in November 2020 (Hammerschmid and Vesper-Gräse, 2020).

An EU-wide Due Diligence Act (hereinafter EUDDAct), which would supplement the various laws applying to the internal EU market, harmonizing the mentioned member state laws, is high on the European agenda (Smit et al., 2020). A legislative initiative *report with recommendations to the Commission on corporate due diligence and corporate*

accountability (European Parliament, 2021a) has been adopted by the European Parliaments' Committee on Legal Affairs and was passed in the European Parliament on the March 10, 2021. After delaying their response two times, the European Commission finally adopted the proposal on February 23, 2022 (European Commission, 2021; European Commission, 2022; European Parliament, 2021b). The report addresses human rights, environmental, and governance issues and states that all large EU based enterprises, and non-EU based enterprises that supply the EU, are affected. The rules state a duty to perform and set up due diligence processes along the entire value chain. Non-compliance with the proposed law could lead to criminal charges or a suspension of the offending business (European Commission, 2022; Vesper-Gräse and Hammerschmid, 2020). Important to note here is that the EU Batteries Regulation is also on the table. The sector specific legislation is important and should be promoted. Nevertheless, to avoid fragmentation and merely sector-specific advances, an overarching piece of legislation would foster harmonization of standards, not only across Member States, but also across sectors (Vallini and Mistry, 2022). It is therefore important to explore the tangible benefits of the proposed EUDDAct, including in the context of cobalt mining and health before its implementation.

Experts in the field of international development are divided on the benefits of due diligence legislation for health. Some advocate for an EU supply chain law on the grounds of preventing or mitigating human rights violations (Geenen, 2012; Jameson et al., 2016; Stoop et al., 2018). Others argue that previous formalisation efforts in the field of minerals had negative consequences on the health of artisanal and small-scale miners, worsening living conditions and forcing the miners in conflict areas to commit to working with the armed forces to sustain a living, thereby worsening their chances for social and economic independence (Hilson et al., 2016). Geenen (2012) identified that a top-down formalisation process of ASM in the DRC is related to a high bureaucratic burden that artisanal miners cannot bear. Context is often neglected during formalisation, leading to the development and implementation of inappropriate interventions when engaging with the sector, and simultaneously the setting of unrealistic targets and expectations when evaluating such efforts. Governmental and

non-governmental efforts to oversee ASM areas may result in diverging standards between controlled and non-controlled zones, as only some areas can be supported and certified to mine ‘responsible’ (Umpula et al., 2021). A study by the European Commission (Smit et al., 2020) indicates that formalisation could cause investors to withdraw from the regions, leading to loss of income for ASCM. However, the same study implies that most stakeholders believe that a mandatory EUDDAct would have positive social effects and could help to end child labour due to greater monitoring. Formalisation of ASCM is claimed to be essential for competition and inclusion in the market and economic development of the sector whilst ensuring human rights compliance (Amnesty International, 2016; Geenen, 2012).

This study explores the expected and the unintended consequences of an EUDDAct on the individual freedom, agency, and participation of artisanal and small-scale cobalt miners in the Democratic Republic of Congo. The study helps to clarify the potential consequences of the law on ASCM and identifies some of the motivations behind it. The findings are particularly relevant to public and advocacy groups and policy-makers in the field of human rights, justice, and international development.

2. Methods

A qualitative semi-structured interview study was performed. The analysis followed a guided theory approach by clustering study outcomes based on the Capability Approach.

2.1. Capability

This study draws on the *Capability Approach* (CA) by Amartya Sen. Sen highlights that development cannot be fully captured by income and gross domestic product (GDP), but rather also requires consideration of *individual freedom* and the opportunity to live lives most valued by individuals (Sen, 1999). Sen argues that the capacity to “enhance the lives we lead and freedoms we enjoy” (1999; p. 14), is built on *individual freedom* and *agency*. He emphasises the *agency* of an individual to act “in terms of her own values and objectives, whether or not we assess them in terms of some external criteria as well” (1999; p. 19) as a factor of this freedom. Sen further suggests that by not experiencing individual freedom and agency, individuals cannot escape poverty (1999; p. 20), as these factors result in the achievement of, as Sen refers to, *functioning*. The capacity to have the agency to act is needed to use resources, shape public policy, and contribute to a functioning market in a way of personal preference.¹ *Participation*, Sen states, is thus crucial for “the process of development” (1999; p. 34). Sen does not consider industrialisation and investment as sufficient for international development as they fail to ensure the freedom and agency of individuals.

Drawing a line from development to health, Martha Nussbaum extended the CA and states that a *normal life expectancy* and *health* count as essential capabilities. Health is identified to be required to achieve a good quality of life, simultaneously multiple factors influence health related functioning: health being ends and means in the CA. Despite Nussbaum’s concrete definition of capabilities, other scholars, among those Sen himself, described the link between the CA and health. Regarding health as means to functioning, the multiplicity of factors relevant to achieve a qualitative high and desirable life is highlighted. Multidimensional and dynamic concepts of health underline that various resources fostering good health need to be recognised when analysing health as ends (and an indicator of capability). Among those factors are the social and political *freedoms*, but also the *agency* to act.

¹ Even if Sen rejects GDP and economic growth as indicators of development, he does not reject the principles of markets and economic growth. Referring to Adam Smith, the freedom to participate in the market is an equally essential freedom (1999; p. 6).

These factors are dependent on contexts and individual preferences, once again emphasising the requisite of *participation* in identifying and acting on such determinants (Law and Widdows, 2008; Robeyns, 2005; Sen, 1984, 2002). The CA, with a focus on agency and participation, is operationalised in the methods section as the questions posed to participants reflect on these concepts.

2.2. Study setting

The interviews were conducted online. The interviewer was in the Netherlands, whereas interviewees were located elsewhere, in and outside the EU. Interviews were conducted via an online platform that is consistent with the requirements of the EU’s General Data Protection Regulation.

2.3. Study design and stakeholder selection

This study follows a qualitative study design in the form of semi-structured interviews. Such a structure supports the aim of precisely documenting stakeholder views on the topic and allows for the incorporation of tacit knowledge.

The potential participants were selected based on the researcher’s own judgment of eligibility. Two from each of the identified stakeholder groups representing the governmental perspective, the non-governmental/civil societies perspective, private companies, researchers, and the artisanal and small-scale suppliers of cobalt in the DRC were planned to be interviewed. Stakeholders were selected via purposive sampling, aiming to include individuals who are familiar with due diligence laws, formalisation of artisanal and small-scale (cobalt) mining or human rights. This was established via the subjects’ background, official statements, and previous public engagements. In total 22 individuals were identified and contacted via email (see Fig. 3). To be included in the study interviewees must have been able to conduct the interviews online within one month and in English language. The study aims to explore the subject by exploring these various perspectives. It must be acknowledged that with the limited number of contacted participants the views are expected to lack full representation of each stakeholder group. To be visible to the researcher in the first place, potential participants required a certain level of publicity in their respective stakeholder group. Views described may hence not represent the full picture.

2.4. Study outcomes

The main interest of this study was to evaluate the expected and the unintended consequences of an EU Supply Chain Law on the three facets of Sen’s capability - individual freedom, agency, and participation - of artisanal and small-scale cobalt miners in the DRC and thereby illuminate its potential health impacts. Aspects that allow the researcher to recognise empowerment in the language used by participants were terms related to, or descriptions of agency, participation, capacity, or capability. Frequently occurring themes were identified during the interviews and added as topics for subsequent interviews.

2.5. Data collection and interview schema

Data was collected via open-ended semi-structured interviews from March 2021 to April 2021. The guiding questions are included in the Appendix. The interviews were recorded and manually transcribed.

2.6. Data storage and protection

Data was stored highly protected on a secure data storage by Maastricht University. Only the interviewer had access to this data which once transcribed and was anonymised. The recorded interviews were deleted once transcribed.

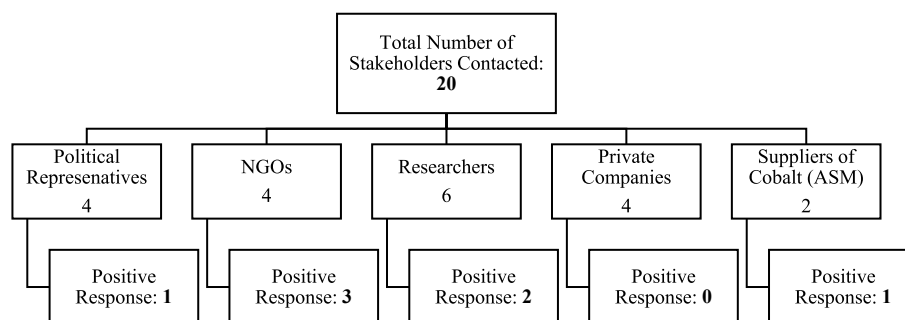


Fig. 3. Flowchart: Participant selection.

2.7. Data analysis

All interviews were conducted in English. The analysis was performed using NVivo. To refine data interpretation, a mix between an open and focused coding was applied, as codes related to the theoretical framework were determined beforehand, whereas additional relevant themes and codes were developed simultaneously to the primary data analysis.

2.8. Validity and reliability

To assure validity and reliability of the results, the classifications of interviewees' characteristics, such as governmental or non-governmental, job title and geographical representation are presented in Table 1. Member checking was performed by requesting feedback from the interviewees after a first analysis of the transcript to assure that interpretations were accurate. Therefore, the full transcript was sent to the participant via email. Unfamiliar technical terms and abbreviations were highlighted by the interviewer and then clarified by interviewees. Expert checking was performed by discussing the methodological framework with other researchers.

To enhance trustworthiness, the coding revealed if themes were raised by several participants and stakeholder groups. It was compared whether stakeholders' options are presented in certain patterns, which was an essential part of the data analysis process. Results were triangulated with existing empirical work and the theoretical framework (Capability Approach) which is presented in the discussion section of this paper. The literature for this re-contextualisation was selected by referring to scholars referenced in preliminary research and the introduction, as concepts were built on those readings. However, additional literature and newest data was found considering the topicality of the subject. No additional theory was used to discuss the results.

2.9. Ethical approval

Ethical approval of Maastricht University's European Public Health sub-board of the FHMLrec panel was granted on the March 16, 2021

(FHML/BEPH/2021.010).

3. Results

3.1. Participant characteristics

Eight participants agreed to participate in the interview study (a response rate of 36%, see Fig. 3). The participant characteristics are displayed in Table 1. Three stakeholders that were interviewed represent the non-governmental perspective, two stakeholders are expert researchers in the field of artisanal and small-scale mining, two were representatives of a non-profit trade association, and one was a representative of policymakers. The duration of interviews ranged from 27' to 60' minutes, with an average of 45' minutes.

3.2. Theme 1: general opinion about the proposed EUDDAct

The definition of due diligence was specifically highlighted during the interviews. Interviewees stated that the correct interpretation of responsible business conduct is about the risk-to-people in the entire supply chain. Defining due diligence, stakeholders pointed towards the five steps of the OECD framework that the proposed EUDDAct is based on (Identification, mitigation, tracking, reporting, and remediation) (OECD, 2018).

That proactive part of due diligence, that it's not just about preventing risks everywhere, but it's actually about enabling suppliers, enabling people, business partners to do the right thing, and enabling them to act responsibly. (NGO C)

When asked for their general opinion about the fact that the European Parliament has voted in favour of the legislative initiative report in January 2021, all participants expressed their belief that it was largely a positive development. One researcher suggested the possibility of unintended consequences of this policy, possibly creating a mixed outcome.

Table 1
Participant characteristics.

	Number of Participants	Geographical Representation	Job Title
NGO	3	A United States of America	Director of Programme
		B United Kingdom	Senior Director of Programme & Operations
		C The Netherlands	Senior Researcher and Coordinator
Researcher	2	A Democratic Republic of Congo	Medical Doctor/PhD Candidate
		B Germany	Programme Coordinator
Policy Maker (Governmental)	1	European Union	Senior Policy Advisor to the Dutch Socialists & Democrats on legal affairs and transparency
Non-profit Trade Association	2	Global	Head of Responsible Sourcing & Sustainability President

3.2.1. Positive

It will be detrimental to those value chains that are built or that are so neatly designed to outsource social and environmental costs to weaker regimes. But that's the thing we want to address in the first place. (Policy Maker)

Several positive consequences of an EUDDAct were expected by six of the seven stakeholders. They highlighted the high chance that the act will increase the global attention on human rights violations in the mining industry, influencing decision-making of political actors globally and in the DRC. Further, the obligation to act was welcomed as previous voluntary efforts did not achieve the desired effect.

So far, even if the company knew about this, they wouldn't be forced to act. (NGO A)

The EU-wide scale of the law was appreciated, albeit the hope that similar efforts should be implemented in other regions. Similarly, one of the researchers expressed that the public's attention on severe human rights issues like child labour could be extended towards other occupational health and safety, as well as environmental hazards. Relating back to the definition of due diligence, the representatives of the trade association forecasted that the act could trigger action to engage with the ASM sector and improve conditions locally. The possibility to take victims of human rights violations to court, represented by external stakeholders such as NGOs, is part of the report by the European Parliament and was highly appreciated by stakeholders.

That is huge and would be huge for a community that might not have a very strong governance or judicial system in their own country. (NGO B)

It was forecasted that the demand for ASM, and simultaneously human rights protections in the sector, could increase. The advantage of implementing such a law at this point has been established, as all stakeholders agreed that global trade is heading towards due diligence requirements. The earlier corporations start preparing, the more sustainable businesses will grow to be in the future. This argument will be revived when presenting the motivations of different stakeholders for such an act.

Companies will be in a better place because they're already doing it. They have experience, there'll be the winners in the long term. (NGO C)

3.2.2. Unintended consequences

The political stakeholder stated that the proposal is designed to limit any unintended consequence. However, the other stakeholders stated that disengagement from artisanal and small-scale cobalt mining areas could be an important unintended outcome. Instead of increasing efforts to align ASM with responsible sourcing requirements, companies could "rather opt for recycled material or material from large scale mines" (NGO B) or spend efforts to replace cobalt in the product. It was indicated that not only the ASM sector could be ceased from but the DRC entirely as the public's attention on human rights issues puts pressure on companies.

If somebody asks: "do you have cobalt from the DRC?" They need to be able to say "no". And people are not going to ask, "why not?". Because what they wanted to hear is "yes". So, they can say: "Well, how do you know there's no child labour?". If you say "No", you're fine. (NGO B)

The trade association and one of the NGO representatives, however, pointed out that the EUDDAct does not intend, nor is it designed to increase such de-risking approaches. Nevertheless, the Member States' interpretation of the law, as well as the Commission's final version, will influence the consequences occurring. Another aspect mentioned by two NGOs is the concern that the number of reports and monitoring efforts based in the Global North will increase, but support upstream in the supply chain (direct investment in the ASM sector and mitigation

efforts) will not. It was expressed that more control might not have the desired impact in the DRC.

In reality, things don't stop just because you say it needs to stop. (NGO A)

Instead of increasing health and safety standards across the entire sector, controlled islands in line with the requirements could emerge. Mechanism of control will be presented later in Theme 3, however, it is relevant to point out here that stakeholders expressed experiences that have shown that militia forces restricting ASM in non-designated areas can result in adverse effects. Similarly, one NGO expressed the criticism that designated mining zones (ZEAs), designed to monitor mining activities, might be nothing more than a "sandbox for people to play" (NGO B), not containing valuable materials.

3.3. Theme 2: motivations

3.3.1. Consumer preferences

The consequences of measures taken once the act is implemented and the discussion about the act itself are highly influenced by the public's opinion and preferences. On the one hand, public pressure steers companies towards performing detailed due diligence and taking risk mitigation efforts seriously, especially in the EV industry. On the other hand, the general opinion about cobalt tends to criminalise the ASM sector as a whole. Interviewees unanimously agreed that the financial incentive for businesses of satisfying shareholders contributes to the action or non-action taken.

Whether you're getting involved in law cases where you're diverting your media team to respond to like 200 calls in a day, it consumes resources. So good risk management, you know, whether it's good for the people or not, is always business sense, and it stops supply chain disruptions. (Trade Associates)

3.3.2. Market-driven

Harmonization of the EU's internal market, thus creating a level-playing-field for businesses selling their products within the EU, is proposed as a legal basis for the EUDDAct in the EP's report, which was described to be designed as a piece of corporate law during the interview with the political representative. Creating this level-playing field within the EU was further related to a sustainable future for businesses that comply with due diligence standards.

More sustainable companies that do respect human rights are going to be better companies, in the end, they're going to last longer. In the long term, if you're really thinking about, you know, sustainability from a long-term perspective. It's going to make you stronger as an economy. When laws in China do arise, or when things get so bad that everybody has to respect these rights, your companies, our companies, will be better place because they're already doing it. They have experience, there'll be the winners in the long term. (NGO C)

3.3.3. Geopolitical

What we can tackle as legislators, indeed, is what our own companies do in Europe, what our own companies do abroad, and what foreign companies do when they are putting products on the European market. What we can't tackle is the fourth category, namely, what foreign companies do abroad, because we have no jurisdiction over that. But I think that shouldn't stop us from trying to hold certain standards for anyone that does want to do business in or with the European Union. (Policy maker)

In relation to the geopolitical motivation of such a law, two general themes were identified in the answers provided. First, interviewees emphasised the dominance of China in the mining industry. The law's intention "to generate pressure along the supply chain, which can also influence the behaviour of the Chinese smelters" (Researcher B) was

underscored, as China's sales to the EU must be in line with the regulation. As shown in the reference by the political stakeholder above, the EU intends to influence any cooperation operating on the European market. However, other stakeholders were sceptical about the EU's impact.

The European Union is too small, to make a global difference. Because as long as the rest of the market is accessible, and especially the growing markets in Africa, China, and Asia, I'm afraid it might not make much of a difference. (NGO B)

This argument was picked up when discussing the control of compliance with the law. As the process of smelting minerals largely takes place in China, the "very political question" (Researcher B) of who will be responsible for controlling these smelters arose. The political representative underscored the experience and successes of the EU and its' market of approximately 500 million consumers in setting global standards, arguing that this would be an outcome of an EUDDAct likewise. The power of the EU in the sector might increase due to the miners' preferences, who would choose to work under higher standards in EU-certified mines, leaving no other option to China than to elevate standards similarly.

I think there will be something like exclusivity. So, we must sell our minerals only to the European Union because working conditions are good; contracts are formal, and they're taking into account human rights and health and environments. (Researcher A)

3.4. Theme 3: occupational health and safety, formalisation, and compliance

It will not directly improve health and safety conditions at the mine site certainly. (NGO B)

The impact of the proposed act on the health and living conditions of artisanal and small-scale miners and their communities was disputed during the interviews. Interviewees elaborated on the idea that the law will not lead to direct improvement in mining conditions, explaining that factors such as peer pressure, low income, and a lack of formalisation and monitoring contribute to poor health and safety standards, as well as child labour in the mines. Others argued optimistically that with an accurate due diligence definition in place, positive health impacts could occur as a direct consequence of the law, as the due diligence requirements are set for the entire supply chain, including ASM. However, it was confirmed during the interviews that possible health consequences depend on monitoring and compliance efforts that will accompany an EUDDAct or already exist in the cobalt mining sector in the DRC. Hence, in the following, those efforts will be evaluated in more detail.

3.4.1. Large scale mining

When analysing how the requirements of the EUDDAct would be complied with it is relevant to initially present the stakeholders' views on large-scale mining (LSM) and its' relation to ASM, as it was hypothesised that industrial mining might increase as a result of the EUDDAct implementation.

LSM harms health and environmental conditions in the DRC. According to the political stakeholder, this LSM sector, mostly controlled by China, could be influenced by standards set by the EU. The hypothesised expansion of LSM was not supported by stakeholders who argue that increased demand for cobalt goes hand in hand with an increase of ASM. The increase of LSM would yet indeed be an easy solution to facilitate control in the mining sector, however, it would not be a consequence of the EU law, as it is far from what due diligence intends to achieve. Contrarily, stakeholders expressed the concern that importers and companies could still decide to source merely from LSM.

It'll be really interesting to see who runs to the LSM operators and who leans into the ASM ones. In some cases, they don't have a choice. ASM might dominate a certain sector, and it might not be an LSM producer that they can go to. But in other cases, like in Congo, there are choices. (NGO A)

3.4.2. Formalisation

In the DRC we have laws, but those are not very well implemented, because the complexities of all partners are not taken into account. That's why it will be very difficult to implement laws in the DRC. (Researcher A)

In relation to formalisation and monitoring efforts, stakeholders referred to the political complexity in the DRC. This complexity must be acknowledged when implementing efforts impacting ASM conditions as it influences formalisation of the ASM sector. As most mines are informal, their minerals would not be accepted in the supply chain according to EU due diligence requirements. Formalisation efforts are mostly pursued through the creation of cooperatives. Those cooperatives control mine sites but are described as undemocratic human resource agencies and are often criticised for benefitting the political elites rather than the miners themselves. Nevertheless, a network of mines overseen by a cooperative was identified as beneficial for NGOs that try to positively impact artisanal miners' livelihoods.

Associated with formalisation efforts, all stakeholders, except the one representing the European Parliament, mentioned the Enterprise General du Cobalt (EGC). The EGC was set up in 2019 as a state-run company by the ministry of mines of the DRC, aiming to monopolise the ASM cobalt sector in the Republic. Aiming to develop official ways to commercialise certified cobalt, the EGC is collaborating with global trade organisations and cooperatives that help to certify the mines. While their efforts are intensifying, it remains unclear how these efforts will influence the living conditions of artisanal and small-scale miners and their communities. The concern that some artisanal miners will initially be excluded was expressed during the interviews. Finally, it was projected that ultimately the EGC will not be the only organisation controlling the market, as their efforts will likely be supplemented by existing actors in the field of responsible cobalt mining.

3.4.3. Monitoring & compliance with standards

Legally, mandates and laws on ASM standards exist in the DRC. However, they are practically poorly enforced. The politically complex context in the DRC is one factor contributing to this enforcement gap. Interviewees identified that monitoring of ASM is currently executed by government agents, some of whom should be at the mine sites, while others appear out of financial motivation. It was emphasised that the government has the responsibility to increase compliance with standards set by mining laws. However, the impact on livelihoods by the presence of state forces at mines sites was questioned, as the reference to women in mining communities highlights:

They said that because there's no militias and state security forces harassing them, they feel more secure, and they are more secure. And that there's actual security, real security. What they always say is: security for who? - But for them, they felt safe and less in danger. (NGO A)

In addition to state forces, cooperatives play a role in monitoring safety rules already in place. Furthermore, interviewees indicated that several international organisations were active actors in monitoring cobalt mines and standard compliance, such as the Cobalt Action Partnership, the Responsible Minerals Initiative, the Fair Cobalt Alliance, and the Responsible Business Alliance.² In addition, the geographically defined area of the Copperbelt was highlighted as an advantage for exercising control over Occupational Health and Safety.

In addition to context complexity, challenges associated with monitoring the artisanal and small-scale cobalt mining sector in the DRC are related to the wider due diligence process. The absence of a robust and transparent audit system was stressed. Further, there is a lack of concrete action plans on how to address the identified problems. It was described that most companies are not willing to invest in monitoring, compliance, and mitigation initiatives on the ground, as due diligence is a costly process for businesses. That certification schemes can serve as an incentive to neglect problems, which, if highlighted, are also expected to be addressed, was criticised. Audit fatigue of local miners and cooperatives could potentially contribute to the gap between planned action and effective outcomes.

To create monitoring mechanisms, of which some address the aforementioned challenges, the interviewees suggested the collaboration of various stakeholders. On the one hand, miners need to be involved so that mitigation efforts have a positive effect on them, and their needs are considered. On the other hand, industries and the above-mentioned international organisations need to cooperate so that they can share the costs of due diligence. The applied audit systems need to be transparent and investigate the details of the supply chain. New and existing efforts to perform due diligence should converge.

Responsible business conduct is needed to avoid companies to have adverse impact on people on the planet. And that voluntary standards for responsible business conduct have failed to fight the accesses. So, they have helped the good guys to be better, but they haven't helped the bad guys to be less bad. To obtain the latter, the just lifted action is needed. And that's what we're doing now. (Policy Maker)

3.5. Theme 4: participation, agency & sustainable development

3.5.1. Participation

To address the needs of artisanal miners, you need to make interviews with them, to understand them, to hear them, to know what they need, in order to make a good thing. (Researcher A)

Stakeholders agreed that the perspectives of artisanal and small-scale cobalt miners are not sufficiently represented in the EUDDAct proposal and discussions related to the act. The underrepresentation of women and their needs was specifically emphasised. Few NGOs and civil society organisations consult miners and consider their needs when advising EU lawmakers. Yet, the preponderance of stakeholders representing the Global North in those discussions was underscored.

The voice of the worker is always the most missing. (Trade Associates)

The legal and moral obligation to include local communities in decision-making processes was highlighted by all stakeholders, referring

² Cobalt Action Partnership (CAP), collaborating with the Global Battery Alliance, is a public-private coalition of organisations in the field of responsible ASM practice. Responsible Minerals Initiative and Responsible Business Alliance are two of the programme leads of CAP (UNICEF, 2020). The Fair Cobalt Alliance (FCA), initiated by the Impact Facility, focuses on ASM, sustainable community development, and child labour in the DRC. Members of the FCA include Huayou Cobalt (cobalt sourcing and trading), Glencore (Swiss-based & world's largest resource trading company), and others (The Impact Facility, 2021).

to 'mandatory consultation' mentioned in the proposal and existing international law, International Labour Organisation (ILO) Conventions, and UN Treaties. The right of miners to free prior and informed consent was described to be an essential part of effective due diligence, identified, nonetheless, as an aspect that is often neglected.

You have to follow their [the miners'] advice or their recommendations, you have to talk to them about it, and you have to allow them to meaningfully participate. (NGO C)

When EU stakeholders are engaging with the local population, cooperatives officially represent artisanal and small-scale miners and their needs, as the miners are required to be part of a cooperative to dig. It was criticised that this hierarchy benefits traders and politicians more than the miners, as the former are the ones mostly leading those cooperatives.

First of all, you should set up good cooperatives, that are including all artisanal and small-scale miners, to discuss problems, and to make a discussion on the law. At this moment, I'm not sure that they will be included in the discussion, because artisanal miners are not recognised. And yet few cooperatives are recognised, and don't include all miners working in the artisanal sector. (Researcher A)

3.5.2. Agency

The report by the EP that guides the ECs final version of an EUDDAct includes a right to judicial proceedings, meaning that victims of human rights violations in sourcing countries can hold companies liable in courts in the European Union. Representatives, such as NGOs, can act for those victims. This was mentioned by several stakeholders as a possibility to increase the agency of the DRC's mining communities. However, scepticism was expressed as to what extent this possibility will be included in the final version of the act. Furthermore, instead of criminalisation and a reduction of investment into ASM, stakeholders stressed the need to empower mining communities and sustainably invest in the sector. These necessary considerations should be included in the act and the due diligence definition.

3.5.3. Capacity building and sustainable development

Several stakeholders questioned if the sustainable development of the DRC is an objective of the proposed regulation. They stressed that various other measures must be implemented to foster soft development of the ASM sector.

We don't legislate on Congo, we legislate on our companies, what they should do within their supply chains. I think this is beyond the scope of the ambition of our legislation. Although of course, we hope it will have some rippling effects on how the adherence to international standards in these countries themselves develops. But we're not really in the realm here of capacity building in nations for governments. I think we're drafting a piece of corporate law, and the addresses are corporations, so companies and governments. So, I think it's a bit out of scope. Other instruments will be needed to improve this situation. (Policy Maker)

Other stakeholders, however, recommended measures so that would allow the act to coincide with support-led processes. The need to proactively engage with the sector was expressed by three interviewees. This proactive engagement should be required as part of the EU regulation and further supported by incentives, such as rewards for downstream companies for investing upstream. On the other hand, it was predicted that the risk that the global cobalt demand is going to decrease in 10–15 years exists, as alternatives to using the mineral in EVs are researched and will be developed. Consequently, diverse opportunities for individuals currently working in the artisanal and small-scale cobalt sector should be advanced.

Let's already invest into the diversification of opportunities, so that people can do that. We want to go away from artisanal mining to small-scale mining, so that it's more professionalised, people have PPE. That means

naturally, if it's mechanised, that less people will find work. But the people that find work are local people that make a good income and are trained to do this. If there's less jobs in the sector, grown men are going to be the first to take it. So, I think this will be at the expense of women that find work in the mines at the moment. But definitely children, nobody's going to ask a 10-year-old to drive an excavator, if it's a well-paying job, they're just going to do it themselves. (NGO B)

When developing any action impacting local communities, policy makers should apply long-term thinking. Rather than excluding mines that do not comply with due diligence standards, it was recommended that mines be offered the opportunity to improve conditions. That the participation and empowerment of local populations are necessary for sustainable development was stressed yet again. Once more, partnerships of local and international stakeholders best address the needs of miners and ASM communities.

4. Discussion

This study explored the expected and unintended consequences of a proposed European Union Due Diligence Act for the individual freedom, agency, and participation of artisanal and small-scale cobalt miners in the DRC by performing semi-structured interviews with stakeholders in the private, government, non-governmental, and academic sectors. An EUDDAct based on the legislative initiative *report with recommendations to the Commission on corporate due diligence and corporate accountability* was welcomed by the interviewed stakeholders. Study participants expect that the act will positively impact supranational standards and legislation concerning human rights and environmental protections in non-European regions and contribute to sustainable business growth. The impact on the health of miners may occur indirectly through monitoring and formalisation efforts, which must, to be effective, recognise complex contextual factors. To adequately consider the context, artisanal and small-scale cobalt miners must actively participate in international discussions about due diligence.

An expected positive outcome of an EUDDAct is the potential to influence global trade partners to adhere to human rights and environmental standards, including OHS requirements. This aligns with the identified geopolitical motivation to favour the law. After being mined and refined in the DRC, most cobalt smelters are situated in China. To supply the European market, all agents in the supply chain will need to comply with the due diligence requirements, which could drive other regions towards aligning their existing responsible sourcing efforts. As described by scholars previously, interviews showed the possibility to fuse different sources of cobalt impedes the efforts to monitor the origins of the mineral (Bleischwitz et al., 2012). Participation in the mineral market, we hence refer to economic freedom in the CA, can be restricted once formalisation and control mechanisms are further implemented. It was shown that the multiplicity of the factors, among those participation and agency, influencing capacity, can at the same time impact formalisation and control as an outcome. Those efforts, hence, being means to *and* ends of capacity.

The obligatory character of the law was welcomed by the study participants as it aids to create a level playing field in the European Union advancing its internal market, fundamental to the European Union's objectives (Treaty on European Union, 1992, (Art. 3 (2)); Treaty on the Functioning of the European Union, 2007, (Art. 26)). This market-driven implication of a mandatory and EU-wide law can foster sustainable business growth in the long run: as consumers increasingly demand due diligence efforts, global standards are likely to emerge in the future. European businesses will subsequently already be equipped to verify their products and supply chains and will have a competitive advantage. By setting standards beyond child labour, the law can potentially inform about other human rights violations and environmental damages and, in doing so, expand the awareness and the public's expectations. In light of the Capacity Approach, it is questionable if the

needs of vulnerable individuals in the supply chain are sufficiently reflected in this novel attention, as the standards are not set in collaboration with those affected.

If the intention of the act is to create a foundation for sustained peace and development in the region, and to enhance the OHS of the ASCM population, a top-down formalisation approach does not seem suitable. Labelling imported cobalt as being free of human rights violations was criticised since it could lead to approaches to de-risk, described as an easy and cheap solution to certify imports. De-risking means isolating the ASCM sector entirely, as it is considered to be at a high risk of human rights violations. However, this approach is not in line with due diligence as the OECD defines it and, hence, should not be a consequence of the act which adheres to those guidelines (OECD, 2018). The critique aligns with analysis of previous international policies that portrayed minerals as a cause of violent conflicts and the ban of ASM as a solution to solve those (Geenen, 2012; Koch and Kinsbergen, 2018). To avoid companies pursuing this approach, stakeholders suggest requests for mandatory proactive engagement of businesses as part of the EUDDAct, which should ultimately empower the ASCM sector. Further, the definition of due diligence and all requirements set by the OECD's five-step framework must be interpreted coherently and correctly. Under these conditions, the living and working conditions of artisanal and small-scale miners and communities might be enhanced. Yet, the impact on the health of miners occurs indirectly through monitoring and formalisation efforts, which must, to be effective, acknowledge complex contextual factors.

Many of the past compliance and formalisation efforts in the DRC were considered ineffective by the study participants due to their failure to sufficiently consider the context. However, the question that Geenen (2012) voiced about accepting materials solely from formalised mines remains as cobalt from mostly informal ASM would not be accepted in the mineral trading. However, as most sectors in the DRC are not formalised, the economic context might hinder, and formalisation might not be required for a functioning market. Furthermore, cooperatives implementing formalisation efforts on the ground are described to benefit the political elite rather than miners themselves (Geenen, 2012; Umpula et al., 2021), similar critique was raised about international efforts to support development and peacebuilding in African countries (McNamee and Muyangwa, 2021). Nevertheless, scholars recommend increased governmental control over the ASM sector and enhanced certification schemes to improve OHS and living conditions (Banza Lubaba Nkulu et al., 2018; Geenen, 2012). The creation of the private but state-run Enterprise General du Cobalt (EGC) is a start. The implementation and the impact of the EGC must be monitored and its impact evaluated. It will be of interest to analyse if the EGC can accompany the needed governance reform in the country's mining sector (Bleischwitz et al., 2012; Somo, 2016; Umpula et al., 2021).

Artisanal and small-scale miners were not sufficiently involved regarding the EU due diligence requirements to date. However, the right of miners to free, prior, and informed consent should be considered an essential part of effective due diligence. Preceding research identifies that a similar pattern can be observed in previous conflict minerals legislation and mining reforms (Diemel and Hilhorst, 2019; Jameson et al., 2016; Stoop et al., 2018). When referring to agency in due diligence, the interviewees referred to the judicial proceedings included in the legislative proposal. However, experiences from the German legislative proposal fuel little optimism that the decision would go ahead in the EUDDAct. While this agency was mentioned in previous drafts of the German law, it was excluded in the final version.

This paper confirms what scholars increasingly stress out: those affected must be allowed to participate in the political decision-making (McNamee and Muyangwa, 2021; Sen, 1999). The lack of individuals' perspectives, integration, and cooperation with non-EU countries must be filled to counteract damaging global hierarchies and push towards sustainable development of the mining sector. Furthermore, the EUDDAct can focus on improving artisanal and small-scale miners' lives

by including incentives for or the obligations to proactively engage, as well as a focus on long-term approaches, partnerships, and collaborative efforts.

4.1. Limitations

Several limitations of this study are identified. First, as expected, the views represented in this study are not exhaustive. Many of the contacted individuals did not reply to a request to be interviewed, hence, a limited perspective of stakeholders from companies, European, international, or Congolese, is given. Congolese cooperatives, politicians, and artisanal and small-scale miners' views are similarly not sufficiently included, as language barriers existed. Second, potential bias could have occurred during the interviews. Knowledge was gained during the interviews, and interviews conducted later in the process might have been conducted more thoroughly, so that the answers of stakeholders equally were more detailed and complex. However, the interview guide ensured that the questions asked were generally similar and this limitation was minimised. The researcher's perspectives, norms, and values may also have influenced the interpretation of results. Before interviews and during the analysis, the researcher reflected on her preconceptions and opinions. Third, the cobalt supply chain is a very complex system that is difficult to grasp, as are the geopolitical aspects and EU-China trade relations. It is possible that some of these complex features were not fully included, as this would have extended the scope of the paper. Finally, methodological and investigator triangulation could have increased the reliability of results and is recommended for future research.

4.2. Research recommendations

Further research by scholars with expertise in political science, trade relations, diplomacy, peace studies, supply chains, etc. is needed. Congolese stakeholders must be included in the research efforts. A focus on artisanal and small-scale cobalt miners' needs and their empowerment through and participation in international decision-making should be further explored. The actual functioning of the law and relevant procedures must be analysed and assessed. Likewise, it must be evaluated if the final version of the law influences the governance complexities in the DRC and other international responsible sourcing efforts, e.g. China, must also be included. Regarding the Capability Approach, a detailed analysis of the theoretical aspects of *essential freedoms*, *evaluation*, and *effectiveness*, that would have gone beyond the scope of this research paper, is of interest regarding the EUDDAct. The evaluation of consequences of a final version of the European Due Diligence law should be based on an extensive version of Amartya Sen's theory and related indicators such as the Human Development Index.

4.3. Key recommendations for policy

To avoid adverse impacts of due diligence efforts and sustainably enhance the health and lives of the most vulnerable in the supply chain – in this case the artisanal and small-scale cobalt miners in the DRC – the following recommendations are issued for, firstly, the further due diligence policy process, and secondly, a strong EU Act on Corporate Due Diligence and Corporate Accountability:

1. The Due Diligence Policy Process
 - a. **Increase cooperation** and interaction of regional, national, and local efforts and legislation in the field of trade and mining policy. All actors - political, non-governmental, private, civil society and experts - must collaborate and coordinate efforts whilst sharing best practices, expectations, and needs.
 - b. **Strengthen participation** of stakeholders from the DRC in discussions on the EU level. Mining cooperatives, political and private actors, and local NGOs representing the ASCM sector must be incorporated in the EU policy process.

- c. EU Policy makers should learn from Member States experiences of due diligence laws and adopt an ambitious piece of legislation, setting an example for other regions.
 - d. **Ongoing evaluation** of the effects of the law on the most vulnerable workers in the supply chain need to be performed **by engaging with local populations** and asking for their **needs**. Responses to these conversations must follow.
2. EU Act on Corporate Due Diligence and Corporate Accountability
 - a. The proposed right to **judicial proceedings** must be included in the final version of the law.
 - b. Mitigation of risks and reporting of results ought to be demanded by clarifying and raising the awareness that the **definition of due diligence** goes beyond the identification of risks.
 - c. **Mandatory proactive engagement** in the ASCM sector of businesses should ideally be demanded by law. At least **incentives** (e.g., tax reliefs) for proactive engagement are necessary and should be explored. The **empowerment** of the local miners and the DRC should be the ultimate goal of these efforts.
 - d. **Long-term approaches, partnerships, and collaborative efforts** of stakeholders in the DRC and in the EU must be requested by the act.

5. Conclusion

This paper presents a general supportive opinion by stakeholders from NGOs, trade associations, politicians, and researchers of the proposed EU Due Diligence Act, and further introduced considerations about the consequences of the law. We found that the corporative character of the proposed law highlights the motivation to create a level playing field for businesses in the EU and to influence other regions to implement similar legislation. To protect the artisanal and small-scale cobalt mining sector in the DRC, mitigation of risks and tracking of results cannot be left aside and incentives for proactive engagement, long-term approaches, partnerships, and collaborative efforts are needed. The main implication of the results is that this international policy decision needs to be partly owned by affected miners and communities, whilst the interaction of regional, national, and local efforts and legislation shall be explored and connected so that, eventually, context-dependent governance reforms can lead the sustainable improvement of conditions in the ASCM sector in the DRC. The European Commission should focus on the needs of the most vulnerable when discussing the final version of the law.

Ethical approval and consent to participate

Ethical approval of Maastricht University's European Public Health sub-board of the FHMLrec panel was granted on the March 16, 2021 (FHML/BEPH/2021.010). Participation in the study was voluntary and all participants provided informed consent.

Consent for publication

Consent for publication was granted by all participants.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Author statement

All persons who meet authorship criteria are listed as authors. All authors certify that they have participated sufficiently in the work to take public responsibility for the content, including participation in the conceptualization, methodology, data curation, formal analysis, resources, validation, writing - original draft, writing - review and editing.

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Declaration of competing interest

No potential conflict of interest was reported by the authors.

Data availability

The data that has been used is confidential.

Acknowledgments

We would like to thank all participants of the study and the researchers and colleagues discussing the methods and drafts.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.resourpol.2022.103241>.

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