The limits of certification mechanisms and the role of flag States in the maritime trade of coltan from the Democratic Republic of the Congo

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Abstract

Coltan, a critical mineral essential to technologies such as 5G infrastructure and electric vehicles, is primarily extracted from the Democratic Republic of the Congo, where its production is closely linked to armed conflict, systematic human rights abuses, and entrenched illicit trade networks. Despite existing regulatory frameworks and the formal designation of coltan as a conflict mineral, significant volumes – often associated with grave human rights violations and illicit extraction – continue to enter global markets. These flows are frequently facilitated by external actors, including officials from neighbouring Rwanda, and are routed through key maritime corridors. This paper critically assesses whether prevailing due diligence mechanisms serve as effective barriers to the trade in conflict-sourced coltan, or whether they function primarily as a *façade* of compliance, enabling the continued circulation of high-risk

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materials. In response to these shortcomings, the analysis advances the case for strengthening the role and accountability of flag States under the UN Convention on the Law of the Sea, particularly in fulfilling their obligations under relevant International Labour Organization conventions and UN Security Council resolutions.

Keywords: Flag State, DRC, conflict minerals, UNCLOS, human rights, ILO, coltan, due diligence.

1. Introduction

Columbite-tantalite (coltan) is a critical mineral integral to the high-tech industry, playing a pivotal role in the production of 5G technology, electric vehicle batteries, and various other advanced technologies. The Democratic Republic of the Congo (DRC) is one of the world's largest primary producers of coltan.[1]

Despite its economic potential, the DRC's coltan sector is marred by serious challenges. Conflict, human rights abuses, and extensive illicit trade networks dominate the industry, creating significant barriers to

1. Market data on tantalum primary production remain inconsistent. U.S. and EU sources from 2023 identify the DRC as the leading producer, followed by either Rwanda or Brazil – though even this ranking varies across datasets. In contrast, the Ecofin Agency reports that Rwanda exported 2,070 tons of coltan in 2023, surpassing the DRC's 1,918 tons and positioning Rwanda as the world's top primary producer, with the DRC in second place. See, U.S. Geological Survey (USGS), *Mineral commodity summaries 2024* (USGS, 2024) 177; EU Trade Module, Raw Materials Information System (Tantalum), available at <<https://rmis.jrc.ec.europa.eu/rmp/Tantalum>>; and 'Coltan: Rwanda ranks top global exporter for the fifth time in 10 years' (8 April 2024), available at <<https://www.ecofinagency.com/mining/0804-45364-coltan-rwanda-ranks-top-global-exporter-for-the-fifth-time-in-10-years?>>.

establishing responsible sourcing practices and ethical supply chains. These challenges are further exacerbated by the involvement of external actors who have actively contributed to and capitalised on the region's instability for financial and strategic gain.

United Nations (UN) reports and independent investigations have consistently exposed Rwanda's central role in the illegal extraction and laundering of DRC-sourced coltan, facilitated through its support of the March 23 (M23) armed group. Once smuggled into Rwanda, this coltan is rebranded under Rwanda's export designation, effectively concealing its true origin and allowing it to enter international supply chains as a legally sourced mineral.

These revelations have fuelled growing global calls for coltan from both the DRC and Rwanda to be officially and consistently classified as a 'conflict mineral'. Such a designation subjects it to stricter trade regulations, enhanced transparency measures, and international monitoring systems aimed at curbing the influx of conflict minerals into the global market. Despite these regulatory efforts, the trade of conflict-sourced coltan persists, with substantial quantities still flowing to key processing and importing hubs across Asia, the U.S., and Europe. Maritime shipping routes likely constitute a significant channel for the continued movement of conflict-sourced coltan, with available documentation indicating export flows through strategic ports such as Mombasa (Kenya), Dar es Salaam (Tanzania), Durban (South Africa), and Luanda (Angola).

This paper addresses the effectiveness of existing due diligence mechanisms in preventing coltan illegally sourced in the DRC from entering global supply chains by sea. It assesses whether these mechanisms serve as genuine safeguards or merely create a *façade* of compliance, allowing high-risk products to circulate unchecked. In light of potential deficiencies in these frameworks, the analysis advocates for a more prominent role for flag States under the UN Convention on the Law of the Sea

(UNCLOS)[2] in preventing the illegal trade of coltan. This approach emphasises these States' legal responsibilities in ensuring compliance with their obligations under relevant International Labour Organization (ILO) Conventions and United Nations Security Council (UNSC) resolutions.

It is recognised that much of the information presented in this paper extends beyond the immediate maritime scope and may appear somewhat removed from the core subject matter of this Yearbook. However, this broader contextual foundation is essential for a comprehensive understanding of the issue's underlying nature, as well as its legal and factual ramifications, before engaging with its specific maritime dimensions.

This paper does not purport to offer definitive answers. On the contrary, it is likely to raise further questions and open new lines of inquiry. Its primary objective is to stimulate critical debate and encourage further academic research into these questions – both in relation to the specific context discussed here and, more broadly, concerning the responsibilities of States in regulating the maritime transport of goods obtained through illegal or exploitative practices – from cocoa harvested through child labour to garments produced in sweatshops.

2. Why coltan?

Understanding the importance of coltan – and the global urgency surrounding its ethical sourcing – is critical to grasping its broader role in international legal and policy debates. While other mineral and natural resources, including cobalt, diamonds, and wildlife, are equally central

2. United Nations Convention on the Law of the Sea, opened for signature 10 December 1982, 1833 UNTS 3 (entered into force 16 November 1994).

to discussions on state responsibility for illicit exploitation, trafficking, and their links to ongoing conflict in the DRC and neighbouring countries, they are not the focus of this paper.

This decision is informed by two primary considerations. First, a comprehensive examination of each of these resources would require extensive, context-specific legal and empirical analysis that exceeds the scope of a single academic article and would be more appropriately addressed in a monographic study.[3] Second, the due diligence and traceability frameworks currently in place for so-called 'conflict minerals' – namely tin, tungsten, tantalum, and gold (3TG) – are comparatively more developed and legally structured. Among these, coltan, as the principal ore of tantalum, occupies an important position due to its strategic relevance and persistent linkages to human rights violations and transboundary criminal networks, particularly in the eastern DRC. Accordingly, while many of the challenges and conclusions addressed in this paper apply more broadly to 3TG metals, the analysis will primarily centre on coltan and its derivative, tantalum.

Tantalum is a rare and critical metal with distinct properties that make it indispensable in the manufacture of advanced technologies. It is particularly critical in the production of tantalum capacitors, which regulate and store electrical energy in almost every modern electronic device.[4] What makes tantalum capacitors so valuable is their combination of effi-

3. This is the case, for instance, of cobalt, diamonds, lithium, ivory and giant pangolins, which are characterised by different challenges, geographical distribution, legal instruments and historical considerations.

4. Raimund Bleischwitz et al., 'Coltan from Central Africa, International Trade and Implications for Any Certification' (2012) Resources Policy 37, no. 1 (March 2012) 3-4; and Oluwole Ojewale, *Mining and Illicit Trading of Coltan in the Democratic Republic of the Congo* (ENACT, 2022) 2. See also, European Commission, *Critical Raw Materials for Strategic Technologies and Sectors in the EU. A Foresight Study* (EU, 2020) 57; and The Hague Centre for Strategic Studies (HCSS), *Coltan, Congo & Conflict. Polinares Case Study* (2013) Rapport No. 210513, 15-16.

ciency, heat resistance, and stability. These features allow manufacturers to produce incredibly small components, driving the miniaturisation of devices like smartphones, tablets, and laptops. Their reliability and durability also make them indispensable for 5G phone infrastructure, where high-frequency telecommunications equipment depends on stable and high-performing electronic components. The global rollout of 5G networks simply wouldn't be possible without advanced materials like tantalum, which ensures both performance and longevity in these systems.[5]

Beyond consumer electronics, tantalum's strategic significance extends to the aerospace, defence, and emerging technologies sectors. It is widely used in the production of advanced military hardware, satellite systems, aircraft components, AI processors, and green technologies such as electric vehicle batteries and renewable energy storage solutions. These applications demand materials capable of withstanding extreme environmental conditions, rendering tantalum a critical input for high-risk, high-performance systems.[6]

From the laptop used to write this very article to the smartphones buzzing in our pockets, the electric vehicles that take us home, and the satellites enabling global communication and security – coltan is deeply embedded in nearly every aspect of our modern lives.

Given its strategic importance, global coltan production is projected to grow significantly in the coming years. According to market analyses, the tantalum market (which coltan feeds into) is expected to expand at a compound annual growth rate of approximately 6% between 2023 and

5. Xue Wei et al., 'A review of tantalum resources and its production' (2023) Transactions of Nonferrous Metals Society of China, Vol. 33, Issue 10, 3132-3156; Tomas Zednicek, 'Tantalum Capacitors in 5G Infrastructure. What are critical metals?' (2023) Tantalum-Niobium International Study Centre, 35; and Philemon Lindagato et al., 'An advanced overview of recent developments in tantalum, tin, and tungsten production in Rwanda' (2023) International Journal of Mining and Mineral Engineering 14(1):1-26, 15-16.

6. Nabeel A. Mancheri et al., 'Resilience in the Tantalum Supply Chain' (2018) Resources, Conservation and Recycling, vol. 129, 56-69.

2028, driven by heightened demand for semiconductors, 5G infrastructure, and electric battery components.[7] Major industrialised nations – most notably China and the U.S. – along with leading tech giants such as Huawei, Apple and Tesla, are locked in a competitive race to secure a stable and reliable supply of coltan.[8]

The DRC holds vast reserves of strategic minerals, including some of the largest known deposits of coltan.[9] By 2019, the country accounted for approximately 40% of global coltan production, highlighting its central role in the global supply chain and its attractiveness to transnational mining firms.[10]

3. Coltan, conflict, and human rights

The 1961 assassination of Patrice Lumumba, the DRC's first democratically elected Prime Minister and a prominent figure in African anti-colonialism, marked a pivotal turning point in the country's post-colonial trajectory. Orchestrated with the complicity of Belgian and American intelligence

7. Research and Markets, *Global Strategic Business Report – Tantalum (2023 – 2030)*. See also, Wei et al. (n 5) 3132-3156; and Ojewale (n 4) 2.

8. See Bleischwitz et al. (n 4) 12; and Ojewale (n 4) 2. Coltan is also included in the list of "critical raw materials" under Annex II of Regulation (EU) 2024/1252, as well as in the "critical minerals list" featured in Table 4 of the U.S. *Mineral Commodities Summary 2024*.

9. Max Chaffetz, 'Disentangling Conflict and Minerals: How NGOs and Lawmakers Ought to Rebrand Their Flawed Narrative of Eastern Congo' (2021) Virginia Journal of International Law Vol. 62.1, 203-234, 207; Artur Usanov et al., *Coltan, Congo & Conflict* (Hague Centre for Strategic Studies, 2013) 43-44; and Dena Montague, 'Stolen Goods: Coltan and Conflict in the Democratic Republic of Congo' (2002) SAIS Review vol. XXII, no. 1, 103-118, 105.

10. U.S. data from 2023 identify the DRC, Rwanda, and Brazil as the top three producers of mined tantalum, together accounting for the majority of global output. See U.S. Geological Survey, *Mineral commodity summaries 2024* (USGS, 2024) 177. See also, Ojewale (n 4) 2.

services, Lumumba's execution facilitated the consolidation of authoritarian rule under Mobutu Sese Seko, ushering in nearly three decades of kleptocracy and political instability.[11] This instability laid the groundwork for the protracted civil conflict that continues to afflict the region.

During the 1970s, the Belgian-owned *Société Minière et Industrielle du Kivu* (SOMINKI) began extracting tantalum as a by-product of gold mining operations.[12] Holding significant concessions across what was then Zaire, SOMINKI's operations remained modest in scale until the 1990s, when global demand for coltan began to surge.[13]

Following the First Congo War (1996–1997),[14] the dynamics of coltan mining in the DRC shifted dramatically. The conflict weakened State control over mining operations, creating a power vacuum that facilitated the rapid growth of artisanal mining.[15] This boom was further fuelled by a sharp increase in global tantalum prices during the Second Congo War (1998–2003),[16] driven by soaring demand from the high-tech industry for electronic devices.[17]

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11. Ludo De Witte, *The Assassination of Lumumba* (Verso 2001). See also, Andrew L. Gulley, 'One hundred years of cobalt production in the Democratic Republic of the Congo' (2022), Resources Policy 79, 103007, 1-10, 2.

12. See Usanov et al. (n 9) 108.

13. Ibid. See also, Kazuyo Hanai, 'Conflict minerals regulation and mechanism changes in the DR Congo' (2021) Resources Policy 74 (2021) 102394, 1-9, 5.

14. The First Congo War was a conflict in the DRC that led to the overthrow of longtime dictator Mobutu Sese Seko. It was primarily driven by regional tensions following the Rwandan Genocide, with Rwanda and Uganda backing rebel forces led by Laurent-Désiré Kabila. See Gulley (n 11) 2.

15. Hanai (n 13) 5; and Aloys Tegera, Sofia Mikolo and Dominic Johnson, 'The Coltan Phenomenon: How a rare mineral has changed the life of the population of war-torn North Kivu province in the East of the Democratic Republic of Congo' (Pole Institute, 2002) 5-6.

16. See Gulley (n 11) 2.

17. See S/2003/1027 of 23 October 2003, 5-6; Steven Jackson, 'HPG Background Paper. Fortunes of War: The Coltan Trade in the Kivus' (2003) Overseas Development Institute, Background Research for HPG Report 13, 1-21, 7.

The Kivu provinces, rich in coltan deposits, rapidly became the epicentre of a frenzied mining rush. Thousands of artisanal miners, including a significant number of children, were drawn into the industry, often working under harsh and exploitative conditions. This chaotic, unregulated environment not only intensified human rights abuses, but also provided fertile ground for armed groups and foreign countries to seize control of mining operations and exploit the illegal coltan trade to finance ongoing conflicts.

The following sections offer an overview of key issues surrounding coltan mining in the DRC, including relevant UNSC Resolutions, international and national transparency initiatives for certifying conflict-free minerals, human rights considerations, and the involvement of external actors in the illegal trafficking of mineral resources. Together, these factors expose a deeply flawed system that undermines the ethical sourcing of coltan in global supply chains, with far-reaching implications for compliance with international law.

Due to space constraints, this paper will not distinguish between industrial and artisanal mining in its discussion, though certain concerns may be more pronounced in one or the other depending on the specific context. However, this does not impact the analysis's conclusions and results, as they are based, in practice, on a hybrid system that integrates both artisanal and industrial mining at various stages of the process.

3.1 UNSC Resolutions

UNSC Resolution 1291 (2000) was the first Security Council resolution to formally underscore the link between the illegal exploitation of natural resources in the DRC and the continuation of hostilities during the Second Congo War.[18] This resolution led to the establishment of

18. S/RES/1291 of 24 February 2000, 5. See also following UNSC Resolutions 1304(2000) and 1341(2001).

the Panel of Experts on the Illegal Exploitation of Natural Resources and Other Forms of Wealth in the DRC (the "UN Panel"), which was tasked, among other things, with investigating the illegal sourcing and trade of natural resources, including minerals, in the DRC, and reporting on the situation.[19]

The findings of the first UN Panel's report (2002) already raised significant alarm regarding the scale of illegal resource exploitation in the DRC, particularly highlighting the involvement of external actors, including Rwanda and Uganda, in these illicit activities.[20] The UN Panel's mandate was later incorporated into the work of the UN Group of Experts on the DRC, established under UNSC Resolution 1533 (2004).[21] While the primary objective of the UN Group of Experts is to monitor the arms embargo imposed by the same resolution, its mandate also includes investigating the illegal trade of mineral resources that finance the military conflict in the DRC. Accordingly, the Group's reports have systematically addressed illegal mineral exploitation and trade, including cross-border smuggling of coltan to neighbouring countries.[22]

Building on the UN Group of Experts work and findings,[23] in 2010, the Security Council adopted UNSC Resolution 1952 (2010),[24] which, among other things, called upon "all States" to take appropriate action:

> [T]o urge importers, processing industries and consumers of Congolese mineral products to exercise due diligence by applying [due diligence]

19. UN, *Repertoire of the Practice of the Security Council*, Chapter V: Subsidiary Organs of the Security Council, 178-180. Available at <<https://main.un.org/securitycouncil/sites/default/files/en/sc/repertoire/2000-2003/00-03_5.pdf#page=16>>.

20. S/2002/1146 of 16 October 2002, 5 and 14-17.

21. S/RES/1533/2004 of 12 March 2004, para 10.

22. See particularly, S/2020/482, 20-24; S/2023/431, 23-24; and S/2024/432, 29-31.

23. S/2010/596, 95-96.

24. S/RES/1952 (2010) of 29 November 2010.

guidelines, or equivalent guidelines, containing the following steps as described in the final report (S/2010/596): strengthening company management systems, identifying and assessing supply chain risks, designing and implementing strategies to respond to identified risks, conducting independent audits, and publicly disclosing supply chain due diligence and findings.

The responsibility of companies to implement robust traceability mechanisms and enhance transparency within mineral supply chains has been consistently reinforced by successive UNSC resolutions, including 2053 (2012),[25] 2198 (2015),[26] 2293 (2016),[27] 2457 (2019),[28] and 2765 (2024).[29] However, as the following sections will illustrate, these efforts have yielded only limited success.

In response to the escalating crisis in the DRC, marked by the occupation of key cities in the eastern provinces – such as Masisi, Sake, Goma, and Bukavu – by the M23 armed group in early 2025,[30] the Security Council adopted UNSC Resolution 2773 (2025).[31] This resolution reaffirms the fundamental principles of sovereign equality and non-intervention enshrined in the UN Charter and unequivocally condemns violations of the DRC's territorial integrity.[32] While acknowledging M23's

25. S/RES/2052 (2012), 27 June 2012.

26. S/RES/2198 (2015), 29 January 2015.

27. S/RES/2293 (2016), 23 June 2016.

28. S/RES/2457 (2019), 27 February 2019.

29. S/RES/2765 (2024), 20 December 2024.

30. See Jennifer Giblin, 'The complexities of the Congo: What do the battles with M23 mean for the DRC and UN Peacekeeping?' (13 March 2025) EJIL:Talk. Available at <<https://www.ejiltalk.org/the-complexities-of-the-congo-what-do-the-battles-with-m23-mean-for-the-drc-and-un-peacekeeping/>>.

31. S/RES/2773 (2025), 21 February 2025.

32. Ibid., Preamble (2): "*Reaffirming* its strong commitment to the sovereignty, independence, unity and territorial integrity of the DRC and emphasizing the need to respect fully the principles of non-interference, good-neighbourliness and regional cooperation, and condemning any violation of the territorial integrity of the DRC."

primary role in the conflict, the resolution also formally recognises the "direct support and participation of the Rwanda Defence Forces" in the attacks.[33]

The resolution also strengthens due diligence and traceability obligations within the mineral sector by calling for enhanced measures to combat fraudulent labelling and improve supply chain transparency. It urges all actors involved in the mineral trade – including importers, processors, traders, and consumers – to comply with the due diligence framework established under UNSC Resolution 1952 (2010),[34] particularly through the implementation of the Regional Certification Mechanism (RCM) of the International Conference on the Great Lakes region (ICGLR),[35] to prevent the illegal sourcing and trafficking of 'conflict minerals' from the DRC.

3.2 Conflict minerals and transparency initiatives for ethical sourcing

The term 'conflict mineral' generally refers to 3TG metals whose extraction, processing, or trade is believed to finance armed groups or contribute to human rights abuses in conflict-affected regions.[36] When

33. Ibid., Preamble (6) and paras 1 and 4.

34. Ibid., para 16.

35. The International Conference on the Great Lakes Region (ICGLR) is an intergovernmental organisation established in 2006 under the Pact on Security, Stability and Development in the Great Lakes Region. It comprises twelve Member States: Angola, Burundi, the Central African Republic, the Republic of the Congo, the DRC, Kenya, Uganda, Rwanda, South Sudan, Sudan, Tanzania, and Zambia.

36. Hanai (n 13) 1; and Emily Mankowsky, 'Conflict Minerals and Crimes Against Humanity in the DRC: How to Hold Individual Corporate Officers Criminally Liable' (2019) Notre Dame Law Review, Vol. 94, Issue 3, Article 9, 1453-1478, 1455. See also, list of "conflict minerals" in Annex I of Regulation (EU) 2017/821 laying down supply chain due diligence obligations for Union importers of tin, tantalum and tungsten, their ores, and gold originating from conflict-affected and high-risk areas.

classified as a conflict mineral**,** these metals become subject to strict due diligence requirements, which may result in trade restrictions. These requirements support the implementation of the Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas (OECD Guidance), adopted in 2011 by the Organization for Economic Co-operation and Development (OECD) to promote transparency, ethical sourcing, and accountability in mineral supply chains.[37]

To prevent conflict minerals from entering global supply chains and ensure compliance with corporate due diligence obligations, transparency initiatives have been developed to certify the conflict-free origin of minerals sourced from conflict-affected and high-risk areas like the DRC.[38] While these instruments do not explicitly ban the trade of conflict minerals, they impose risk management obligations on importers to minimise and address such risks. The two leading initiatives designed to ensure the ethical sourcing of 3TG metals in the region through monitoring, reporting, and certification mechanisms are the RCM and the International Tin Supply Chain Initiative (ITSCI).

These systems, while complementary, are distinct in nature: the RCM provides government-backed, conflict-free certification essential for mineral exports, based on a due diligence process; meanwhile, ITSCI is a private sector initiative that supports companies in meeting the due diligence standards required for RCM certification.

37. OECD, *OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas: Third Edition* (OECD Publishing, 2016).

38. Hanai (n 13) 1-9. See also the initiatives undertaken by the U.S, the EU, and China, either through dedicated legislation – such as Section 1502 of the U.S. Dodd-Frank Act and Regulation (EU) 2017/821 – or through due diligence frameworks, including China's 2015 Guidelines for Responsible Mineral Supply Chains.

3.2.1 The RCM system

The RCM was established by ICGLR Member States, including the DRC and Rwanda, to give effect to the 2010 Lusaka Declaration, which endorsed the OECD Guidance as principal framework to fight against the illegal exploitation of natural resources in the Great Lakes region.[39]

The mechanism was first formalised with the adoption of the RCM Manual in 2011, which was later revised in 2019 to enhance its effectiveness and alignment with evolving international standards.[40] The Preamble of the RCM Manual expressly acknowledges that "an ICGLR RCM for minerals will only be credible if all Member States have established procedures for credible Mine Site Inspection and validation systems designed to confirm that mine sites meet ICGLR Requirements".[41] Chapter I of the Manual clarifies that these Requirements "are intended to prevent non-state armed groups and public or private security forces from interfering illegally at any point along the supply chain or committing serious human rights abuses related to the supply chains of minerals".[42]

The scope of the RCM specifically covers coltan in the list of 'designated minerals', namely minerals originating from the territories of the ICGLR Member States.[43] The RCM operates through a multi-stage process, including mine site validation,[44] chain of custody

39. Lusaka Declaration of the ICGLR Special Summit to Fight Illegal Exploitation of Natural Resources in the Great Lakes, Lusaka (Zambia), 15 December 2010, para12.

40. Manual of the Regional Certification Mechanism (RCM) of the International Conference on the Great Lakes Region (ICGLR), second edition (2019), 4.

41. Ibid., 9.

42. Ibid., 17.

43. Ibid., 18.

44. Ibid., 19. See a more detailed description of the process below.

tracking,[45] third-party audits,[46] and ICGLR export certification.[47] The mine site validation stage is particularly important, as it determines a mine site's status, directly affecting its ability to export designated minerals. This process employs a colour-coded classification system and relies on annual mine site inspections[48] to assess compliance with the criteria outlined in the Annexes of the RCM Manual, including adherence to ILO Conventions and human rights standards.[49]

A 'green' tag indicates that a site is free from irregularities, as verified by government officials and independent auditors.[50] 'Yellow' and 'red' tags indicate sites with minor and major irregularities, respectively, with the latter including the presence of armed groups or serious human rights violations such as child labour.[51] Mining is strictly prohibited at red-tagged sites, while it is permitted under certain conditions at yellow-tagged sites and always allowed at green-tagged sites.[52] A 'blue' tag signifies that a

45. The Chain of Custody (CoC) system is a documented record of licensed operators and other authorised actors involved in the designated mineral supply chain, along with a traceable record of mineral lots and their upstream movement through the supply chain. RCM Manual , 26-30.

46. Third party audits provide "independent verification that Exporters' mineral chains from mine site to export are in conformance with RCM requirements". These audits should cover all mining stages, from sourcing to transportation and export. RCM Manual, 31-40.

47. Export certification can only be issued to products sourced in 'green', 'yellow' and 'blue' tagged mines, subject to CoC requirements. RCM Manual 41-43.

48. Inspections should be planned every six months for certain 'yellow' or 'blue' tagged mines.

49. Appendix A2 of the RCM Manual explicitly requires classifying mine sites as "red" if designated minerals have been sourced using child labour, forced labour, torture, or inhuman and degrading treatment. It also mandates this classification in cases involving gross human rights violations, including sexual violence, war crimes, violations of humanitarian law, genocide, other crimes against humanity, or involvement of non-State armed groups.

50. RCM Manual, 20-22 and 33-34.

51. Ibid.

52. Ibid.

site's validation status is pending or under review.[53] Mineral exploitation and export from blue-tagged sites are permitted, provided inspections are conducted within three years. If no inspection takes place within that period, the site is automatically reclassified as 'red'.[54]

ITSCI data and inspectors may contribute to the validation process and follow-up inspections, providing key information on traceability, compliance, and associated risks, which informs the site's validation status. To implement the RCM, the DRC enacted the necessary domestic legislation.[55]

3.2.2 The ITSCI system

ITSCI is a third-party initiative that implements a physical traceability mechanism known as the 'Bag and Tag' system, designed to monitor and document the origin of 3TG minerals at the mining site.[56]

After extraction, minerals are placed in sealed bags tagged with a unique label/barcode. Information on the mine of origin, transportation routes, processing facilities, and export records is collected at every stage of the supply chain to ensure traceability and accountabil-

53. Ibid. This designation is based on risk assessments conducted by mineral stakeholders, regardless of the site's prior classification. For instance, a mine previously classified as red may be reclassified as blue following a reassessment if stakeholders' evaluations fail to confirm the reported irregularities.

54. RCM Manual, 20.

55. In particular, Note Circulaire No. 002/CAB.MIN/MINES/01/2011 of 6 September 2011, and Arrêté Ministériel No. 0057/CAB.MIN/MINES/01/2012 of 29 February 2012, as amended by the Interministerial Order No. 009/VPM/CAB.MIN/ECO.NAT/2023, No. 00137/CAB/MIN/MINES/01/2023, and No. 010/CAB.MIN/COM.EXT/2023 of 4 August 2023.

56. Global Witness, *The ITSCI Laundromat. How a Due Diligence Scheme Appears to Launder Conflict Minerals* (Global Witness, 2022) 11-12.

ity.[57] This system is supported by a process of monitoring, risk assessment, and third-party certification. On-the-ground staff and independent third parties conduct inspections of mining sites, transport routes, and trading depots to verify compliance with human rights, labour, and environmental standards.[58]

Routine audits and field reports are expected to identify risks such as child labour, corruption, or the involvement of armed groups in mining operations. The ITSCI risk assessment process aligns with the OECD Guidance and includes corrective action plans when violations are detected.[59] Companies can then integrate ITSCI data into their due diligence processes, ensuring that RCM certified conflict-free minerals meet international legal standards.

This is how ITSCI and similar implementing tools[60] are intended to function at their best. However, evidence from NGOs and UN investigations has exposed systemic corruption, negligence, and fraudulent practices that undermine the credibility of ITSCI mechanisms. Among these issues are the systematic smuggling of minerals from the DRC to Rwanda and Uganda, where they are laundered into the legitimate

57. OECD, *Report on The Implementation of the Recommendation on Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas* [C/Min(2011)12/Final], 28 April 2016, 48. See also, ITSCI, *Annual Report 2023 and Second Independent Alignment Assessment* (ITSCI, 2023), available at <<https://www.itsci.org/wp-content/uploads/2024/07/ITSCI-2023-Annual-Review_EN.pdf>>.

58. Ibid.

59. OECD, *Alignment Assessment of Industry Programmes with the OECD Minerals Guidance* (OECD, 2018), 14.

60. E.g., the Better Mining Programme from the RCS Global Group. Over the years, the DRC government has showed preference in using the ITSCI mechanism. See also, Jose A. Diemel and Jeroen Cuvelier, 'Explaining the uneven distribution of conflict-mineral policy implementation in the Democratic Republic of the Congo: The role of the Katanga policy network (2009–2011)' (2015) Resources Policy 46, 151-160, 157.

supply chain,[61] as well as the tagging of minerals originating from militia-controlled areas or sites linked to severe human rights abuses, including child labour.[62] These minerals are falsely attributed to non-operational yet officially validated mines,[63] with the silence or complicity of ITSCI agents and government officials aiding the cover-up.[64]

As the UN Group of Experts warned in 2017:

> [T]he Group found that the implementation of the [ITSCI] traceability system in use in the Democratic Republic of the Congo had several shortcomings, which could lead to the smuggling of minerals from outside the chain of custody into the legal trading circuit. […] errors or deliberate acts committed by agents responsible for tagging, such as tagging mineral consignments from non-validated sites, could disrupt the integrity of the whole chain.[65]

In 2022, Global Witness investigations revealed that more than 80%, and in some cases up to 97%, of green-tagged minerals from certain validated sites were fraudulently funnelled into the supply chain under

61. The 2024 midterm report of the UN Group of Experts revealed that M23 rebels in the DRC illicitly exported at least 150 tons of coltan to Rwanda. Armed groups transport the minerals across the border, where they are laundered into the legitimate supply chain. Once in Rwanda, these conflict minerals are mixed with locally sourced materials, undermining international efforts to curb the trade of conflict minerals. In particular, see S/2024/969 of 27 December 2024, 114, and previous UN Group of Experts reports (e.g., S/2020/482, S/2023/431, S/2023/990, and S/2024/432). See also, Global Witness (n 56) 46-65.

62. E.g., See S/2020/482, 20-24; S/2023/990, 14-16 and 120; and Global Witness (n 56) 17-32. See also, Diemel and Cuvelier (n 60) 155.

63. Ibid.

64. As Bleischwitz et al. observed as early as 2012, "The number of actors involved […] and the fact that official representatives and armed groups often cooperate make up for an intransparent situation. Even like-minded actors have difficulties to get evidence on whether any permission or certificate is legally correct and complies with basic laws." See Bleischwitz et al. (n 4) 8. See also, Hanai (n 13) 6-7; Ojewale (n 4) 6; and Global Witness (n 56) 40-44.

65. S/2017/672/Rev.1, 18.

the RCM/ITSCI system.[66] Under DRC law, production and export from these mines should have been strictly prohibited.

3.3 External actors

External actors have long been involved in the illegal exploitation and smuggling of the DRC's natural resources, particularly coltan. As early as 2002, the UN Panel highlighted their role in these illicit activities, identifying the illegal trade in natural resources as a key driver of Rwanda's occupation of the DRC's eastern provinces. The UN Panel notably stated:

> Rwanda's leaders have succeeded in persuading the international community that their military presence in the eastern Democratic Republic of the Congo protects the country against hostile groups in the Democratic Republic of the Congo, who, they claim, are actively mounting an invasion against them. The Panel has extensive evidence to the contrary […] On the basis of its analysis of considerable documentation and oral testimony, the Panel holds the view that the rationale for Rwanda's presence is to increase the numbers of Rwandans in the eastern Democratic Republic of the Congo and to encourage those settled there to act in unison to support its exercise of economic control.[67]

The UN Panel's findings were deemed "to be probative" by the ICJ,[68] which, in its rulings on the *Armed Activities on the Territory of the Congo*

66. Global Witness (n 56) 16-32. According to Global Witness, these cases "illustrate a general pattern across North and South Kivu Provinces, pointing to deep-seated problems with the ITSCI scheme." This assessment is reinforced by the decision of the Responsible Minerals Initiative (RMI) – a leading industry platform established to advance best practices in responsible mineral sourcing – to suspend ITSCI "as a recognized upstream system in the DRC until at least January 2026" (S/2024/969, para 110).

67. S/2002/1146, 14.

68. *Armed Activities on the Territory of the Congo* (Democratic Republic of Congo v Uganda) (Judgement) [2005] ICJ reports 2005, para 237.

cases (Democratic Republic of the Congo v. Uganda and Democratic Republic of the Congo v. Rwanda),[69] confirmed the involvement of foreign military forces – specifically Ugandan and Rwandan troops – in the unlawful extraction and smuggling of minerals and other natural resources.[70] The ICJ's findings underscored that the exploitation of DRC's resources by foreign military forces played a significant role in perpetuating the region's conflict, violating international law.[71]

Rwanda's direct involvement in the illegal mining and smuggling of coltan became increasingly evident following the emergence of the M23 rebel group in 2012, which was largely composed of former Tutsi refugees who had fled Rwanda during the 1994 genocide. The M23 operates primarily in the Kivu provinces of eastern DRC, where it has been responsible for widespread war crimes and human rights violations, including civilian massacres, torture, sexual violence, human trafficking, and the recruitment of child soldiers.[72] These atrocities have fuelled the ongoing conflict in the region, which has already claimed more than five million lives.[73]

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69. *Armed Activities on the Territory of the Congo* (Democratic Republic of Congo v Uganda) (Judgement), ICJ reports 2005; and *Armed Activities on the Territory of the Congo* (New Application: 2002) (Democratic Republic of the Congo v. Rwanda) (Judgment), ICJ reports 2006.

70. *Armed Activities on the Territory of the Congo* (New Application: 2002) (Democratic Republic of the Congo v. Rwanda) (Judgment), ICJ reports 2006, para 243. See also, Dena Montague (n 9) 107-113.

71. *Armed Activities on the Territory of the Congo* (Democratic Republic of Congo v Uganda) (Judgement), ICJ reports 2005, para 262.

72. As systematically highlighted by the UN Group of Experts in all recent reports, e.g. S/2023/431; S/2023/990; and S/2024/969, and S/2024/432. See also, Giblin (n 30).

73. Benjamin Coghlan et al., *Mortality in the Democratic Republic of the Congo. An Ongoing Crisis* (2007) International Rescue Committee, 16; Mankowsky (n 36) 1456; and Van Butsic et al., 'Conservation and conflict in the Democratic Republic of the Congo: The impacts of warfare, mining, and protected areas on deforestation' (2015) Biological Conservation 191, 266-273, 267.

Since its inception, M23 has received substantial military support from the Rwandan government, despite denials from Kigali and President Paul Kagame.[74] Numerous UN reports and investigations have documented the direct involvement of Rwandan military forces alongside M23 rebels, including the 2024 UN Group of Experts' report, which highlighted the ties between M23 and Rwandan state actors,[75] condemning Rwanda's violations of the DRC's sovereignty and urging it to withdraw its forces.[76] According to UN experts, between 3,000 and 4,000 Rwandan troops were deployed in eastern DRC, operating alongside M23 rebels during major offensives.[77]

This was echoed by several political leaders,[78] including Kaja Kallas, the High Representative of the European Union (EU) for Foreign Affairs and Security Policy, who expressed deep concern for the "renewed offensive of the M23 supported by the Rwandan Armed Forces" and strongly condemned "Rwanda's military presence in the DRC as a clear violation of international law, the UN Charter, and the territorial integrity of the DRC."[79]

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74. Rwanda Statement on Situation in Eastern DRC, Kigali, 26 January 2025, available at <<https://www.minaffet.gov.rw/updates/news-details/statement-on-situation-in-eastern-drc>>.

75. S/2024/432, 10-13. See also, S/2023/431, 15-20; S/2023/990, 9-10; and S/2024/969, 10-15.

76. S/2024/432, 44.

77. Ibid., 12-13.

78. E.g., Statement by Canadian Ministers Joly, Hussen and Ng on Rwanda's involvement in eastern Democratic Republic of Congo conflict, Ottawa, 3 March 2025; and G7 Foreign Ministers' Statement on the Escalation of Violence in the Eastern Democratic Republic of the Congo, 3 February 2025.

79. Democratic Republic of the Congo: Statement by the High Representative on behalf of the EU on the latest escalation in eastern DRC (25 January 2025), available at <<https://www.consilium.europa.eu/en/press/press-releases/2025/01/25/democratic-republic-of-the-congo-statement-by-the-high-representative-on-behalf-of-the-eu-on-the-latest-escalation-in-eastern-drc/>>.

M23 plays a key role in the shadowy trade of coltan, driving illegal mining and cross-border smuggling into Rwanda. Despite its status as one of the world's top coltan exporters, much of Rwanda's so-called "domestic production" is unaccounted for.[80] Mounting evidence reveals that a significant share of the coltan and other 3TG minerals exported from Rwanda are actually looted from conflict zones in the DRC – smuggled, rebranded, and sold as 'conflict-free' Rwandan resources.[81] The close links between M23 and the Rwandan government, as corroborated by multiple UN reports, reinforce the ongoing role of foreign actors in fuelling the illegal mining operations that continue to destabilise the DRC.[82]

80. "[…] Global Witness has spoken to an industry expert, who has worked in Rwanda and visited most concessions, who estimates Rwanda's total coltan production from mines on the concessions to be around 5–7 tonnes per month, with a smaller amount coming from mines that are not part of formal concessions. Even if experts have different opinions as to how much coltan is produced in Rwanda, it seems unlikely that the total comes anywhere close to the 1,000–2,400 tonnes of coltan that Rwanda has exported every year since 2012 […] and that made Rwanda the world's largest coltan exporter in 2014." Global Witness (n 56) 48.

81. E.g., S/2010/596, 78-79; S/2015/19, 36-38; S/2015/797, 14-16; S/2017/672/Rev.1, 18-19; S/2023/990, 14-16; S/2023/431, 23-24; S/2024/969, 114; and S/2024/432, 29-30. See also, Global Witness (n 56) 46-65.

82. On 21 August 2023, the DRC instituted proceedings against Rwanda before the African Court on Human and Peoples' Rights (AfCHPR), alleging violations of the African Charter and other applicable human rights instruments. Among other remedies, the DRC requested the withdrawal of Rwandan troops from its territory [see *DRC v. Rwanda* (Application No. 007/2023), AfCHPR, 7 March 2024]. On 26 June 2025, the AfCHPR issued its judgment on the preliminary objections to jurisdiction raised by Rwanda. The Court dismissed the objections, holding that, "...having regard to the documents in the case file, in particular reports of United Nations experts, the Court considered, first, that there is indeed an armed conflict between the M23 and the FARDC and, secondly, that the Respondent State [Rwanda], through its armed forces (RDF), was involved in the conflict" (*Judgment Summary*, p. 6, available at: <<https://www.african-court.org/cpmt/storage/app/uploads/public/685/e60/b61/685e60b618ca8752129237.pdf>>).

3.4 Human rights abuses and instruments

The exploitation of natural resources, including mining, in the DRC has long been associated with grave human rights violations, such as child labour, forced labour, sexual violence, and appalling working conditions. Modern coltan mining is no exception to this tragic legacy.

Reports found that armed groups – including groups linked with M23 – control numerous mining sites in the DRC[83] exploiting both adult and child workers under brutal conditions.[84] NGOs have documented cases of children as young as seven working in slavery-like conditions in hazardous mines, where they are subjected to torture, chronic injuries, and exposure to toxic substances such as thorium, uranium, and other radioactive elements commonly found alongside coltan.[85]

These concerns were reiterated by the ILO's Committee of Experts on the Application of Conventions and Recommendations (CEACR), which in 2022 called upon the Government of the DRC to "take immediate and effective measures, as a matter of urgency, to eliminate forced child labour and hazardous work for children under 18 years of age in mines".[86]

The DRC has established a legal framework to combat these human

83. E.g., in the Kalimbi, Chigubi, Kamatale, Biholo, and Rubaya sectors. See S/2023/431, 23-24; and S/2024/432, 29-30.

84. Global Witness (n 56) 28; Chaffetz (n 9) 211; Dylan O'Driscoll, *Overview of Child Labour in the Artisanal and Small-Scale Mining Sector in Asia and Africa* (K4D Helpdesk Report, 2017) 6.

85. Amnesty International, "*This is What we Die For" – Human Rights Abuses in the Democratic Republic of the Congo Power the Global Trade in Coltan* (Amnesty International, 2016); and Ida Sawyer (Human Rights Watch), 'Child Labour and Human Rights Violations in the Mining Industry of the Democratic Republic of the Congo' (2022) Tom Lantos Human Rights Commission, 14 July 2022, 1-6. See also, Ojewale (n 4) 12-13.

86. CEACR Observations, adopted 2021, published 110th ILC session (2022). Available at <<https://normlex.ilo.org/dyn/nrmlx_en/f?p=1000:13100:0::NO:13100:P13100_COMMENT_ID,P13100_COUNTRY_ID:4124190,102981>>.

rights violations, including those occurring in the context of mining activities.[87] Article 42 of the DRC Constitution requires public authorities to protect young persons from threats to their health, education, and development.[88] This constitutional mandate is supported by Law No. 015/2002 (Labour Code), which explicitly prohibits both forced labour and the employment of children in mines.[89] Complementing these provisions, Law No. 09/001 on Child Protection reinforces the legal prohibition of child labour and establishes broader protections for minors involved in hazardous work.[90]

DRC national legislation gives effect to multiple international legal instruments, including the ILO Convention on Forced Labour (No. 29) and the ILO Convention on the Worst Forms of Child Labour (No. 182).

ILO Convention (No. 29) and its 2014 Protocol impose an obligation – consistent with customary international law – to eliminate forced labour in all its forms.[91] This obligation requires States to adopt all "necessary measures" to identify, prevent, and eradicate its use[92] and to "cooperate" actively in achieving that aim.[93]

Under Article 2(1) of ILO Convention (No. 29), forced labour is defined as "all work or service which is exacted from any person under the menace of any penalty and for which the said person has not offered

87. See also, S/2024/432, Annex 69, 218.

88. Constitution of the Democratic Republic of the Congo (2005), Article 42: "The public powers have the obligation to protect youth against any infringement of their health, of their education or of their integral development."

89. Labour Code, Articles 2 and 3.

90. Child Protection Law, Article 50. It is worth noting that the term 'children' is defined in Article 2(1) of the same Law as any person under the age of 18.

91. Article 1, ILO Convention (No. 29); and Article 1, 2014 Protocol.

92. 2014 Protocol, Article 4.

93. Ibid., Article 5.

himself voluntarily."[94] This definition applies to all persons, including children. Yet, recognizing the heightened severity of forced labour involving children, ILO member States have developed specific instruments addressing this issue.

Particularly, ILO Convention (No. 182), requires all States Parties to adopt "immediate and effective measures" to prohibit and eliminate the worst forms of child labour.[95] This includes enacting and enforcing implementing legislation,[96] as well as "taking appropriate steps to assist one another" in giving effect to the provisions of the Convention."[97]

The Convention is complemented by the ILO Worst Forms of Child Labour Recommendation, 1999 (No. 190), which identifies a number of activities as particularly hazardous for children. Notably, Paragraph 3(a) of the Recommendation includes any work that "exposes children to physical, psychological or sexual abuse", while Paragraph 3(d) highlights work performed "underground, under water, at dangerous heights or in confined spaces" – all of which are characteristic of mining operations in the DRC.

State obligations under the relevant ILO instruments must be construed broadly to encompass not only the prohibition of forced and child labour within national jurisdictions, but also the affirmative duty to prevent and eliminate its effects. This includes ensuring that goods produced through exploitative labour do not enter domestic or inter-

94. For an evolutionary meaning of the definition, see Pierandrea Leucci, 'Fishing activities conducted with the use of forced labour: New control tools and technology under the revised EU fisheries control system', in Pierandrea Leucci and Ilaria Vianello, *ASCOMARE Yearbook on the Law of the Sea – Volume 3, Maritime Security, New Technology and Ethics* (Luglio Editore, 2024), 279-280.

95. Article 3(d) of the Convention explicitly includes in the list of "worst forms of child labour" any work that, by its nature or the conditions under which it is performed, is likely to endanger the health, safety, or morals of children.

96. ILO Convention (No. 182), Articles 1, 6 and 7

97. Ibid., Article 8.

national markets, irrespective of whether they are transported by land or sea.[98]

4. From mining ore to shore: The maritime dimension of coltan

Coltan may be exported in either its raw or processed form, depending on the availability and capacity of local processing facilities in the country of origin.[99] Like other mineral exports, coltan is transported from the DRC to importing States – whether for processing or final use – via three main modes of transport: land (road and rail), air, and sea.

While data on the volume of coltan transported by sea remains limited and fragmented,[100] existing evidence indicates that maritime shipping constitutes the primary mode of export for coltan and other mineral resources from Central Africa, owing to the bulk nature of these commodities.[101] Shipments from the DRC are typically routed through key ports

98. E.g., recital (19) of Regulation (EU) 2024/3015 on the prohibition of products made with forced labour, which highlights the market dimension of the prohibition by emphasizing its contribution to broader international efforts aimed at eradicating forced labour. See also, Mankowsky (n 36) 1454, including ft 6.

99. In Central Africa, where coltan reserves are heavily concentrated, limited refining infrastructure – mainly due to energy shortages – means coltan is typically exported in raw or semi-processed form after basic ore concentration. See Tegera et al. (n 15) 5-6; and Bleischwitz et al. (n 4) 10.

100. It should be noted that the coltan supply chain presents considerable challenges due to the lack of detailed trade data and transport records, which are often inaccessible to the public. Furthermore, global mineral trade statistics are typically aggregated, failing to distinguish coltan from other tantalum-bearing minerals, thereby complicating precise assessments of its maritime transport volumes. See also, Bleischwitz et al. (n 4) 8.

101. In 2023, total maritime trade volumes reached approximately 12.3 billion tons, reflecting a 2.4% increase from the previous year, with projections indicating further growth of 2% in 2024 and an average annual expansion of 2.4% through 2029. UNCTAD, *Review of maritime transport 2024 Navigating maritime chokepoints* (UN Publications, 2024).

such as Dar es Salaam (Tanzania),[102] Mombasa (Kenya),[103] and Durban (South Africa),[104] with China serving as the primary hub for processing and re-export.[105] From there, refined tantalum reaches major electronics manufacturing industries in the U.S. and Europe.[106] Recent U.S. data also highlight the development of a new DRC-Zambia-Angola trade corridor, facilitating the export of tantalum through Angola's Lobito port via the Atlantic Ocean.[107]

102. According to the Tanzania Ports Authority, about 68% of cargo products, including minerals, from the DRC are handled by the port in Dar es Salaam. Gadiosa Lamtey, 'New Facility at Dam Port to Verify Minerals from DR Congo' (26 March 2024) The Citizen, available at <<https://www.thecitizen.co.tz/tanzania/business/new-facility-at-dar-port-to-verify-minerals-from-dr-congo-4568640>>. See also, Amsterdam & Partners LLP, *Blood Minerals. The Laundering of DRC's 3T Minerals by Rwanda and Private Entities* (Washington, 2024) 19.

103. Julian Luk, 'African copper, cobalt logistics chain under pressure as truckers avoid DRC' (19 April 2022) Fastmarkets, available at <<https://www.fastmarkets.com/insights/african-copper-cobalt-logistics-chain-under-pressure-as-truckers-avoid-drc/>>; Eric Olander, 'DRC Cobalt Shipments to China Resume Via the Port of Durban' (18 May 2022) China Global South Project, available at <<https://chinaglobalsouth.com/2022/05/18/drc-cobalt-shipments-to-china-resume-via-the-port-of-durban/>>.

104. Anna Bulzomi et al., *Supply Chains and Transport Corridors in East Africa* (IPIS Research, 2014) 46; and Trade Mark Africa, 'DRC now third largest mover of cargo at Mombasa port' (7 September 2022), available at <<https://www.trademarkafrica.com/news/drc-now-third-largest-mover-of-cargo-at-mombasa-port/>>.

105. Dalton M. McCaffrey et al., 'Embedded critical material flow: The case of niobium, the United States, and China' (2023) Resources, Conservation & Recycling 188 (2023) 106698, 1-14; and Bleischwitz et al. (n 4) 11-12.

106. This strengthens China's position as the world's leading trading hub for tantalum, with the U.S. and Germany following. Data from the World Bank's World Integrated Trade Solution platform, available at <<https://wits.worldbank.org/trade/comtrade/en/country/ALL/year/2021/tradeflow/Exports/partner/WLD/product/810390>>.

107. U.S. Geological Survey, *Mineral commodity summaries 2024* (USGS, 2024) 177. According to official U.S. data for 2022–2023, the DRC was the leading exporter of coltan in Central Africa, with 400 metric tons shipped to the U.S., followed by Rwanda with 280 metric tons. The data also underscore the significant role of the U.S. as a re-export hub – primarily for overseas destinations – which complicates traceability efforts and further emphasises the importance of maritime transport in the global coltan supply chain. See USGS, Minerals Yearbook 2022, v. I, Metals and Minerals – 2022 Annual Tables, available at <<https://www.usgs.gov/centers/national-minerals-information-center/niobium-and-tantalum-statistics-and-information>>. See also, USIP Senior Study Group, *Critical Minerals in Africa. Strengthening Security, Supporting Development, and Reducing Conflict amid Geopolitical Competition* (USIP, 2024) 42.

This underscores the critical role of maritime shipping – and, by extension, the law of the sea – in the broader conversation. The relevance of this legal framework must be evaluated against the backdrop of earlier sections, which expose the systemic shortcomings of current traceability mechanisms in curbing the flow of conflict minerals. At the same time, it brings to the forefront a fundamental yet often overlooked consideration – one that is equally vital to the maritime dimension of this discourse:

If the legal entry of coltan and other conflict minerals into the global supply chain is contingent upon compliance with a credible traceability system based on corporate due diligence and effective oversight, then how can such mechanisms be deemed sufficient when substantial evidence – including official UN data – demonstrates that the majority of so-called certified 'conflict-free' minerals exported from the DRC and Rwanda are, in reality, illegally sourced and linked to grave human rights violations, war crimes, and unlawful external interventions?

This question highlights the urgent need to re-consider the adequacy of existing due diligence, control, and certification frameworks in regulating the trade of coltan from the DRC and Rwanda, while also exploring alternative avenues and mechanisms to leverage compliance with international legal obligations binding upon States, including those established under relevant ILO conventions and UNSC resolutions.

Given these challenges, the author contends that the law of the sea can play an important role in strengthening compliance with international law and preventing the entry of illegally sourced coltan into the global supply chain.

The law of the sea is the body of rules of public international law that regulates maritime spaces and activities. The primary legal framework governing the law of the sea is UNCLOS, adopted in 1982 and entering into force in 1994. To date, UNCLOS has been ratified by 170 states,

including the DRC and Rwanda.[108]

UNCLOS adopts a zonal architecture, granting States specific rights and obligations depending on the legal status of the maritime zone in which activities take place. A core pillar of the Convention, as articulated in its preamble, is international communication, including shipping.[109] UNCLOS operationalises this principle through a legal framework regulating navigational rights and freedoms across all maritime zones, both within and beyond national jurisdiction.[110]

While UNCLOS does not explicitly regulate the maritime transport of minerals, its legal framework underpins global commodity shipping, including the export of coltan and other bulk resources. Several maritime considerations are relevant in this context: the ports of departure and destination, transit states, the legal regime governing the waters through which the vessel transits, compliance with International Maritime Organization (IMO) standards for transported cargo,[111] and the ship's flag State, which holds responsibility for the vessel, its cargo, and all persons onboard.[112]

108. List of ratification available at <<https://treaties.un.org>>.

109. UNCLOS, Preamble (4): "Recognizing the desirability of establishing through this Convention, with due regard for the sovereignty of all States, a legal order for the seas and oceans which will facilitate international communication, and will promote the peaceful uses of the seas and oceans, the equitable and efficient utilization of their resources, the conservation of their living resources, and the study, protection and preservation of the marine environment".

110. See, in particular, UNCLOS Articles 17, 38, 45, 52, 53, 58, 78, and 87.

111. E.g., regarding the potential classification of coltan as a Class 7 hazardous material under the International Maritime Dangerous Goods (IMDG) Code. In fact, while coltan itself is not inherently radioactive, as noted above, it may contain trace amounts of thorium and uranium within its crystal structure. The presence of these naturally occurring radioactive materials (NORM) may, in certain cases, elevate radiation levels beyond regulatory thresholds, thereby triggering strict classification and transport controls. If coltan shipments exceed the permissible limits for NORM under international regulations, they would be subject to Class 7 classification, imposing a range of stringent shipping requirements.

112. E.g., *M/V "Virginia G"* case (Panama v. Guinea-Bissau), Merits, Judgment, ICGJ 452, ITLOS Case No. 19, 14 April 2014, ITLOS, para 120.

Depending on these factors, States acting as port, coastal, or flag States may have the authority – or even the obligation under international law – to act. This may include adopting and enforcing legislation to prevent the entry of minerals illegally sourced from the DRC into their territory/ports or waters, or their transportation aboard vessels flying their flag.

Due to space constraints, this chapter focuses solely on the role of flag States, although the author encourages further discussion and research, particularly on the role of port States, as part of a more comprehensive approach to addressing this issue. The analysis draws on the findings of the expert group that contributed to the *Request for a Legal Opinion by the BDS National Committee on the Regime of Innocent Passage and the Due Diligence Obligations of Flag States under the International Law of the Sea* (the ASCOMARE Legal Opinion).[113] The author was a member of this expert group. The full text of the ASCOMARE Legal Opinion is included as annex to this volume.

4.1 Flag State due diligence: A new compliance paradigm?

The term 'flag State' commonly refers to the country under whose laws a vessel is registered and operates.[114] Under UNCLOS and interna-

113. ASCOMARE, *Request for a Legal Opinion by the BDS National Committee on the Regime of Innocent Passage and the Due Diligence Obligations of Flag States under the International Law of the Sea* (11 March 2025). The Legal Opinion was prepared in response to a request from the BDS National Committee to ASCOMARE in November 2025. Its findings reflect the collective work of international law experts, including scholars and practitioners specializing in the law of the sea, under ASCOMARE's coordination. The final opinion letter was published on 11 March 2025 and is available at <<https://ascomare.com/wp-content/uploads/2025/03/ascomare-legal-opinion-_-innocent-passage-and-due-diligence.pdf>>.

114. It is unrelated to the nationality of the vessel's owner (whether a natural or legal person), operator, charterer, or crew. Instead, it is primarily determined by the act of registration.

tional law at large,[115] vessels registered in a State's territory are entitled to fly its flag and exercise the rights and freedoms granted under the Convention and broader international law, including navigational ones.[116]

Article 91(1) UNCLOS mandates that States Parties establish, through domestic law, the conditions for conferring nationality on ships, registering them within their jurisdiction, and granting them the right to fly their flag.[117] A genuine link must exist between a State and a vessel to formalise the vessel's nationality and enable the flag State to exercise jurisdiction over it.[118] As the International Tribunal for the Law of the Sea (ITLOS) observed in *M/V Saiga (No. 2)*, "the purpose of the provisions of the Convention on the need for a genuine link between a ship and its flag State is to secure more effective implementation of the duties of the flag State."[119]

These duties are set out, more generally, in Article 94(1) UNCLOS, which requires States to "effectively exercise jurisdiction and control in

115. See Myron H. Nordquist, Neal R. Grandy, Satya N. Nandan, and Shabtai Rosenne, *United Nations Convention on the Law of the Sea of 1982: A Commentary, Volume 3* (Brill/Nijhoff 1995) 137-152; Roach JA, 'Today's Customary International Law' (2014) Ocean Development and International Law, 45:239-259, 248-249; and John King Gamble Jr., Maria Frankowska, 'The 1982 Convention and Customary Law of the Sea: Observations, a Framework, and a Warning' (1984) San Diego Law Review, Vol. 21: 491, 1984, 499. See also, Request for an Advisory Opinion submitted by the Sub-Regional Fisheries Commission (SRFC), Advisory Opinion, ITLOS Case No 21, ICGJ 493 (ITLOS 2015), 2 April 2015, Sep. Op. Judge Paik, para 12.

116. E.g., Robin Churchill, Vaughan Lowe and Amy Sander, *The Law of the Sea. Fourth Edition* (Manchester University Press, 2022) 141 et ss; and Pierandrea Leucci, 'Innocent passage in the territorial sea within the framework of the law of the sea Convention' (2018) KMI International Journal of Maritime Affairs and Fisheries, Volume 10, Issue 1, 1-9.

117. ASCOMARE Legal Opinion (2025), para 106.

118. UNCLOS, Article 91(1).

119. *M/V "SAIGA" (No.2)* case, (Saint Vincent and the Grenadines v. Guinea), Judgment, Merits, ITLOS Case No 2, ICGJ 336 (ITLOS 1999), 1 July 1999, ITLOS, para 112.

administrative, technical, and social matters" over vessels flying their flag. The ASCOMARE Legal Opinion noted that the phrase "administrative, technical, and social matters" in Article 94(1) should be interpreted broadly, encompassing all aspects requiring administrative oversight or jurisdiction over a vessel, except where explicitly restricted by international law.[120] The Opinion also identified a specific due diligence obligation resulting from a joint reading of Articles 91(1) and 94(1) of UNCLOS.[121] This obligation imposes a heightened standard of compliance with international legal commitments on flag States, including those stemming from the UN Charter, human rights conventions, and peremptory norms of international law.[122]

More in details, according to ITLOS case law and UNCLOS commentaries, vessel registration – defining a ship's nationality – serves as the legal basis for the flag State's jurisdiction.[123] The requirement of a "genuine link" under Article 91(1) implies that flag States must actively exercise jurisdiction and control over their vessels to guarantee compliance with international obligations. If a flag State fails to fulfil this responsibility, the legitimacy of the genuine link may be called into question.[124]

As a result, an inherent duty of due diligence emerges: while a vessel's breach of international law does not automatically sever its legal link to the flag State, that State remains bound to "deploy adequate means, to exercise best possible efforts, to do the utmost" to secure complian-

120. ASCOMARE Legal Opinion (2025), para 112.

121. Ibid., paras 125-131.

122. Ibid., para 143.

123. Ibid., para 129.

124. *M/V "Virginia G"* case (Panama v. Guinea-Bissau), Merits, Judgment, ICGJ 452, ITLOS Case No. 19, 14 April 2014, ITLOS, para 51.

ce.[125] This includes enacting robust legislation, ensuring its effective implementation, enforcing maritime regulations, and taking prompt action in response to violations.[126] Crucially, this obligation extends beyond domestic enforcement – it also requires States to prevent activities under their jurisdiction or control that could cause harm to other States, their nationals, or the international community at large.[127] These duties must be interpreted in light of the broader 'considerations of humanity' which, as affirmed by ITLOS and other international judicial bodies, should inform the application of the law of the sea, just as they do across other areas of international law.[128]

125. Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area, Advisory Opinion, ITLOS Case No 17, [2011] ITLOS Rep 10, ICGJ 449 (ITLOS 2011), 1 February 2011; Request for an advisory opinion submitted by the Sub-Regional Fisheries Commission (SRFC), Advisory Opinion, ITLOS Case No 21, ICGJ 493 (ITLOS 2015), 2 April 2015; South China Sea arbitration (Philippines v. China), Final Award, PCA Case No 2013 – 19, ICGJ 495 (PCA 2016), 12 July 2016; and Request for an Advisory Opinion submitted by the Commission of Small Island States on Climate Change and International Law, Advisory Opinion, ITLOS Case No 31, ITLOS, 21 May 2024.

126. *Case Concerning Pulp Mills on the River Uruguay* (Argentina v. Uruguay) (Merits) [2010] ICJ Rep., para 197.

127. ASCOMARE Legal Opinion (2025), para 131.

128. E.g., *M/V "SAIGA" (No.2)* case, (Saint Vincent and the Grenadines v. Guinea), Judgment, Merits, ITLOS Case No 2, ICGJ 336 (ITLOS 1999), 1 July 1999, ITLOS, para 155, 61-62; Guyana v. Suriname, Final Award, ICGJ 370 (PCA 2007), 17 September 2007, Permanent Court of Arbitration, para 405, 112-113; *M/V "Virginia G"* case (Panama v. Guinea-Bissau), Merits, Judgment, ICGJ 452, ITLOS Case No. 19, 14 April 2014, ITLOS, para 359, 102; *Enrica Lexie* case (Italy v. India), Order, Provisional Measures, ITLOS Case No 24, ICGJ 499 (ITLOS 2015), 24 August 2015, ITLOS, para 133, 24; and the *M/T "San Padre Pio"* case (Switzerland v. Nigeria), Order, Provisional Measures, 6 July 2019, ITLOS, paras 83-4, 21, and para 130, 32. See also, Francesca Delfino, 'Considerations of Humanity' in the Jurisprudence of ITLOS and UNCLOS Arbitral Tribunals', in Angela Del Vecchio, Roberto Virzo (eds.), Interpretations of the United Nations Convention on the Law of the Sea by international courts and tribunals (Springer International Publishing, 2019) 421-443; and Pierandrea Leucci, 'Enforcing Fishery Legislation in the Exclusive Economic Zone of Non-Parties to UNCLOS: A Commentary to Article 73', in Pierandrea Leucci and Ilaria Vianello, ASCOMARE Yearbook on the Law of the Sea. Volume 1: Law of the Sea, Interpretation and Definitions (Luglio Editore, 2022) 344-345.

In practical terms, a State acting as a flag State cannot plead ignorance of the actions of its flagged vessels – including the nature of their cargo or their operations far from national waters – as a justification for failing to uphold its international obligations. These obligations extend to core principles enshrined in the UN Charter, such as the respect for territorial integrity and the right of peoples to self-determination – principles that form part of the peremptory norms of international law.[129] As such, every State bears a duty to ensure that vessels under its jurisdiction or control do not engage in activities that could undermine the realisation of these fundamental norms. This aligns with Article 301 UNCLOS, which obliges States Parties to exercise their rights and fulfil their duties under the Convention in a manner consistent with the "principles of international law embodied in the Charter of the United Nations" – including the good faith fulfilment of obligations undertaken under the Charter, as well as those arising from relevant resolutions adopted by the UNSC pursuant to it.[130]

Flag States are equally bound by international instruments with extraterritorial reach – most notably, ILO Conventions No. 29 (and its 2014 Protocol) and No. 182 – which require them to take proactive steps to prevent goods tainted by forced or child labour from entering global supply chains. While these obligations may not be explicitly articulated in the text of the relevant conventions – or in others not directly addressed in this analysis – they nonetheless derive from the duty to adopt all "necessary" and "effective" measures to combat forced and child labour,[131] as

129. ASCOMARE Legal Opinion (2025), para 143.

130. See the *Declaration on Principles of International Law concerning Friendly Relations and Cooperation among States in accordance with the Charter of the United Nations*, annexed to UN General Assembly Resolution 2625 (XXV) of 1970, as well as the considerations outlined in paragraph 48 of the ASCOMARE Legal Opinion (2025).

131. See Article 7 of Convention No. 182 and Article 1(1) of the 2014 Protocol to Convention No. 29.

well as from the overarching obligation to "cooperate" in the suppression of such crimes.[132]

In this regard, it is worth recalling the International Law Commission (ILC) observations on the duty to cooperate in the suppression of piracy, as articulated in its 1956 Draft Articles on the Law of the Sea with commentaries.[133] The ILC noted that: "Any State having an opportunity of taking measures against piracy, and neglecting to do so, would be failing in a duty laid upon it by international law."[134] This understanding of the duty to cooperate may likewise inform the interpretation of cooperation obligations under ILO instruments addressing the eradication of child and forced labour, particularly in relation to the due diligence responsibilities incumbent upon flag States.

As emphasised in the ASCOMARE Legal Opinion, the scope of a flag State's duty to monitor and enforce compliance with international obligations is contingent upon both legal and factual considerations. Legally, the duty to act with due diligence is framed by international law. As such, while a flag State is responsible for the conduct of its vessels, its due diligence obligations may be limited when those vessels are subject to the regulatory authority of a coastal State.[135]

Factually, the extent of this duty is shaped by specific contextual elements. A flag State's obligation to act diligently arises when it has "knowledge" of activities onboard or by its vessels that may breach international obligations.[136] Furthermore, the State's capacity to intervene in a given situation significantly impacts the breadth of its duty. While internation-

132. See Article 8 of Convention No. 182 and Article 5 of the 2014 Protocol to Convention No. 29.

133. International Law Commission (1956) Articles concerning the Law of the Sea with commentaries, Yearbook of the International Law Commission, 1956, Volume II.

134. Ibid., draft Article 38.

135. ASCOMARE Legal Opinion (2025), para 140.

136. Ibid., para 141.

al law generally presupposes that States possess authority and capacity over vessels flying their flag, the effectiveness of enforcement measures will inevitably depend on the circumstances at hand. In some cases, an increased duty of diligence may arise from UNSC resolutions or judicial and advisory decisions from international courts and tribunals.[137] This becomes especially relevant when assessing a flag State's "knowledge" of risks posed by its vessels' activities.

In addressing corporate knowledge and responsibility, Mankowsky observed that "knowledge of the conflict mineral trade and the human rights abuses committed as a result of companies not cleaning up their supply chains is arguably common knowledge, such that a corporation claiming ignorance of how its actions impact the DRC conflict could amount to willful blindness."[138] In light of the extensive documentation produced by the UN, independent experts, and NGOs, similar conclusions may arguably be extended to States, which can no longer plausibly disclaim awareness of the consequences of their engagement in or regulation of global supply chains linked to ongoing conflict in the DRC and Rwanda's involvement therein.

The above should be read against the backdrop of the principles governing the international responsibility of States, particularly Article 41 of the ILC Articles on the Responsibility of States for Internationally Wrongful Acts (ARSIWA),[139] which reflects customary international law.[140] Article 41 requires all States to cooperate and take appropriate

137. Ibid., para 142. See also See Dispute concerning delimitation of the maritime boundary between Mauritius and Maldives in the Indian Ocean (Mauritius v. Maldives), Preliminary objections, ITLOS Case No 28, ICGJ 560 (ITLOS 2021), 28 January 2021, paras 203-205.

138. Mankowsky (n 36) 1473.

139. International Law Commission, Draft Articles on the Responsibility of States for Internationally Wrongful Acts with Commentaries, UN GAOR, 56th Sess, Supp 10, Ch 4, UN Doc A/56/10 (2001).

140. ASCOMARE Legal Opinion (2025), para 57.

measures to bring an end to serious breaches of peremptory norms of international law when they are aware of the risk of such violations.[141] Notably, the non-exhaustive list of peremptory norms recognised by the ILC in Conclusion 23 of its 2019 Report[142] explicitly includes the prohibition of crimes against humanity, slavery, and violations of self-determination[143] – offenses directly linked to the illicit sourcing of coltan and other conflict minerals in the DRC, as reflected in the findings of the UN Group of Experts and other relevant sources discussed above. Failure to comply with Article 41 of ARSIWA and customary international law, including a flag State's inaction in preventing its vessels from directly or indirectly contributing to an internationally wrongful act, may give rise to that State's international responsibility.

With all that in mind, the connection between the law of the sea – particularly the role of flag States – and the illegal sourcing and trade of conflict minerals becomes clearer. Consider a scenario in which a vessel flying the flag of State A transports coltan illegally sourced from the DRC to either a final destination (State B) or intermediary processing States (States C and D). Such transport may constitute a violation of multiple international legal frameworks, including relevant ILO Conventions, UNSC resolutions, and the UN Charter.

Without prejudice to any responsibility that may be borne by States B, C, and D in their capacities as port or coastal States, a distinct layer

141. ARSIWA, Article 41: "1. States shall cooperate to bring to an end through lawful means any serious breach within the meaning of article 40; 2. No State shall recognize as lawful a situation created by a serious breach within the meaning of article 40, nor render aid or assistance in maintaining that situation. 3. This article is without prejudice to the other consequences referred to in this part and to such further consequences that a breach to which this chapter applies may entail under international law."

142. ILC, *Peremptory Norms of International Law. Text of the draft conclusions and draft annex provisionally adopted by the Drafting Committee on first reading* (29 May 2019) UNGA, A/CN.4/L.936.

143. Ibid., 6.

of accountability may arise for State A in its role as the flag State. If State A has knowledge of the risk posed by this unlawful transport and fails to "deploy adequate means", "exercise the best possible efforts", or "do its utmost" to prevent the illicit shipment by its flagged vessel, it may incur international responsibility.

The flag State's inaction could not only amount to a violation of Articles 91 and 94 of UNCLOS – potentially undermining the "genuine link" requirement between the vessel and its flag State – but also breach Article 41 ARSIWA, thereby engaging the flag State's liability for internationally wrongful acts. Consequently, where operators transport products linked to forced or child labour or sourced in a manner inconsistent with the principles of the UN Charter or binding UNSC resolutions, the flag State may incur international responsibility if it has failed to take appropriate preventive or corrective action.

International case law underscores that due diligence obligations must be proportionate to the level of risk of non-compliance.[144] Accordingly, heightened risks demand more stringent and precisely tailored measures to ensure effective compliance.[145] But what if the risk level is so high that existing regulatory mechanisms cannot reasonably guarantee compliance? In such cases, States should adopt a precautionary approach, which may even warrant a full prohibition of high-risk activities – much

144. E.g., *Request for an Advisory Opinion submitted by the Commission of Small Island States on Climate Change and International Law*, Advisory Opinion, ITLOS Case No 31, ITLOS, 21 May 2024, paras 233, 239, and 405. See also, Alice Ollino, 'Reflections on the Advisory Opinion on Human Rights and the Environment and the Notion of Extraterritorial Jurisdiction' (2020) Die Friedens-Warte Vol. 93 | 2020 | Issue 1–2, 56-69, 65-66; and Irini Papanicolopulu, 'Due diligence in the law of the sea', in Heike Krieger et al., *Due Diligence in the International Legal Order* (OUP 2020), 147-162.

145. E.g., the use analytical fingerprinting (AFP) to determine the specific mining site of exported/imported minerals. See Bleischwitz et al. (n 4) 2; and Justine Perry T. Domingo et al., 'Geochemical fingerprinting to determine sediment source contribution and improve contamination assessment in mining-impacted floodplains in the Philippines' (2023) Applied Geochemistry, vol. 159, Dec. 2023, 105808, 1-14.

like the measures applied in fisheries management and environmental protection.[146]

This approach is particularly relevant given the inherent flaws and unreliability of corporate due diligence and certification mechanisms, such as those under the RCM/ITSCI framework. These shortcomings necessitate a fundamental shift in how compliance with international standards is assessed for coltan exports from the DRC and Rwanda. Without such a shift, it is unclear how States – including importing States – can effectively meet their obligations under relevant ILO conventions, UNSC resolutions, and the UN Charter. The substantial risk that most coltan entering the global supply chain from these countries is sourced in violation of international law – fuelling serious human rights abuses and ongoing conflict, as extensively documented by UN data and NGO reports – demands urgent and decisive action.

In light of the "knowledge" of these risks, flag States bear a duty to prevent the transportation of illegally sourced coltan from the DRC – including material re-branded and exported by Rwanda – by vessels flying their flag. This responsibility remains unless more robust compliance standards, either at the corporate or State level, are established to guarantee the ethical sourcing and verifiable origin of such commodities.

The UN Guiding Principles on Business and Human Rights (UNGPs), although primarily conceived as a framework to guide corporate due diligence, may also serve as a normative compass to orient and

146. Referring to the application of due diligence under international environmental law, the International Law Association (ILA) noted that "[…]technological capabilities can also increase the degree of care required over time. The extent of risk or advances in scientific knowledge that allow us to perceive more accurately the extent of risk (either higher or lower) will also influence the degree of diligence required. This can also be seen in the relationship between the principles of precaution and prevention. *States should take a precautionary approach to 'threats of serious or irreversible damage*'." (emphasis added). ILA Study Group on Due Diligence in International Law, Second Report (July 2016) 21. Available at <<https://www.ila-hq.org/en/documents/draft-study-group-report-johannesburg-2016>>.

evaluate flag States' due diligence obligations. Particularly salient in this respect are Principles 17, 18, and 19, which set out the core elements of human rights due diligence for business enterprises, including the need to identify, prevent, mitigate, and account for actual or potential adverse human rights impacts connected to their activities or business relationships.[147]

Under these Principles, enterprises are expected to conduct periodic and context-sensitive assessments of risks and impacts, adapting to evolving circumstances.[148] This includes proactively addressing situations that could give rise to *complicity* in human rights abuses. As clarified in the Commentary to Principle 17:

> Questions of complicity may arise when a business enterprise contributes to, or is seen as contributing to, adverse human rights impacts caused by other parties. Complicity has both non-legal and legal meanings. As a nonlegal matter, business enterprises may be perceived as being "complicit" in the acts of another party where, for example, they are seen to benefit from an abuse committed by that party...

Once risks are identified, enterprises are expected to "integrate the findings from their impact assessments across relevant internal functions and processes, and take appropriate action". As noted in the Commentary to Principle 19:

> The more complex the situation and its implications for human rights, the stronger is the case for the enterprise to draw on independent expert advice in deciding how to respond. If the business enterprise has leverage to prevent or mitigate the adverse impact, it should exercise it. And if it lacks leverage there may be ways for the enterprise to increase it.

147. UNGP, Principle 18.

148. Ibid., Principle 17.

These principles and considerations may be logically extended to flag States, particularly in the context of their obligations under UNCLOS and general international law. Specifically, they offer a valuable framework for structuring flag State due diligence in relation to the maritime transport of coltan and other conflict minerals by vessels flying their flag.

4.2 Strategic considerations going forward

Drawing on the foregoing analysis, three policy-oriented measures may be proposed to enhance the effectiveness of maritime regulatory mechanisms in addressing the issue at hand.

First, one potential avenue lies in enhancing transparency along the global mineral supply chain. Under the OECD Guidance, downstream companies should ascertain the origin of the minerals they produce, process, or import, with the aim of determining whether such minerals qualify as conflict minerals. This process includes carrying out internal due diligence and corporate self-reporting.[149] Typically, this is conducted through the dissemination of a standardised survey to suppliers. The responses received are then reviewed and, where appropriate, subject to follow-up actions.

The outcomes of this process fall into three categories: (i) the minerals are confirmed to be conflict-free; (ii) the minerals are not conflict-free; or (iii) the conflict-free status remains indeterminate. For instance, U.S. company disclosures for the year 2022 reveal that only approximately 3% of reporting entities could affirmatively state "that their conflict

149. See particularly, Step 5 of the OECD Guidance. OECD, *Monitoring and Evaluation Framework: OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas* (OECD Publishing, 2021). Example of corporate self-reporting covering 3TG from the DRC: ZTE Corporation, *Conflict minerals report 2022* (March 2023), available at <<https://www.zte.com.cn/content/dam/zte-site/res-www-zte-com-cn/mediares/zte/files/pdf/white_book/202304111532_en.pdf?la=en>>.

minerals did not finance or benefit armed groups."[150] While this figure does not imply that the remaining 97% are necessarily conflict-linked, it exposes the persistent opacity of mineral supply chains.

At this juncture, flag States may be well positioned to assume a more proactive role. They could mandate a verification of the conflict-free status of tantalum and other 3TG minerals at the point of transport or importation. Where such verification yields negative or inconclusive results, flag States should apply the precautionary approach, prohibiting the carriage of those minerals aboard vessels flying their flag. Instituting such measures would introduce a meaningful compliance layer and could serve as a deterrent against the trade and transport of potentially conflict-linked minerals, thereby reinforcing the integrity of maritime-linked supply chains.

Second, the integration of flag States' obligations within a structured due diligence framework appears both plausible and necessary in light of contemporary developments in international law. UNCLOS and customary law already impose a duty on flag States to exercise effective jurisdiction and control over vessels flying their flag, ensuring compliance with international legal commitments, including those pertaining to human rights. Drawing from the logic underpinning corporate human rights due diligence, particularly as articulated in the UNGPs, it is arguable that flag States should be required to proactively identify, assess, and address the risks associated with activities conducted by their vessels. This would be particularly pertinent where such activities, such as the maritime transport of conflict minerals, risk contributing to breaches of peremptory norms. Embedding flag State responsibilities into a due diligence framework would not create new obligations *ex*

150. U.S. Government Accountability Office (GAO), *Conflict Minerals. 2022 Company Reports on Minerals Sources Were Similar to Those Filed in Prior Years* (2023) GAO-23-106295, 16-17.

nihilo, but rather operationalise existing duties, providing a systematic means to enhance compliance, prevent complicity, and strengthen the enforcement of fundamental principles of international law. This could be done, for instance, under EU law in the context of the recently adopted Regulation (EU) 2024/3015.[151] Article 3 of the Regulation requires economic operators not to "place or make available on the Union market products that are made with forced labour, nor shall they export such products".[152] To determine the likelihood of a violation of Article 3, the competent authorities of the Member States and the European Commission "shall follow a risk-based approach",[153] which shall be informed by "*all relevant*, factual, and verifiable information available to the Commission and competent authorities, including […] *any issues* arising from meaningful consultations with relevant stakeholders, such as civil society organisations and trade unions" (emphasis added).[154] Building on the results of this risk-assessment, a decision shall be taken as to whether products were made with the use of forced labour, and, if so, the placing, making available on the EU market, or exporting of those products *shall be prohibited*[155] – including "where it was not pos-

151. Regulation (EU) 2024/3015 of the European Parliament and the Council of 27 November 2024 on prohibiting products made with forced labour on the Union market and amending Directive (EU) 2019/1937. *OJ L, 2024/3015, 12.12.2024*.

152. Article 2(4), (5), (6) and (9) of the Regulation defines 'economic operator' as "any natural or legal person or association of persons placing or making available products on the Union market or exporting products"; 'placing on the market' as "the first making available of a product on the Union market"; 'making available on the market' as "any supply of a product for distribution, consumption or use on the Union market in the course of a commercial activity, whether in return for payment or free of charge"; and 'products made with forced labour' as "any item that can be valued in money and is capable, as such, of being the subject of commercial transactions, whether it is extracted, harvested, produced or manufactured".

153. Regulation (EU) 2024/3015, Article 14(1).

154. Ibid., Article 14(3).

155. Ibid., Article 20(1) and (4).

sible to gather information and evidence", or where the information and evidence provided was false or incomplete.[156] Against this backdrop, the data, evidence, and risk factors presented in this paper – including the 2022 observations of the CEACR[157] – are directly relevant to any informed assessment of a potential breach of Article 3 of Regulation (EU) 2024/3015. This also extends to the due diligence obligations incumbent upon EU Member States acting as flag States, particularly with respect to the maritime transport and subsequent placement on the market of coltan linked to forced labour.

Finally, no paradigm shift will be possible without concerted political action by key States that import and process tantalum and other 3TG minerals. While legal frameworks provide clear obligations, their effectiveness is ultimately contingent upon the political will of major industrialised economies, particularly where considerations of mineral security are perceived as strategic imperatives. For instance, although political leaders have repeatedly expressed serious concerns regarding Rwanda's role in perpetuating the conflict in the DRC – and notwithstanding the imposition of targeted sanctions against certain Rwandan officials – [158] commercial mineral relations with Rwanda have remained largely uninterrupted. This starkly illustrates the enduring gap between political rhetoric and economic practice, underscoring the urgent need for co-

156. Ibid., Article 20(3).

157. See (n 86).

158. E.g., see Council of the EU press release of 17 March 2025: "…the EU listed Francis Kamanzi a.k.a Erasto, chief executive officer of the Rwanda Mines, Petroleum and Gas Board (RMB) who, due to his leading position in the RMB, is responsible for exploiting the armed conflict through the illicit exploitation and trade of natural resources - in this case conflict minerals. The EU also listed Gasabo Gold Refinery, based in Kigali and responsible for illegally importing gold from M23-controlled regions in the DRC, thus also exploiting the armed conflict, instability or insecurity in the DRC." Available at <<https://www.consilium.europa.eu/en/press/press-releases/2025/03/17/democratic-republic-of-the-congo-eu-lists-further-nine-individuals-and-one-entity/>>.

herence between human rights commitments and trade policies in the regulation of mineral supply chains.

On 27 June 2025, the DRC and Rwanda signed a controversial (preliminary) Peace Agreement, brokered with the backing of the U.S.[159] Strikingly, the agreement makes no reference to the role of the M23 rebel group – or to Rwanda's support for it – in the ongoing conflict, nor does it address reparations in that regard. This omission is particularly conspicuous, given both the centrality of M23 and Rwanda's involvement in the hostilities, and the judgment issued just one day earlier by the African Court on Human and Peoples' Rights, which rejected Rwanda's preliminary objections in a case brought by the DRC in 2023 and explicitly acknowledged the participation of the Rwanda Defence Forces in the conflict alongside M23.[160]

The agreement underscores economic cooperation in areas directly relevant to the concerns addressed in this paper – particularly the "derisking" of mineral supply chains (point 6.i). It further calls for the establishment of "independent economic audit and anti-corruption mechanisms" (point 6.ii) and envisions the development of "transparent, formalised end-to-end mineral value chains (from mine to processed metal)" (point 6.i), all to be implemented in collaboration – "as appropriate" – with the U.S. government and U.S. investors.

President Trump hailed the deal by declaring, "[w]e're getting, for the United States, a lot of the mineral rights from the Congo as part of [this agreement]",[161] thereby highlighting its distinctly transactional nature.

159. Peace Agreement Between the Democratic Republic of the Congo and the Republic of Rwanda (June 27, 2025). Available at <<https://www.state.gov/peace-agreement-between-the-democratic-republic-of-the-congo-and-the-republic-of-rwanda/>>.

160. See (n 82).

161. Carlos Mureithi, 'Trump eyes mineral wealth as Rwanda and DRC sign controversial peace deal in US' (27 June 2025) The Guardian, available at <<https://www.theguardian.com/world/2025/jun/27/rwanda-drc-peace-deal-us-trump-m23>>.

Strong doubts persist as to whether the agreement can genuinely bring an end to the conflict between the DRC and Rwanda, along with its attendant implications concerning the illegal exploitation and trade of minerals.

5. Concluding remarks

Writing this paper proved a complex and often challenging undertaking. The author grappled repeatedly with the risk of straying from the core subject, while recognising the necessity of addressing the broader dimensions underlying the issues at stake. The process required extensive revision and structural rethinking. At times, the validity of the research itself came under scrutiny, given that flag States might initially appear peripheral within the broader geopolitical and regulatory landscape. However, it became increasingly evident that while flag States may not be principal actors in the commission of offences, they occupy a strategic regulatory position within a system that enables more powerful interests. By holding flag States to their legal responsibilities, it becomes possible – at least in part – to influence and reshape the broader system.

A major challenge identified in this study is the marked scarcity of data concerning the maritime transport of coltan. Given the predominance of maritime shipping in global trade, it is scarcely conceivable that coltan – typically exported in raw or semi-processed form – would be transported from Central Africa to principal processing centres such as China or the United States by air or overland routes, considering the associated logistical and economic constraints. As with other bulk commodities, it is evident that tantalum is predominantly transported by sea. Nonetheless, both available data and the existing body of scholarly literature largely overlook the maritime dimension of this trade, result-

ing in a significant informational gap. Industry disclosures offer only fragmented insights, insufficient to construct a comprehensive picture of coltan's maritime flows.

This gap critically impedes the effectiveness of traceability initiatives and undermines broader efforts to prevent the infiltration of illicitly sourced minerals into legitimate international markets – setting aside, for present purposes, the additional implications for compliance with IMO regulations on the transport of hazardous materials, which, while important, falls outside the scope of this paper's focus on conflict minerals.

Accordingly, this study underscores the urgent need to enhance transparency in the maritime transport of coltan and other minerals, and calls for a critical reassessment of the adequacy of the regulatory frameworks currently governing their trade and transportation, particularly in light of the persistent deficiencies in traceability and due diligence mechanisms.

Bleischwitz et al. highlighted as early as 2012 that any certification scheme should consider the risk for actors in the supply chain "to mix legal mining products with others along the first stages of the supply chain."[162] This concern remains as relevant today as it was then.

The widespread smuggling, rebranding, and illegal trade of conflict minerals from the DRC highlight the persistent gaps in enforcement, allowing illicitly sourced coltan to enter the global supply chain. In this context, the law of the sea provides a potentially powerful tool for addressing these challenges.

UNCLOS establishes a framework of rights and obligations for flag States, which are required to exercise effective jurisdiction and control over vessels flying their flag. This responsibility extends beyond administrative oversight to encompass compliance with broader international

162. Bleischwitz et al. (n 4) 14.

legal commitments, including human rights protections and UNSC resolutions.

The paper highlights that the due diligence obligations of flag States must be interpreted in light of their knowledge of the risks associated with the illegal trade of conflict minerals. If a flag State knows that its vessels are transporting coltan illicitly sourced from the DRC – thereby directly or indirectly contributing to human rights violations and breaches of international law – it has a legal duty to act. The same applies when the risk of illegal sourcing is so high that States must adopt precautionary measures. This approach is reflected in the RMC Preamble, which asserts that the certification process can only be deemed "credible" if States have effective procedures in place for mine validation and inspection. Failure to act not only undermines the "genuine link" requirement between the vessel and its flag State but may also engage the flag State's international responsibility under Article 41 ARSIWA.

The analysis suggests that a fundamental shift is needed in how compliance with international law is assessed in the context of conflict minerals. The inherent flaws in corporate due diligence and certification schemes – such as the RCM/ITSCI framework – demonstrate that reliance on self-regulation by industry actors is insufficient. Instead, more robust enforcement mechanisms at the State level, including through flag State responsibility, are essential to preventing illicit coltan shipments from infiltrating global markets.

Without a structural overhaul of enforcement strategies and compliance mechanisms, international obligations under ILO conventions, UNSC resolutions, and the UN Charter will remain largely ineffective in addressing the devastating consequences of the conflict mineral trade. Flag States, as critical regulatory actors under UNCLOS, must fulfil their due diligence obligations to prevent their vessels from facilitating the transport of illegally sourced coltan. This requires the establishment of robust, verifiable, and transparent mechanisms to ensure ethical sourcing

and trade practices. Strengthening these regulatory frameworks is not only a legal necessity but also a crucial step in addressing the human toll of coltan exploitation in the DRC. Inaction not only perpetuates injustice and exploitation but also sustains a global economic system that thrives on impunity, where the hidden costs of technological progress are too often borne by those who suffer the most.

Cracking down on the coltan trade will not end the bloodshed in the DRC overnight. It will not undo decades of foreign interference, or reverse the chaos unleashed since the assassination of Lumumba in 1961. Some might even argue it could make things worse – cutting off one of the few lifelines for artisanal miners, including women and children, who toil for a few dollars a day in war-ravaged, lawless regions. But that is not the point.

The point is that corporations and States cannot be allowed to continue profiting from a trade steeped in violence and exploitation – not with full knowledge of its human cost, and not under the hollow watch of international commitments to human rights and dignity.

Let's be clear – what is happening is not a failure of awareness. It is a failure of will. And when governments and companies choose inaction, knowing well the suffering at the heart of their supply chains, that is no longer negligence. That is complicity. And this holds true on land and at sea.