



german  
cooperation  
DEUTSCHE ZUSAMMENARBEIT



LEVIN SOURCES



Summary

# The implementation of due diligence in 3TG supply chains

The cases of Burkina Faso, Mozambique and Nigeria

## Imprint

Published by  
Bundesanstalt für Geowissenschaften und Rohstoffe (BGR)  
Stilleweg 2  
30655 Hannover (Germany)

### **COPYRIGHT © 2022**

by the Federal Institute for Geosciences and Natural Resources (BGR).  
All rights reserved under International Copyright Conventions. No part of this book may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without prior permission in writing from the publisher.

### **ABOUT THIS REPORT:**

This report presents the summary of the results of a study on the implementation of due diligence in 3TG supply chains from Conflict-Affected and High-Risk Areas. The whole project is a product of BGR's sector project "Extractives and Development", which is implemented on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ). The set up and the implementation of the study have been coordinated and accompanied by Thomas Grupp. For more information please visit: [www.bmz.de/rue/en](http://www.bmz.de/rue/en)

### **AUTHORS:**

This report was written Ashley Smith-Roberts (Levin Sources) and Thomas Grupp (BGR). The content is based on a study, which was commissioned to Levin Sources by the Federal Institute for Geosciences and Natural Resources (BGR) and written by Olivia Lyster and Ashley Smith-Roberts, with contributions from Massaran Traore, Salvador Mondlane, Elton Maiela and Rufus Gbenosa.

### **DISCLAIMER:**

This report was prepared from sources and data Levin Sources believes to be reliable at the time of writing, but Levin Sources makes no representation as to its accuracy or completeness. The report is provided for informational purposes and is not to be construed as providing endorsements, representations or warranties of any kind whatsoever. The authors accept no liability for any consequences whatsoever of pursuing any of the recommendations provided in this report, either singularly or altogether. Opinions and information provided are made as of the date of the report issue and as subject to change without notice. For more information, please visit [www.levinsources.com](http://www.levinsources.com)

### **DESIGN**

ff.mediengestaltung GmbH, Wienhausen

### **COVER PHOTO**

Gilles Paire, Adobe Stock

### **AS AT**

March 2022

### **CONTACT**

Bundesanstalt für Geowissenschaften und Rohstoffe (BGR)  
Stilleweg 2  
30655 Hannover (Germany)  
E-Mail: [rue@bgr.de](mailto:rue@bgr.de)

# Content

|  |           |
|--|-----------|
| <b>Abbreviations and acronyms</b>                                | <b>4</b>  |
| <b>List of figures</b>   | <b>5</b>  |
| <b>1 Introduction</b>  | <b>6</b>  |
| <b>2 Burkina Faso</b>  | <b>7</b>  |
| Overview of the gold sector                                      | 7         |
| Due diligence risks  | 8         |
| Due diligence implementation                                     | 9         |
| <b>3 Mozambique</b>  | <b>10</b> |
| Overview of the 3TG sector                                       | 10        |
| The gold supply chain  | 11        |
| The tantalite supply chain                                       | 12        |
| Due diligence implementation                                     | 13        |
| <b>4 Nigeria</b>   | <b>14</b> |
| Overview of the 3TG sector                                       | 14        |
| The gold supply chain  | 14        |
| The 3T supply chain  | 16        |
| Due diligence implementation                                     | 18        |
| <b>5 Combined conclusions from the three countries</b>           | <b>19</b> |
| <b>6 Recommendations for the implementation of due diligence</b> | <b>20</b> |
| <b>7 Bibliography</b>  | <b>22</b> |

# Abbreviations and acronyms

|          |  |
|----------|--|
| 3TG      | Tin, tantalum, tungsten, gold  |
| AGC      | Artisanal Gold Council   |
| ANEEMAS  | Agence National d'Encadrement des Exploitations Minières Artisanales et Semi-mécanisées (National Agency for the Management of artisanal and semi-mechanised mining) |
| ASM      | Artisanal and small-scale mining   |
| ASGM     | Artisanal and small-scale gold mining  |
| BGR      | Bundesanstalt für Geowissenschaften und Rohstoffe (Federal Institute for Geosciences and Natural Resources)  |
| BMZ      | Bundesministerium für Wirtschaftliche Zusammenarbeit und Entwicklung (Federal Ministry for Economic Cooperation and Development)                                     |
| BNAF     | Brigade National Anti-Fraude de l'Or (National Anti-Fraud Brigade of Gold)   |
| CAHRA    | Conflict-affected and high-risk areas  |
| OECD     | Organisation for Economic Co-operation and Development   |
| OECD DDG | Organisation for Economic Co-operation and Development – Due Diligence Guidance  |
| EIA      | Energy Information Administration  |
| EITI     | Extractive Industries Transparency Initiative  |
| GDP      | Gross Domestic Product   |
| INAMI    | Instituto Nacional de Minas de Mocambique (National Institute of Mines)  |
| LSM      | Large-scale mining   |
| MIREME   | Ministério dos Recursos Minerais e Energia (Ministry of Mines)   |
| NEITI    | Nigeria Extractive Industries Transparency Initiative  |
| ONASSIM  | Office National de Sécurisation des Sites Miniers (National Office for the Security of Mine Sites)   |
| PAGMI    | Presidential Artisanal Gold Mining Development Initiative  |
| RBA      | Responsible Business Alliance  |
| RMI      | Responsible Minerals Initiative  |
| STAG     | Scalable Trade in Artisanal Gold Project   |
| UAE      | United Arab Emirates   |
| UGPK     | Unidade de Gestão de Processo Kimberley (Management Unit for the Kimberley Process)  |
| USGS     | United States Geological Survey  |

# List of figures

|            |   |    |
|------------|---|----|
| Figure 1:  | Flow Chart of Upstream and Downstream Companies                             | 6  |
| Figure 2:  | Simplified supply chain of gold within Burkina Faso                         | 7  |
| Figure 3:  | Karatinga mine site, Burkina Faso   | 8  |
| Figure 4:  | Korssimoro mine site, Burkina Faso  | 9  |
| Figure 5:  | Geographical concentration of artisanal gold production by province in 2020 | 10 |
| Figure 6:  | Sample ASGM supply chain in Mozambique                                      | 11 |
| Figure 7:  | Tantalite pool and processing platform at Companhia de Tantalite            | 12 |
| Figure 9:  | Sample Mozambican tantalite value chain                                     | 13 |
| Figure 10: | Alluvial gold mining site near Gwagwalada, Abuja state                      | 14 |
| Figure 11: | Overview of gold mining by state in Nigeria                                 | 15 |
| Figure 12: | This is a simplified illustration of the gold value chain within Nigeria    | 15 |
| Figure 13: | Wet milling and mercury use at gold mining site near Dafa, Abuja state      | 16 |
| Figure 14: | Overview of 3T mining by state in Nigeria.                                  | 17 |
| Figure 15: | Simplified 3T supply chain within Nigeria                                   | 18 |

# 1 Introduction

This report represents a summary of an extensive analysis on the implementation of due diligence requirements in the supply chains of tin, tungsten, tantalum and gold (3TG) in Burkina Faso, Mozambique and Nigeria. The Sector Programme “Extractives and Development” of the German Federal Institute for Geosciences and Natural Resources (BGR), which is implemented on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ), commissioned Levin Sources to conduct this study. The study analyses the current production and export situation of the 3TG minerals in the three study countries and provides insights into challenges and barriers of due diligence implementation, especially in conflict-affected and high-risk areas (CAHRAs) in the context of the EU Regulation on Responsible Sourcing of Minerals which came into effect on 1 January 2021. The EU Regulation is positioned to ensure conflict-free sourcing of at least 95% of EU imports of tin, tantalum, tungsten and gold. In particular, the EU Regulation is concerned with overseeing the trade flow of these minerals, which are often sourced from conflict-affected and high-risk areas (CAHRAs) and may be implicated with due diligence risks outlined in the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas. The due diligence risks covered in Annex II of the OECD Due Diligence Guidance are:

-  Serious abuses in the extraction, transport and trade of minerals (e.g., serious human rights abuses such as torture, forced labour or the worst forms of child labour)
-  Direct or indirect support to non-state armed groups
-  Public and private security forces
-  Bribery and fraudulent misrepresentation regarding the origin of minerals
-  Money laundering
-  Payment of taxes, fees and royalties to government agencies

In the following, the study’s findings on the assessment of these risks in upstream 3TG supply chains are summarised, and the implementation of due diligence requirements, with a particular focus on the EU Regulation on Responsible Sourcing of Minerals, on 3TG supply chains in the target countries are assessed. Finally, the study’s analytical conclusions of common themes across the three countries and recommendations for improving the implementation of due diligence, in particular for actors in the German development cooperation, are outlined in this brief report.

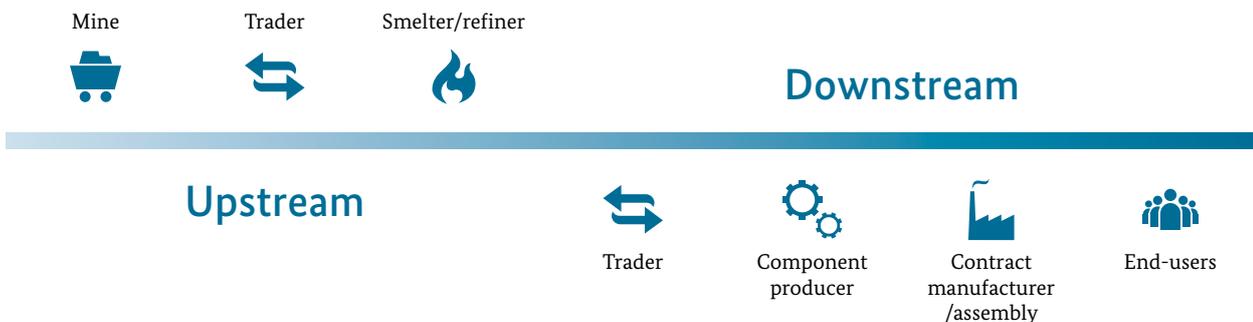


Figure 1: Exemplary mineral supply chain. Source: [Adapted from https://ec.europa.eu/trade/policy/in-focus/conflict-minerals-regulation/regulation-explained/](https://ec.europa.eu/trade/policy/in-focus/conflict-minerals-regulation/regulation-explained/)

## 2 Burkina Faso

The following risks were identified in certain value chains in Burkina Faso:



Bribery, fraudulent misrepresentation, money laundering and non-payment of taxes



Direct or indirect support to non-state armed groups



Public and private security forces

### Overview of the gold sector

Burkina Faso is known for its rich mineral resources. Its main deposits are in gold, zinc, copper, manganese, phosphate and limestone, as well as traces of diamonds, bauxite, nickel and vanadium (EITI, 2021). However, gold remains the country's most important extracted mineral, and it is the only one of the 3TGs to be extracted (EITI, 2021; USGS, 2016).

The vast majority of officially declared gold production – remaining at around 99% from 2014-2018 – is produced by the large-scale mining (LSM) sector (USGS, 2021; ANEEMAS, 2020). Industrial gold mining in Burkina Faso is concentrated in the Sahel, the Centre-North and the Mouhoun Loop. Chain of custody implemented for official exports comes almost exclusively from the LSM sector. The 1% of official exports originating from artisanal and small-scale mining (ASM) sources are mainly exported through the National Agency

for the Management of artisanal and semi-mechanised mining (ANEEMAS). The extractive sector is an important contributor to Burkina Faso's GDP (12,19% of GDP in 2019), of which the gold sector makes by far the largest share (EITI, 2021). However, the reported government revenue could be even higher if more of the artisanally produced gold was exported legally. Comparing official government ASM production figures with other reliable sources indicates the vast majority of ASM gold is illegally exported. Official production numbers reported by ANEEMAS declared only 267kg of ASM gold in 2020 (ANEEMAS, 2020), yet an analysis of mercury emissions and stakeholder interviews put the ASM gold production figure in 2018 at around 20-25 tonnes annually (Sollazzo, 2018). Interviews suggest that one of the most popular smuggling routes for gold is through Togo, due to its favourable tax rates. The smuggled gold then makes its way to the United Arab Emirates (UAE), allegedly one of the main import hubs for illegally exported gold across the globe.

In terms of production, ASM sites in Burkina Faso range from fully artisanal – where all work is conducted manually using hand tools – to semi-mechanised, where machines such as crushers and water pumps are used to increase the productivity of a site. The size of sites also varies significantly, as conducted field research included visits to a small, village-run site, as well as a site where the high season would see more than 2000 people working on gold extraction. In total, estimates range from 200,000 to 1.2 million people working in ASM, and

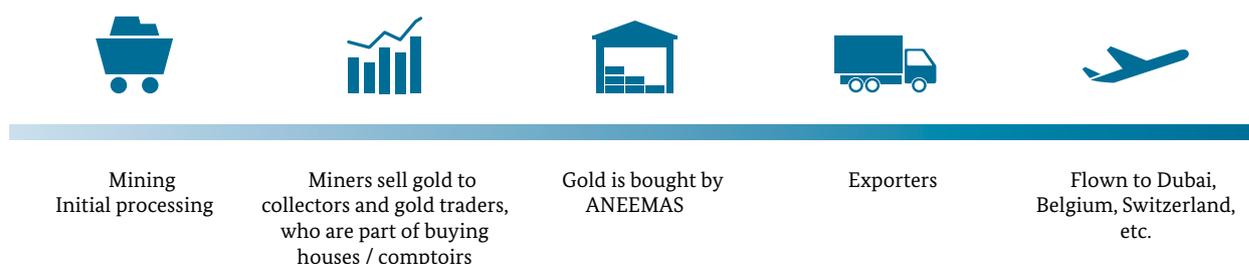


Figure 2: Simplified supply chain of gold within Burkina Faso

the discrepancy may be partly due to differences in defining ASM operators (IGF 2017; Mondlane, 2017). Due diligence measures generally do not seem to be implemented at either of these types of ASM sites.

### Due diligence risks

Gold smuggling (and thus misrepresentation of origin as well as avoidance of taxes, fees and royalties), as well as involvement of non-state armed groups, are major OECD Annex II risks linked to the gold extraction and trade in Burkina Faso. There is a growing risk of artisanal gold supply chains in Burkina Faso being controlled by armed groups, who participate directly in the informal trade and smuggling of gold. Gold produced from artisanal sites are often smuggled into neighbouring Togo and Mali. Gold from these sites is likely to be accruing millions of dollars into the hands of the non-state armed groups. As well as deadly attacks, armed groups also reportedly use artisanal and small-scale gold mining (ASGM) sites as places to recruit new members and attain the explosives and detonators they need to carry out attacks in

other areas (Smith, 2021). They have also reportedly expelled gold traders from sites, preferring to buy the gold themselves or take a cut of production (Lewis & McNeill, 2019).

Non-payment of taxes is another major OECD Annex II risk. In order to keep their trade and formal export licenses active, *comptoirs* (local gold traders and exporters) are obliged to declare 50g per year to ANEEMAS. Interviews conducted in-country revealed that *comptoirs* often declare the minimum amount to the authorities and smuggle the rest. Furthermore, it is likely that there are significantly more *comptoirs* than are currently listed formally as active by the authorities. Information from the field confirmed that high taxes and fees on the trade and export of gold, as well as on the mandatory repatriation of funds from exported gold, drive many *comptoirs* to trade only a small proportion of the gold they buy through official channels.

The illicit involvement of public and private security forces in gold mining in Burkina Faso also constitutes a risk. There are reports of officers from public security forces participating in extortion at sites



Figure 3: Karatinga mine site, Burkina Faso (Photo: Traore 2021)

they are supposed to be overseeing, especially in the southwest of the country (Sollazzo, 2018). There are also reports of security officers – allegedly with the support of local politicians – facilitating the production of gold at sites that have been closed by the government, e.g., the Poura site, which has been officially closed since 1999 (Sollazzo, 2018).

## Due diligence implementation

Limited management and oversight of the ASM sector presents the largest barrier to formalisation and the implementation of due diligence in the country. However, several industry or multi-stakeholder initiatives were identified in Burkina Faso that deal with issues related to due diligence or supply chain transparency or traceability. Despite this, there remain large gaps and challenges at the sector-wide level, even when production and trade are conducted in a fully formal manner.

The following aspects could be entry points for strengthening awareness and implementation of due diligence in Burkina Faso:

**ANEEMAS:** The office’s mandate and mission could be further strengthened and supported. The institutions carrying out mine inspections, such as the National Office for the Security of Mine Sites (ONASSIM), and The National Anti-Fraude Brigade for Gold (BNAF) show a willingness to play a role in the oversight and monitoring of due diligence practices, though establishing this would require support to build capacity and ensure sufficient resources.

**Scalable Trade in Artisanal Gold (STAG):** The project is the result of a partnership between the Canadian not-for-profit organization and artisanal gold mining specialist, the Artisanal Gold Council (AGC), non-governmental organization RESOLVE, and the Responsible Business Alliance’s (RBA) Responsible Minerals Initiative (RMI). The project aims to work along the supply chain from a market entry perspective, using the CRAFT Code and the Responsible Minerals Assurance Process (RMAP) to support ASM sites in accessing downstream buyers. The project encourages engagement of downstream buyers with ASM as a strategy for improvement of the sector.



Figure 4: Korssimoro mine site, Burkina Faso (Photo: Traore 2021)

# 3 Mozambique

The following risks were identified in certain value chains in Mozambique:



Bribery, fraudulent misrepresentation, money laundering and non-payment of taxes



Serious abuses in the extraction, transport or trade of minerals



Public and private security forces

important deposits of coal, gold, graphite, ilmenite, iron ore, titanium, copper, tantalum, bauxite and coloured gemstones (EIA, 2020; Goodrich, 2021). The production of coal, natural gas and coloured gemstones is dominated by large-scale companies. Bauxite is produced at medium scale. The majority of the remaining mineral products, however, are produced by ASM, which makes up an important part of the country’s mining labour force.

## Overview of the 3TG sector

Mozambique is rich in mineral resources. While best known for its natural gas, for which it has the third-largest proven reserves in Africa, it also has

The 3TG sector in Mozambique consists of the production of gold and tantalum-niobium, both of which are produced largely by artisanal and small-scale operations. There are thought to be between 100,000 and 200,000 people working directly in ASM in Mozambique overall on a range of different minerals, and an estimated 1.2 million dependents are supported by this workforce (IGF,

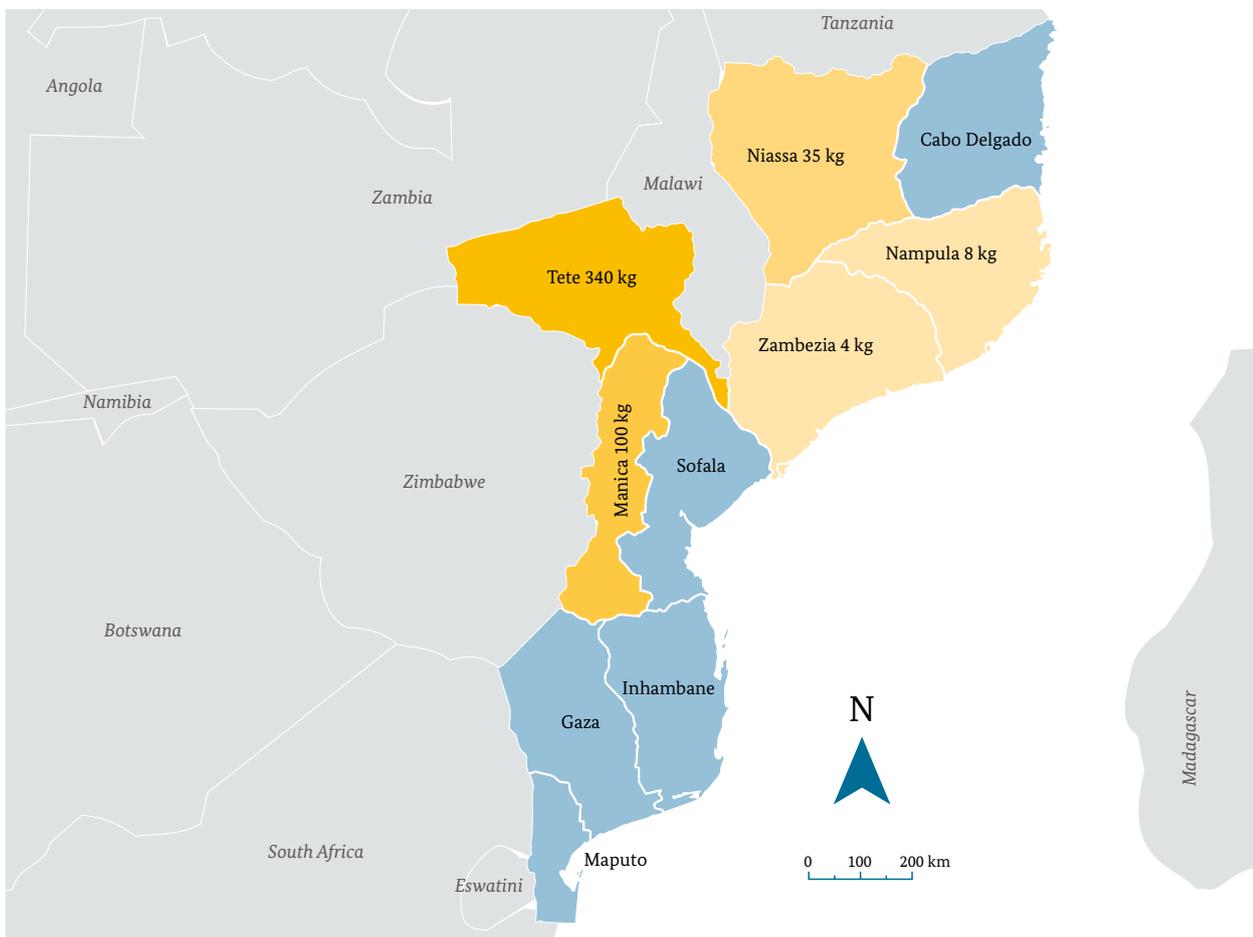


Figure 5: Geographical concentration of artisanal gold production by province in 2020. Source of data: INAMI

2017; Mondlane, 2017). The participation of women is thought to be significant, with estimates ranging at around 20-30% of the labour force (Hinton et al., 2003; Mondlane, 2017; World Bank, 2020). Informality in the ASM sector is widespread due to high structural barriers to formalisation. Officially, artisanal mining can take place only in designated areas, as identified by the Ministry of Mines (MIREME). A census that is currently underway has identified over 1044 artisanal sites across the country, reflecting the high levels of informality in the Mozambican ASM sector.

### The gold supply chain

Gold production in Mozambique is mainly a small-scale activity. While a number of industrial gold licences exist, production in practice ranges from artisanal and small-scale to medium-scale at most, and practices generally remain rudimentary. Large-scale gold projects such as the Manica Gold Project do exist but have not achieved full productivity (Mining Review Africa, 2015; Reuters, 2021). Manica Province has traditionally been seen as the centre of Mozambique's gold production, sharing a greenstone belt with neighbouring Zimbabwe (Hilson et al., 2021). The reported numbers on production and exports vary greatly, depending on the source. According to the National Institute of Mines (INAMI), the volume of gold production amounts to 321kg in the first half of 2021. Reported exports by Comtrade for Mozambique amount to 33kg in 2020, while imports from Mozambique reported by partner countries are as high as 5,333kg. This discrepancy shows the difficulty in gathering reliable data and indicates significant levels of undeclared exports from Mozambique into destination countries with lenient certification of origin standards for gold imports such as Lebanon and the UAE.

The official gold trade today in Mozambique takes place between miners and registered gold buyers, of which there are approximately 250 (Hilson et al., 2021). However, it is likely that large amounts of the gold produced (from both formal and informal sites) are traded through informal channels, including unlicensed traders, who do not declare the trade and the export. This is due in part to poor infrastructure and the remote nature of many mine sites that are located in border areas, from where minerals are often smuggled to neighbouring countries (Hilson et al., 2021).

### Due diligence risks in the gold supply chain

A major OECD Annex II risk includes non-payment of taxes due to gold smuggling. In Manica, gold is often smuggled over the border into Zimbabwe, and many of the traders who operate in the local area are from Zimbabwe. Zambia is also a destination for gold smuggled from Mozambique, but to a much lesser extent. Reliable information on incentives for informal trade is difficult to come by, but it is likely that informal trade is driven partly by: (1) deliberate evasion of taxes; (2) a lack of awareness as to the requirements of the legal framework; and (3) the existence of entrenched networks operating in the gold trade. Additionally to cross-border smuggling, another risk, fraudulent misrepresentation of the origin of minerals, is reported with gold that originates from protected areas within Mozambique. ASGM is reportedly common in Chimanimani National Park, which borders Zimbabwe. From here, artisanal gold miners sell the gold produced either across the border to Zimbabwe through specific smuggling routes or to Lebanese, American or South African traders in Manica's gold markets (Barroso, 2011).



Figure 6: Sample ASGM supply chain in Mozambique

Child labour, considered a serious human rights abuse under the OECD Annex II framework, is a serious risk in the artisanal production of 3TGs – in particular gold – in Mozambique, with as much as 10% of the country’s ASM population estimated to be children.

### The tantalite supply chain

The tantalite sector in Mozambique is more limited in size and scope than the gold sector. Tantalite production is concentrated in Zambezia province. Industrial tantalite production generally takes place in open pit mines, with tantalite being the principle mineral extracted, and other minerals sometimes produced as by-products. Official figures for tantalite production (concentrate, grade not given) in 2019 were 131 tonnes, increasing to 209 tonnes in 2020 (EITI, 2020; INAMI, 2020).

The artisanal tantalite sector is thought to employ a significant number of workers, although recent and reliable estimates of workforce size or artisanal production are not available. Officially, all ASM

tantalite production is informal, because artisanal miners are restricted from producing or trading “radioactive materials”; in Mozambique, tantalite is considered a radioactive substance. The production of tantalite and other minerals is regulated and is only allowed for holders of a large-scale mining lease. Small-scale and artisanal licenses are excluded. Nonetheless, tantalite ASM continues to exist in Zambezia province, where miners tend to operate on or around abandoned LSM concessions. Mozambique’s ASM sites producing ore with tantalite content are estimated to have produced approximately 49 tonnes of tantalum annually between 2017 and 2019 (BGR, 2021).

### Due diligence risks in the tantalite supply chain

Child labour has been reported at tantalite sites, and children reportedly aged 10-18 participate in artisanal tantalite production, including opening shafts and participating in washing of the ore. Private security at large-scale mines have a history of human rights abuses towards artisanal miners. In the tantalum sector, the revolts that led to the de-



Figure 7: Tantalite pool and processing platform at Companhia de Tantalite (Photo: Mondlane 2021)

struction and closing of the Muiane mine in Gilé District (Zambezia Province) were reportedly triggered by the killing of an artisanal miner by the local police (Mueia, 2017).

It is likely that there is also a risk of tantalum smuggling out of Mozambique, although tantalum supply chains, in particular informal supply chains, are poorly documented. In 2018, a Chinese citizen was

allegedly arrested for taking part in an international smuggling ring for tantalite in Zambezia (Club of Mozambique, 2018). Given the practical difficulties in smuggling bulkier tantalite ore and concentrate out of the country, smuggling is likely to take the form of under-reporting of values exported to Asia (in particular China and Thailand), the biggest market for Mozambican tantalite.

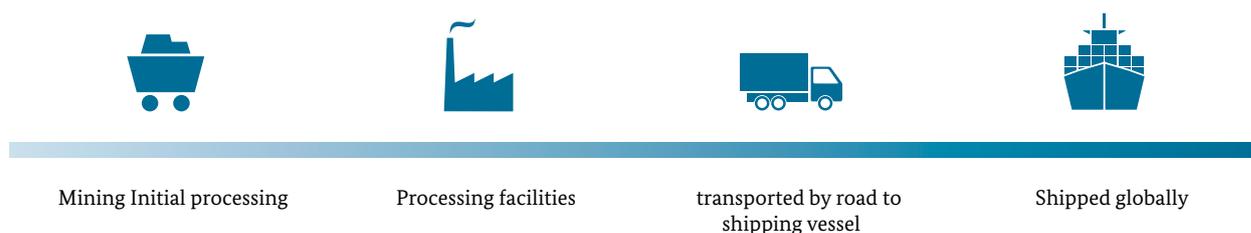


Figure 9: Sample Mozambican tantalite value chain

## Due diligence implementation

Despite the limited understanding and implementation of initiatives to promote due diligence or supply chain traceability and transparency in Mozambique, the country is taking positive steps towards creating an enabling environment for due diligence implementation in mineral supply chains going forward.

The following initiatives and processes could provide first entry points to improve and support due diligence implementation in 3TG supply chains:

**Unidade de Gestão de Processo Kimberley (UGPK) Certificate of Origin:** the UGPK is in the process of developing a certificate of origin, to be issued at the point of export, for all precious metals and precious stones exported out of Mozambique. This is being developed in the wake of Mozambique's admission into the Kimberley Process in November 2021 and could provide a first basis of due diligence for gold especially.

**Census of the ASM sector:** Mozambique is currently conducting a nationwide census on its ASM sector. Over the course of 2021, a census of all ASM activities has been carried out, starting with the southern regions and progressing to all mineral producer provinces in the country. The census is attempt-

ing to map out the characteristics of the ASM sector and is collecting a wide range of data, including sociodemographic, mining and processing techniques, impacts of COVID-19, mineral trade, use of mercury, environmental impacts, quality of minerals produced, amongst other things. Interviews have been conducted not only with producers but also with mineral traders and members of local communities in mining areas. The results of the census are due to be published in 2022 and can be used as a basis for improved understanding of the sector.

## 4 Nigeria

The following risks were identified in certain value chains in Nigeria:



Direct or indirect support to non-state armed groups



Public and private security forces



Bribery, fraudulent misrepresentation, money laundering and non-payment of taxes

terises artisanal 3T mining in Nigeria. The mining sector amounts to 0.18% of Nigerian GDP according to the Nigerian Extractives Industries Transparency Initiative (NEITI) report of 2018, and the metal ores, under which the 3TG are categorized, comprises just under 5% of the value of the mining sector – over 90% is dominated by quarrying and other minerals (NEITI, 2018). The government of Nigeria estimates the workforce within the ASM sector to be at least 400,000 people exploiting a variety of different minerals, with up to 1.5 million people indirectly involved in mining (Mondlane, 2017).

### Overview of the 3TG sector

An analysis of the 3TG mining sector in Nigeria reveals that both gold and 3T mining are widespread throughout the country. The mining of 3TGs is very region-specific: Where gold is available, even if 3Ts occur there as well, gold mining will be preferred over 3T. This is due to the high prices that may be elicited from the sale of gold, and it is also a consequence of the high effort and low yield that charac-

### The gold supply chain

Gold mining is almost completely artisanal, as the first large-scale mine began production in 2021. The high value of gold makes it preferable in some instances as currency over the naira. This has led to a high demand for gold and the use of gold as currency, which has become one incentive for widespread gold smuggling. Field research demonstrates that even small amounts of gold may be traded and



Figure 10: Alluvial gold mining site near Gwagwalada, Abuja state (Photo: Gbenosa 2021)

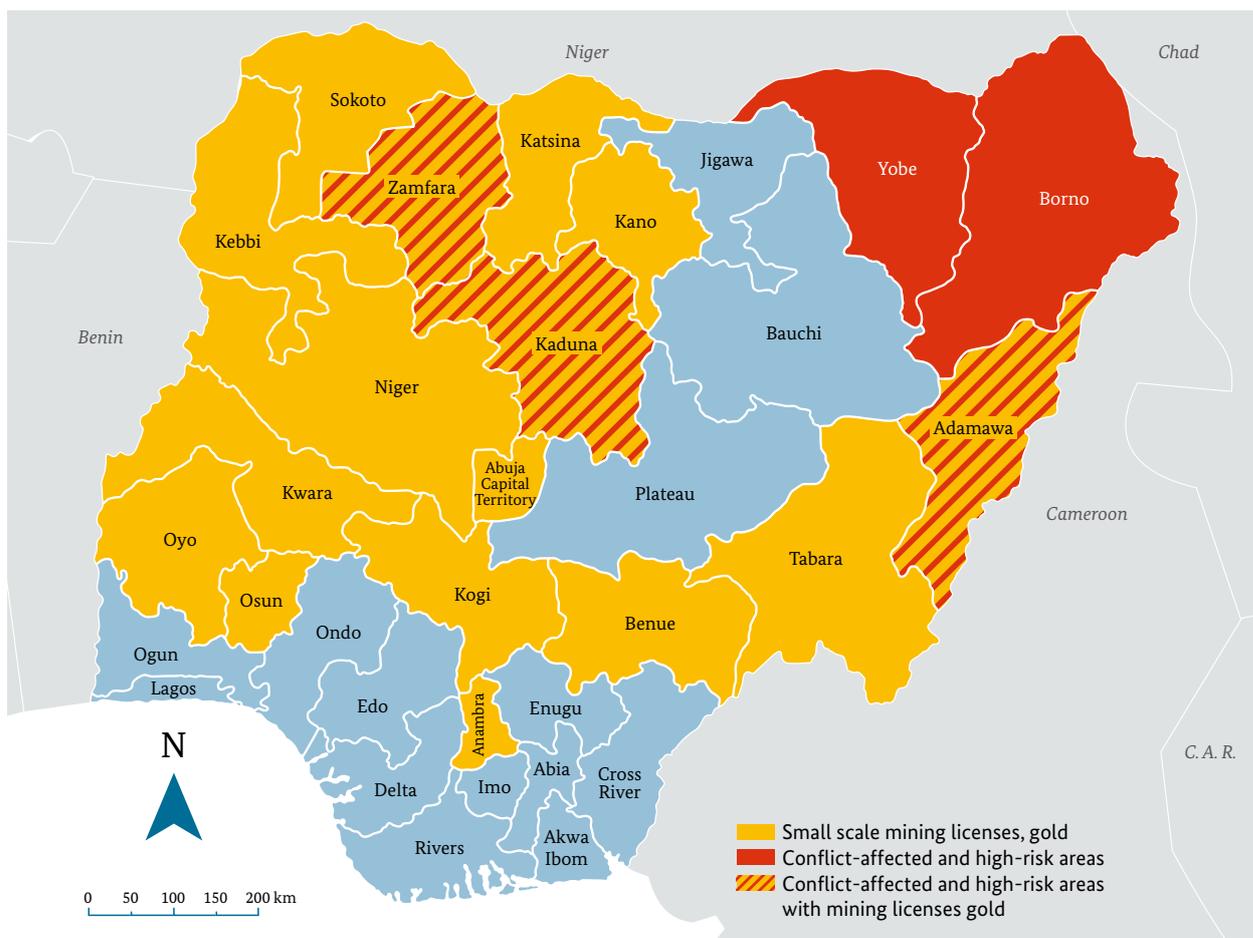


Figure 11: Overview of gold mining by state in Nigeria

used to buy food, equipment, or other supplies, in an exchange known as “gold for goods”. Official NEITI data states that only 9,07kg of gold were produced in 2018 (NEITI, 2018). In stark contrast, Comtrade reports that in 2018, four countries (UAE, Spain, Switzerland and Niger) imported 18,270 kg of gold from Nigeria, at a value of nearly \$600 million (compared to \$63.000 of gold exports reported by Nigeria). This indicates widespread gold smuggling out of Nigeria, one of the most popular smuggling routes being from Nigeria over to Niger and then

to the UAE. The UAE seem to be the destination for the large majority of the smuggled gold.

**Due diligence risks in the gold supply chain**

Gold is reportedly involved in conflict financing and other OECD Annex II risks, such as smuggling or bribery and fraudulent misrepresentation of the origin of minerals. The government of Nigeria is prioritising addressing gold smuggling and its links to illegal crime syndicates (Nwezeh, 2019). At the



Figure 12: This is a simplified illustration of the gold value chain within Nigeria



Figure 13: Wet milling and mercury use at gold mining site near Dafa, Abuja state (Photo: Gbenosa 2021)

same time, some sources claim some sponsors of illegal mining may enjoy the protection of some state governments (Nwezeh, 2019; Ogonnaya, 2020).

Illicit routes for the gold trade include smuggling gold by land to the Republic of Niger, where export taxes are lower and procedures are allegedly simpler. From there, gold is flown to Dubai, UAE, where it is sold for goods that are imported back into Nigeria. Smaller gold exporters may smuggle gold by land to the Republics of Benin or Togo, where a similar exchange of “gold for goods” occurs.

Conflict between public and private security forces and artisanal miners are another widespread Annex II risk. Field research uncovered several instances of artisanal mining sites that had been abandoned due to repeated violent interactions between miners and security forces. Artisanal gold miners have also experienced violence due to banditry and kidnapping in northern Nigeria. Zamfara, Kaduna, Katsina, Sokoto, Oyo and Niger States have experienced some of the highest levels of violence, and some 3T sites in these regions are reported to have closed their operations. Notably,

Zamfara and Kaduna States are included on the EU CAHRAs list, but the other States are not.

### The 3T supply chain

A different picture is painted when looking at the 3Ts. Among artisanal miners in Nigeria, all of the 3Ts are known collectively as “tin”. The mineral deposits occur together, and the minerals are not separated until further along the supply chain, nearer to the exporting stage. This means the 3Ts are inextricably linked in Nigeria, and the discussion of one mineral’s supply chain cannot occur in isolation without referencing the other. Tin ore, or cassiterite, can be found in multiple regions in Nigeria. The reported production numbers differ depending on the source: United States Geological Survey (USGS) reports 7,800 tonnes of tin produced in 2018, and NEITI reports 4,700 tonnes for the same year. The Comtrade data for imports and exports suggest a chronicle underreporting as the world tin imports from 2018 (9,350 tonnes) are far beyond the reported tin exports from Nigeria (130 tonnes). The same accounts for tantalum, even though on a lower scale, where world imports of tantalum and ni-

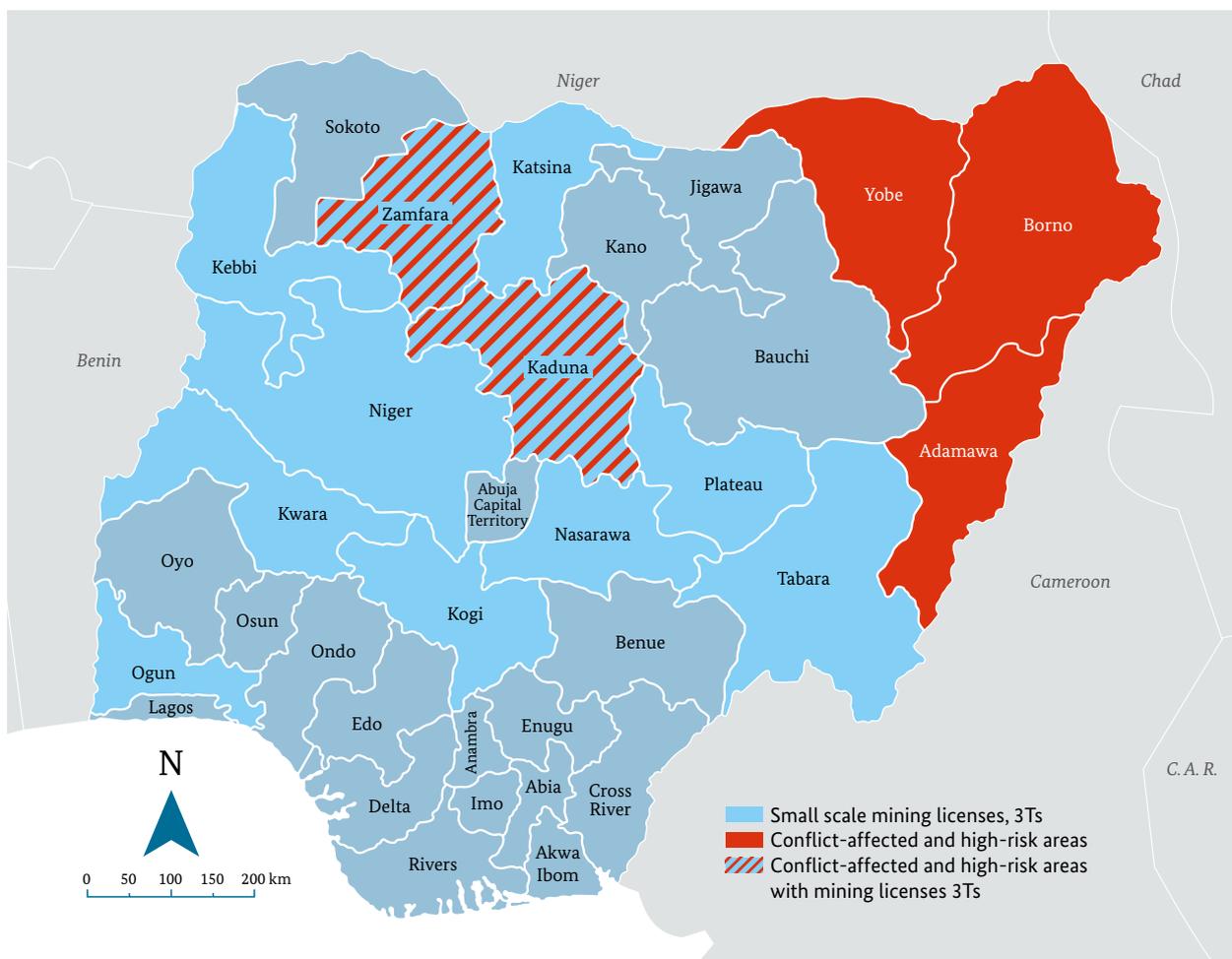


Figure 14: Overview of 3T mining by state in Nigeria.

bium ores and concentrates in 2018 (5,600 tonnes) are higher than the reported Nigerian exports (4,000 tonnes). Tungsten is produced on a much lower scale (NEITI reports 50 tonnes in 2018) and imports and exports also vary greatly (Comtrade: 50 tonnes of imports from Nigeria; 24 tonnes of exports out of Nigeria).

Because of the low profit margins currently being experienced by 3T mining within the country, many of the miners are from members of vulnerable groups, such as women, who are using mining to support an otherwise meager annual income. Migrant workers do not tend to be attracted to 3T mining at this point in time, and the demographic appears to be majority local.

#### Due diligence risks in the 3T supply chain

One due diligence risk associated with the 3Ts in Nigeria lies with the misrepresentation of taxes,

fees and royalties associated with the minerals, which may occur at the point of export and may be used to avoid the paying of such fees. Discrepancies in reported imports and exports underline this hypothesis. Another risk, similar to gold, lies with the kidnapping and ransom of miners that is occurring by non-state armed groups, particularly in the northern part of the country. Nasarawa State and Jos Plateau have experienced widespread violence related to banditry, and both are major states for the production of 3Ts. Despite these risks, 3T mining in Nigeria has not been found to be associated with financing armed conflict to the extent that gold has been documented to contribute. The risk of smuggling of 3T mineral is not as prevalent as with gold due to its far lower weight per value ratio (gold can be traded by the (kilo)gram whereas the 3Ts are normally traded by the tonne). However, the apparent risk of the misrepresentation of taxes, fees and royalties, which is associated with the 3Ts, is linked to smuggling.



Figure 15: Simplified 3T supply chain within Nigeria

## Due diligence implementation

The following programs and initiatives identify and address existing risks and challenges in 3TG supply chains and could thus be entry points for strengthening awareness and implementation of due diligence in Nigeria:

**Roadmap for Mining Growth and Development:** A progressive government blueprint for planning the growth and development of the mining sector over the next several years, including increased supply chain transparency through the development of policies related to: (1) effective monitoring of ASM operations; (2) promoting formal small scale operators through access to funding and knowledge development; (3) formalisation of metal exchanges and mineral certification authorities (see the section on PAGMI, below); and (4) encouraging wider participation in beneficiation, downstream processing and refining

**Presidential Artisanal Gold Mining Development Initiative (PAGMI):** Launched in 2019, PAGMI's goal is to support the formalisation and modernisation of artisanal mining by embedding it within legitimate, formal gold supply chains. By buying artisanal gold directly, the government aims to create a parallel, formalised gold supply chain by which operators will be able to avoid illicit gold supply chains and supporting armed conflict. If successful, PAGMI has the potential to institutionalise due diligence practices such as transparency and traceability within Nigeria's gold supply chain.

**Mining Investment Promotion Strategy:** Created for the purpose of diversifying the economy away

from dependence on the oil and gas sector, the mining investment strategy outlines a blueprint for increasing foreign and domestic investment in the Nigerian mining sector.

## 5 Combined conclusions from the three countries

While each country context is distinct, a number of overarching conclusions have been identified over the course of the research. These conclusions focus on the areas in which extra support on the imple-

mentation of due diligence is critically needed in order to improve supply chain transparency and enable responsible sourcing of 3TG from those regions.

### CONCLUSIONS: BARRIERS TO DUE DILIGENCE

- Value chain actors' and government authorities' awareness and knowledge of due diligence requirements in all three contexts seems to be low
- Due diligence implementation in all three contexts is also limited, but some positive developments were identified, mainly in the form of Governmental interventions, or industry and multi-stakeholder initiatives.
- Barriers to due diligence and chain of custody implementation in all three countries include:
  - **Lack of reliable data:** In all three country contexts, import and export data, as well as production data, is scarce, and where it does exist, it is not fully accurate or fully reliable. This is linked to the fact that a very large part of the ASM sector remains in the informal economy in all three countries.
  - **Informal trade and smuggling:** In all three countries, informal trading, misrepresentation of origin and cross-border smuggling of minerals was identified as a key barrier to supply chain traceability. This was the case across most of the mineral supply chains, but with a particular prevalence in gold due to its characteristic as a low volume, high value mineral.
  - **Inadequate chain of custody on mineral exports:** Linked to the challenge of informal trade and smuggling described above, inadequate chain of custody on mineral exports was also found to be a major barrier in all three contexts. 3TG from different provinces and origins within these countries are aggregated before or at export point, but chain of custody information is not collected or reported from these aggregation points, thus not allowing downstream actors to trace origins to a sub-national level - which in all three countries would be important to understand whether or not minerals are sourced from and traded through CAHRAs.
  - **Unhelpful policy responses to Annex II risks:** Across the three countries, there is evidence that Government authorities do implement policy responses to some of the Annex II risks. Mostly these policy responses are focussed narrowly on the risks related to financing of non-state armed groups, and frequently the response is to establish gold mining bans in parts of the country where such risks occur. However, these bans may be counterproductive and push the sector further into marginalization, thus making it easier to exploit (both by non-state armed groups as well as potentially by public and private security forces and politically exposed persons)
- The narrowly defined set of risks in the OECD DDG Annex II does not capture the extent of risks occurring in these contexts, and in all three countries, Annex II risks and other risks occur well beyond the areas defined officially as “CAHRA”.



- **Encourage collaboration between producer and importer countries:** Another key area of collaboration is between producer and importer countries. For importers, in particular those bound by the EU Regulation, knowledge of producer country systems and mineral sectors is critical in their own mandate to support importers of 3TGs to conduct due diligence on their supply chains.
- **Understand that due diligence implementation needs to be context-specific:** This study has shown that the needs of countries in terms of improving chain of custody can be very different from context to context, and due diligence initiatives should take these realities and different operating environments into account.
- **Support efforts to stem the informal trade and smuggling of artisanal gold to destinations like the UAE:** Significant amounts of gold produced in Burkina Faso, Mozambique and Nigeria, as well as many other African countries, is smuggled out of the producer country, avoiding any taxes and fees associated with export, and taken to the UAE. Actors could consider monitoring and advocating with specialized stakeholders with the goal of encouraging greater restrictions on the import of hand-carried gold into the UAE.
- **Ensure that any efforts towards increasing the implementation of due diligence are gender-sensitive:** This study has touched on some of the ways in which women face additional challenges in their participation in the ASM sector. Any intervention by actors to support due diligence efforts must take into account these challenges and must be aware of the potential negative impacts that exclusionary due diligence can have on women in ASM, increasing their marginalization from the sector and cutting off their access to responsible markets.
- **Encourage continued engagement of downstream actors with high-risk supply chains:** The conclusions outlined how many more supply chains are ‘high-risk’ than just those listed in the EU list of CAHRAs, and that downstream actors should take a risk-based approach to due diligence, where they seek to identify potential risks in all of their supply chains, not just those that originate from named CAHRAs. Stakeholders should work with downstream actors to encourage them that disengagement from potentially risky supply chains (which are normally seen to constitute the whole of the ASM sector) is neither a responsible nor a coherent sourcing choice.

# 7 Bibliography

ANEEMAS. (2020). Artisanal Gold Production Statistics 2011-2020.

Barroso, M. (2011). Em Chimanimani, o ouro troca-se por farinha. Deutsche Welle. <https://www.dw.com/pt-002/em-chimanimani-o-ouro-troca-se-por-farinha/a-6498955> [accessed 22 March 2022]

BGR. (2021). Tantalum – Sustainability information (2021). Bundesanstalt für Geowissenschaften und Rohstoffe. BGR. 2021. [https://www.bgr.bund.de/EN/Gemeinsames/Produkte/Downloads/Informationen\\_Nachhaltigkeit/tantal\\_en.html](https://www.bgr.bund.de/EN/Gemeinsames/Produkte/Downloads/Informationen_Nachhaltigkeit/tantal_en.html)

Club of Mozambique. (2018). Police arrest Chinese tantalite smuggler. Club of Mozambique. 01 August 2018. <https://clubofmozambique.com/news/police-arrest-chinese-tantalite-smuggler-aim-report/> [accessed 22 March 2022].

EIA. (2020). Mozambique. U.S. Energy Information Administration (EIA). <https://www.eia.gov/international/analysis/country/MOZ> [accessed 24 March 2022]

EITI. (2020). Relatório Independente da Iniciativa de Transparência na Indústria Extractiva Ano de 2019. Extractive Industries Transparency Initiative. Mozambique. 2020. [https://eiti.org/sites/default/files/attachments/mozambique\\_eiti\\_2019\\_report\\_-\\_portuguese.pdf](https://eiti.org/sites/default/files/attachments/mozambique_eiti_2019_report_-_portuguese.pdf)

EITI. (2021). Initiative pour la Transparence dans les Industries Extractives au Burkina Faso RAPPORT ITIE 2019. Extractive Industries Transparency Initiative. Burkina Faso. 2021. [https://www.itie-bf.gov.bf/IMG/pdf/rapport\\_itie-bf\\_2019\\_version\\_finale\\_signe.pdf](https://www.itie-bf.gov.bf/IMG/pdf/rapport_itie-bf_2019_version_finale_signe.pdf)

Goodrich, G. (2021). Clean Mining Gains Foothold in Mozambique. Africanews. 12 February 2021. <https://www.africanews.it/english/clean-mining-gains-foothold-in-mozambique-by-grace-goodrich/> [accessed 25 March 2022].

Hilson, G., Mondlane, S., Hilson, A., Arnall, A., & Laing, T. (2021). Formalizing artisanal and small-scale mining in Mozambique: Concerns, priorities and challenges. Resources Policy, 71, 102001. <https://doi.org/10.1016/J.RESOURPOL.2021.102001>

Hinton, J. J., Veiga, M. M., & Beinhoff, C. (2003). Women and Artisanal Mining: Gender Roles and the Road Ahead. In G. Hilson (Ed.), The Socio-Economic Impacts of Artisanal and Small-Scale Mining in Developing Countries. Swets Publishers.

Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF). (2017). Global Trends in Artisanal and Small-Scale Mining (ASM): A Review of Key Numbers and Issues. Winnipeg: IISD. <https://www.iisd.org/system/files/publications/igf-asm-global-trends.pdf>

INAMI. (2020). Mapa de Produção e Venda 2020. Instituto Nacional de Minas (INAMI). [http://inami.gov.mz/images/2021/MAPA-DE-PRODUO-E-VENDA-2020\\_.pdf](http://inami.gov.mz/images/2021/MAPA-DE-PRODUO-E-VENDA-2020_.pdf)

Lewis, D., & McNeill, R. (2019). How Jihadists struck gold in Africa's Sahel. Reuters. 22 November 2019. <https://www.reuters.com/investigates/special-report/gold-africa-islamists/> [accessed 25 March 2022].

Mining Review Africa. (2015). Auroch Minerals sells Manica to original Pan African owners. Mining Review Africa. 30 June 2015. <https://www.miningreview.com/top-stories/auroch-minerals-sells-manica-gold-concession-to-original-pan-african-owners/> [accessed 25 March 2022].

Mondlane, S. (2017). ASM Sector Report. African Minerals Development Centre. 2017. <https://delvedatabase.org/uploads/resources/ASMStudyReport2017.pdf>

- Mueia, M. (2017). Moçambique: Exploração ilegal de mina de tantalite continua a causar mortes. Deutsche Welle. 04 February 2017. <https://www.dw.com/pt-002/mo%C3%A7ambique-explora%C3%A7%C3%A3o-ilegal-de-mina-de-tantalite-continua-a-causar-mortes/a-37412395> [accessed 25 March 2022].
- Nigeria Extractive Industries Transparency Initiative (NEITI). (2018). Solid Minerals Audit 2018 Report. Nigeria Extractive Industries Transparency Initiative. 2018. <https://eiti.org/documents/nigeria-2018-eiti-report-mining>
- Nwezeh, K. (2019). 5 Emirs, 33 District Heads, Top Military Officers Complicit in Zamfara Banditry. THISDAY. 13 October 2019. <https://www.thisdaylive.com/index.php/2019/10/13/5-emirs-33-district-heads-top-military-officers-complicit-in-zamfara-banditry/> [accessed 25 March 2022].
- Ogbonnaya, M. (2020). How illegal mining is driving local conflicts in Nigeria. Institute for Security Studies. 16 June 2020. <https://issafrica.org/iss-today/how-illegal-mining-is-driving-local-conflicts-in-nigeria> [accessed 25 March 2022].
- Reuters. (2021). XTR.L - Xtract Resources PLC Profile. Reuters. <https://www.reuters.com/companies/XTR.L> [accessed 20 March 2022].
- Smith, P. (2021). Sahel treasure trove: Informal gold trade fuelling Islamist insurgencies. The Africa Report. 14 January 2021. <https://www.theafricareport.com/58290/sahel-treasure-trove-informal-gold-trade-fuelling-islamist-insurgencies/> [accessed 29 March 2022].
- Sollazzo, R. (2018). Gold at the crossroads: Assessment of the supply chains of gold produced in Burkina Faso, Mali and Niger. OECD and Liptako-Gourma Authority (LGA). 2018. <https://mneguidelines.oecd.org/Assessment-of-the-supply-chains-of-gold-produced-in-Burkina-Faso-Mali-Niger.pdf>
- USGS. (2016). 2016 Minerals Yearbook: Burkina Faso. United States Geological Survey (USGS). 2016. <https://www.usgs.gov/media/files/mineral-industry-burkina-faso-2016-pdf>
- USGS. (2021). 2017-2018 Minerals Yearbook: Burkina Faso. United States Geological Survey (USGS). 2021. <https://www.usgs.gov/media/files/mineral-industry-burkina-faso-2017-18-pdf-0>
- World Bank. (2020). 2020 State of the Artisanal and Small-Scale Mining Sector. Washington, D.C. World Bank. 2020. <https://delvedatabase.org/uploads/resources/Delve-2020-State-of-the-Sector-Report-0504.pdf>

