

Part V:
Mineral supply chains and illicit flows

Following the supply chain of “illegal” gold from South Africa

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Introduction

Artisanal extraction of gold is considered to have enormous potential for development. In many countries of the world, informal artisanal mining ensures the survival of workers and their families. But failures of policies to formalise artisanal mining prevent the realisation of socio-economic potential and push many artisanal miners into illegality, as informal activities are criminalised and therefore gold becomes “illegal”. High commodity prices not only offer an incentive for people to work in the artisanal mining sector despite the risks involved. They have also attracted legal and illegal actors who want a piece of the pie.

Gold is not an illegal good, but its extraction can be illegal. Gold trade is also not illegal per se, but the trade of illegally extracted or brokered gold is. Therefore, at a certain point of the supply chain, gold from criminalised mining usually enters the legal market in order to become profitable. Traders of illegal gold have to find an entry point in order to “legalise” the resource. In many countries of the world, networks of legally and illegally operating actors have emerged around artisanal mining to help facilitate the smuggling of artisanal gold and the laundering of the associated profits. This makes the supply chain of gold particularly interesting. Since many different actors are involved, there are clearly legal and clearly illegal practices, but also shades of grey that could better be labelled “illicit”.

South Africa is an interesting case to investigate the illicit nature of artisanal gold mining. It is one of the most important gold producers on the African continent and an important international trading partner for the European Union (EU), but has not succeeded in formalising artisanal mining in the country. The current regulations do not provide a coherent framework for artisanal miners, and certain activities are criminalised. This leads to a dual situation in South Africa: industrial mining is legally and formally recognised and encouraged, while the status of artisanal mining has not been clarified – it is an illicit activity, in many instances also illegal.

The focus of this article is to investigate the supply chain of artisanal gold from South Africa and to answer the following questions: At which points in the supply chain of gold do licit and illicit, legal and illegal practices intersect? Which networks and actors are involved at certain stages of the supply chain? Is it possible that gold from artisanal extraction in South Africa also enters the European market?

Although local conflicts and massive violent clashes over artisanal gold mining in South Africa have increased in the past years, its vulnerability to conflict has been overlooked. The South African case has not received much attention in recent debates about gold extraction, neither in the discussion on the formalisation of artisanal gold mining in Africa nor in the discussion on the implementation of the EU Conflict Minerals Regulation, because conflict areas in South Africa – compared to other examples like the Democratic Republic of the Congo (DRC) – remain below the threshold of civil war and are not considered high-risk areas. The gold supply chain from South Africa to Europe is of particular interest because South Africa is an important trading partner of the EU. The EU Conflict Minerals Regulation introduces responsibilities for European traders of gold from conflict-affected and high-risk areas (see Bauchowitz & von Carlowitz in this volume). The EU defines such areas as “[a]reas in a state of armed conflict, fragile post-conflict areas, as well as areas witnessing weak or non-existing governance and security, such as failed states, and widespread and systematic violations of international law, including human rights abuses” (Responsible Minerals Initiative n.d.). It provides European importers of gold with an indicative, non-exhaustive list of areas in different countries. Even though South Africa does not appear on the list, which includes 30 states all over the world (as of March 2022), it is indirectly affected. The implementation of the Regulation has increased the awareness of many European countries and companies about the risk of non-formalised artisanal gold entering the legal market. Reputational risks have driven many companies to adopt voluntary – and in many cases very extensive – standards. This also increases pressure on mining states worldwide to drive forward the mining regulations and to improve conditions in the artisanal mining sector. In addition, the European Commission has presented a proposal for a “Directive on corporate sustainability due diligence” which aims at fostering social and environmental standards in global value chains and ensuring compliance with human rights (European Commission 2022). The expected adoption of the Directive will increase the responsibilities of European companies when they import resources into the European market.

Supply chains of artisanal gold: illicit, informal and illegal elements

Gold ranks among the most precious metals in the world. In 2018, approximately 3.300 tonnes of gold was extracted all over the world. 27 % of worldwide gold production took place in Asia, followed by Africa with 18 % and Latin America and North America with 17 % each. 11 % of primary production took place in Oceania, followed by Europe with 10 % (Refinitiv 2020). The supply chain of gold can be divided into three stages. At the first stage of the supply chain, extraction of gold takes place in either the artisanal or the industrial form. After the raw material is extracted, gold is further refined in smelters or refineries. Smelters and refineries are considered the bottleneck in the supply chain of minerals and metals: once raw materials from different sources are melted together, it is more difficult to trace their origin later in the process (Young, Fernandes and Wood 2019). This means that actors who buy refined gold have to rely on transparent and reliable information from refineries about the origin of the material. Gold is often associated with jewellery, but this is not the only sector where the material plays a role. It is also used for investments, industrial demand or electronics (Refinitiv 2020).

Especially at the first stage of the supply chain of gold, different practices overlap – from legal through illicit to illegal. (For a distinction between illicit and illegal see also Shaw & Goodwin in this volume.) Gold extraction can happen in several ways. The most important and relevant distinction, between industrial mining and artisanal mining, refers to the method of extraction. There are various definitions of artisanal mining. The OECD refers to this practice as “artisanal and small-scale mining (ASM)” and defines it as follows: “formal or informal mining operations with predominantly simplified forms of exploration, extraction, processing, and transformation. ASM is normally low capital intensive and uses high labour intensive technology. ‘ASM’ can include men and women working on an individual basis as well as those working in family groups, in partnership, or as members of cooperatives or other types of legal associations and enterprises involving hundreds or even thousands of miners” (OECD 2016). This contrasts with industrial mining, which is carried out by – mainly large and international – mining companies in highly technologised operations. Industrial mining requires huge financial investments and in most countries of the world a comprehensive process of approval. Artisanal mining on the other hand can be carried out comparatively easily. Workers only need simple tools to begin with the artisanal extraction of gold. This explains why artisanal gold mining attracts unemployed or underemployed people in developing countries – and can therefore be

regarded as an important activity of subsistence economies. In some cases, financial gain from artisanal gold mining for survival is tolerated up to a certain point. The legislation either leaves certain loopholes or does not criminalise the activity up to a certain income, and it can then be regarded as an informal practice (Engels 2019).

In other examples, the case is clearer. A number of African countries – among them Ghana and Zimbabwe – have advanced the formalisation of artisanal mining over the past twenty years (Hilson 2020). By applying for a licence and meeting certain requirements, artisanal miners can legalise their operations, allowing them to legally sell gold to traders and declare their taxes. Hilson and Maconachie argue that formalising and supporting ASM could also help governments to achieve their SDGs (Hilson and Maconachie 2020). But in practice, many countries have set the threshold for applying for a licence very high, which makes it difficult for artisanal miners to obtain a licence. As a result, even in many countries where artisanal gold mining has been formalised, workers continue to operate without a licence, making the activity *de facto* illegal (Hilson et al. 2021).

In addition, there are a number of countries – including the case of South Africa examined here – where the formalisation of artisanal mining is stagnating and has not yet made much progress. Up until now, the mining legislation does theoretically allow miners to apply for licences, but since it does not specifically mention the term “artisanal mining” and only distinguishes between small-scale and large-scale mining, processes are not adapted to the conditions of individual miners, which makes it impossible to obtain a licence (Interview Nel 2022; Martin 2019a; Roberts, Dixon and Merkle 2016).

In many cases around the world, artisanal gold mining has been linked to conflicts or their economies. The financing of armed conflicts in the Democratic Republic of the Congo has received particular attention (see also Bauchowitz & von Carlowitz in this volume). Moreover, social and political conflicts over artisanal mining also occurred in non-conflict areas, which can – among other reasons – be traced back to the unclear formalisation status of artisanal mining in many countries. Various studies have investigated conflicts between industrial and artisanal mining over access to land below the threshold of civil wars (Engels 2016; Engels und Dietz 2017) and – as a consequence – over access to the extraction of gold (Prause 2014; Wan 2014; Engels 2017; Crawford, Agyeyomah and Mba 2017). While industrial mining is technology-intensive and capital-intensive, small-scale miners can continue to search for raw materials in shafts of former industrial mines that can no longer be profitably operated by machines in the industrial process. This could be an opportunity to

combine both techniques, but in many cases it leads to conflicts over access to former industrial mining sites, as labour protections on these sites are expensive and companies want to avoid liability (Hilson, Sauerwein and Owen 2020). Conflicts over artisanal mining on a community level are a second important aspect. In many mining communities, conflicts arise over the influx of workers and resulting social problems (lack of infrastructure, conflicts over jobs) (Medina Bernal et al. 2019) because toxic by-products from artisanal mining contaminate water and soil (Shandro, Veiga and Chouinard 2009; Durand 2012; Lusilao-Makiese et al. 2013) or because of the involvement of criminal actors that affects the security of mining communities (Hunter 2019; Wagner and Hunter 2020).

Gold mining in South Africa

South Africa is an interesting case to investigate the illicit nature of artisanal gold mining. Despite being one of the most important gold producers on the African continent, South Africa has not started to formalise artisanal mining. Currently, the most important mining regulation, the South African Mineral and Petroleum Development Resource Act (MPRDA), does not provide a coherent legal framework for artisanal mining, despite the Department of Mineral Resources and Energy (DMRE) indicating that the MPRDA could provide permits for artisanal workers. The Department has issued mining licences to artisanal miners only in a few cases in the diamond sector in the mining town of Kimberley. So far, the case of Kimberley is the exception, but it encourages artisanal miners from other regions to advocate for further formalisation of mining (Interview Lethoko 2022). Obtaining a licence for individuals is almost impossible: miners have to adapt to the requirements for small-scale mining, which set a high threshold for artisanal miners (Interview Nel 2022). This leads to a dual situation in South Africa: industrial mining is legally and formally recognised and encouraged, while the status of artisanal mining has not been clarified.

At the beginning of democracy in South Africa in 1994, artisanal small-scale mining was technically legalised, but when the MPRDA was introduced in 2002, it did not introduce a coherent framework for artisanal mining and well-defined criteria for this activity. Operating without a licence is a criminal activity in South Africa: artisanal miners without a licence operate as illegal miners and may face charges (Minerals Council South Africa n.d.). South Africa is currently debating a draft on artisanal and small-scale mining policy which is supposed to introduce specific

requirements for artisanal miners (DMRE 2021). The policy is meant to clarify the status of artisanal and small-scale mining in the country and facilitate the application process for individuals, but many questions remain open (see last section) (Interview Nel 2022).

In general, the mining sector in South Africa is a highly conflictive environment. The South African government has not succeeded in resolving a wide range of conflicts over the extraction of the raw material, despite high human rights standards (Martin 2019a). The implementation of the far-reaching legislation fails in practice because the state's priority is economic profit. South Africa benefits from high commodity prices, which generate not only massive revenues for the sector but also fiscal gains for the state (PwC 2021). Ten years ago, a tragic incident occurred in this environment, known as the "Marikana massacre". In the mining town of Marikana, in the North West Province of the country, a wildcat strike in a platinum mine of Lonmin, an international mining company based in London, led to a confrontation between workers and the police at the mining site. The police opened fire and killed 34 mineworkers. Many more striking workers were injured. In the following years, academic articles critically investigated the events that led to the escalation in the mine, with a special emphasis on the difficult relationship between unions and the state, but focusing also on the relationship between workers and unions (Alexander 2013; Alexander et al. 2013). The focus on the platinum sector also led to deeper investigations into the impact of mining on local development and local communities, and scholars also started investigating the social and environmental impact of other minerals, for example gold (Cairncross and Kisting 2016).

In recent years, reports over violent conflicts in the gold mining sector in South Africa drew attention to the working conditions of artisanal miners in South Africa, conflicts over the extraction of resources in gold mining communities and the role of criminal networks, corruption and their links to formal institutions such as traditional authorities or the police (Thornton 2014; Nhlengetwa and Hein 2015). Especially non-governmental organisations, but also the South African Human Rights Commission, have focused more and more on the illicit and illegal nature of gold mining. This article draws on many of their findings by placing a focus on the broader supply chain of gold, particularly looking at the European market as a possible buyer of illegally extracted gold from South Africa.

Following illegal gold from South Africa to Europe

In the following chapters, the intention is to trace the activities of legal and illegal actors at different stages of the supply chain of gold from South Africa to Europe. Supply chains of metallic raw materials such as gold are particularly complex because there are various intermediate steps before the metal reaches the end consumer. After the extraction of the mineral, further processing of gold takes place in specialised gold smelters. After the smelting process, during which metals from different sources are melted together, it is almost impossible for buyers to trace the origin of the material. At the same time, the trade of illegal or illicit gold also plays a significant role, through which it is also possible to disguise its origin. Various studies suggest that the supply chain of artisanal gold from South Africa to the EU spans several countries. In addition to South Africa’s neighbouring countries, key players are the United Arab Emirates – especially Dubai – and Switzerland.

Artisanal miners: driven by necessity or criminal activity?

As mentioned above, gold extraction in South Africa is not per se illegal, neither in the industrial nor in the artisanal form. But the Minerals Council South Africa estimates that most artisanal mining in the country is carried out without a licence and is considered an illegal activity.

With an estimated output of around 14 billion rand annually and more than 30,000 people working in the artisanal mining sector, South Africa is one of the biggest sources of artisanal gold on the African continent (Minerals Council South Africa 2019). Artisanal mining can be regarded as a means to survive for many people in South Africa who struggle because of the dire socioeconomic conditions many South Africans live in.

South Africa ranks among the countries with the highest inequality rates worldwide. A World Bank report from 2018 revealed that the lack of employment opportunities is the main driver for inequality, especially for people from rural areas who are disadvantaged in the labour market because they lack employment opportunities in their immediate surroundings. High costs for public transport set an additional threshold. Apart from that, the situation of the age cohort 15 to 34 years – around 12 million people – is particularly concerning. More than 40 percent of this age cohort were neither in work nor in any form of education (World Bank 2018). This explains why South Africans are looking for ways to make a living and are therefore attracted to jobs in informal economies.

In recent years, several violent clashes between security forces and artisanal miners, as well as conflicts between artisanal miners and communities, have drawn the attention of South African media to the difficult circumstances in the sector, and an intense debate has flared up about the responsibility and the role of the artisanal miners. Frequently, the media reports mainly on misconduct, which paints a negative picture of artisanal miners. This overlooks the fact that there are very different groups of actors. Many artisanal miners practice artisanal mining primarily as a subsistence economy. For these actors, formalisation would have positive consequences, because their activities have so far mainly been criminalised. More and more, they reject the designation “Zama Zama” – a Zulu expression which means “keep on trying” or “to gamble” – because this term has negative connotations (Interview Lethoko 2022). Many of the South African nationals working in artisanal mining were previously employed in bigger mining companies. But since the decline of gold mining in South Africa, these workers lost their jobs and were forced to work in the informal sector (Martin 2019b). Because it is not recognised as a formal economy, it can only be estimated how many people are involved in artisanal mining in South Africa (UNICRI 2016: 33). This also leads to contradicting statements about the involvement of foreign nationals. Zimbabwe and Mozambique are also in a difficult economic situation: both countries are highly indebted, suffer from massive economic crises and are also confronted with high levels of unemployment, especially youth unemployment. According to some estimates, 70 % of artisanal miners in South Africa are undocumented foreigners (Hunter et al. 2019). These miners often face double discrimination: first of all they are vulnerable because of their illegal – or at least illicit – status in the country, and secondly they are at risk because of the nature of their activity. Criminal networks exploit this situation. In some cases, workers were specifically recruited abroad without knowing that this would cause them to slip into an illegal status. This makes them particularly dependent on the criminal networks associated with artisanal mining in South Africa, which make this relationship a deliberate dependency – artisanal mining is often linked to other forms of criminal activities, sometimes organised crime (UNICRI 2016: 33). The National Association of Artisanal Miners (NAAM) – an organisation which was formed in 2019 to advocate for the legal recognition of artisanal mining – contradicts these estimates, stating that according to their research with Wits University in Johannesburg, “by far the majority are South African Citizens” (NAAM 2019). This also illustrates that criminalising artisanal mining – which is nevertheless an important economic activity – obscures important information about the relevance of the sector.

Many mining activities take place in abandoned mining sites which were used by industrial mining companies (Martin 2019a). According to South African legislation, a company has to obtain a closing certificate after it completes the industrial mining process. The company is then obliged to start a rehabilitation process. A key challenge in South Africa, however, is the implementation of the laws (Marais et al. 2021). One problem is that many mining sites were already abandoned before the end of Apartheid, so that it is almost impossible to trace their owners. Apart from that, governmental institutions in South Africa lack capacities to enforce the law, even if they know the company responsible. This explains why South Africa has more than 6.000 abandoned mines, which create an attractive venue for artisanal miners (Luthango 2022). While industrial exploitation of the material might not be profitable anymore, artisanal miners can still exploit smaller quantities of gold in the artisanal process and therefore enter old shafts or search for gold in mine tailings, which are very often located next to former industrial mining sites. At the same time, this unregulated activity puts many workers at risk. This is because old and abandoned shafts can collapse; moreover, toxic waste can still be found in narrow shafts, endangering workers' health in the short and medium term (Mhlongo et al. 2019). In some cases, this problem has led to conflicts between actors from the artisanal mining sector and from the industrial mining sector: artisanal miners were evicted after trespassing because companies fear legal consequences in case of an accident.

The lack of formalisation of the sector leads to an unfortunate situation because gold resources on former industrial mining sites will not get exploited and as a consequence are lost. There is untapped potential for combined approaches to unite both types of mining and thus exploit the full potential of gold mining. A recent World Bank report also argues that small-scale mining has a high potential for economic development in many countries worldwide and should not only be seen as a complement to industrial mining, but rather as an activity with high economic potential. Hilson et al. note that the rapid growth of artisanal mining is forcing more and more states and donors in Sub-Saharan Africa to consider far-reaching strategies to formalise artisanal mining (Hilson et al. 2021). While some African countries have passed legislation to formalise artisanal mining and have implemented programmes to reform the sector, South Africa has been more reluctant to try such combined models.

Illegal actors: the role of (criminal) networks in the context of artisanal gold mining

Successfully organising artisanal mining in South Africa would hardly be possible without the strong role of criminal networks. While the South African police have targeted illegal artisanal miners in the past, evidence also shows that other police actors are part of criminal networks engaged in artisanal mining (Clark 2019; Interview Nhlengetwa 2022; Parliamentary Monitoring Group 2017). Some experts have called for a stronger focus on those actors that facilitate the formation of criminal networks around artisanal mining and gold laundering (Hunter et al. 2019). In the South African case, criminal gangs but also legal actors – such as local security forces and the police – are involved in the organisation of small-scale mining. Ultimately, a network develops around artisanal mining in which not only the workers and criminal gangs, but in many cases also security forces and other members of communities indirectly benefit from the formation of artisanal gold mining (Martin 2019b).

With high profit rates for gold on international markets, South Africa's gold mining sector seems to have attracted national and international organised crime syndicates. In a 2017 meeting with the South African parliament, the Department of Mineral Resources stated that these syndicates were “highly organized, dangerous, well-financed and complex” and “use proceeds for furtherance of other crimes”. In the same meeting, a representative of the Directorate for Priority Crime Investigation (DPCI) revealed that organised crime in the mining sector has “inter-linkages with other organized crime which include human smuggling and trafficking, money laundering, illegal weapons and explosives, violent crime, environmental degradation, the illicit economy, transnational organized crime, customs offences and tax evasion” (Parliamentary Monitoring Group 2017). Further research (e.g. Martin 2019a, see section below) indicates that in the South African case a network of legal and illegal actors is involved in the illegal extraction of gold and benefits from it – not a hierarchically organised criminal organisation. So far, the South African authorities have not succeeded in dismantling the organised crime networks in the mining sector. One of the main reasons is the involvement of local police forces that prevents the South African state from taking action against the trade in illegally mined gold. In some cases, police forces cooperate with networks of artisanal miners by “ignoring” illegal activities and benefiting

economically in exchange (Martin 2019b).¹ In other cases, police officers do not declare confiscated gold as evidence, sell it to traders and as a consequence become an active pillar in the illegal trade of gold. According to the Environmental Justice Atlas (2021), “the zama zamas are also regular victims of cartels often working in tandem with police to rob the miners at gunpoint or coerce them into working for them” (Environmental Justice Atlas 2020). So far, the only measure taken by the South African state has been to increase the presence of the security sector in many regions, which – at the same time – increases insecurity because of escalating conflicts at mining sites.

There is insufficient evidence of the extent to which local community representatives or traditional elites are involved in illicit activities and/or cooperate with cartels or are even part of them. The unregulated nature of artisanal gold mining has negative impacts on local communities and in many cases jeopardises the rights to health, to a clean environment and to water, which are enshrined in the South African Constitution (Carry and Müller forthcoming). In addition to these severe violations of human rights, conflicts repeatedly arise over the mining of artisanal gold, which often escalate violently. Often, conflicts arise over access to particularly profitable mining sites. Such conflicts also affect residents in the immediate surroundings of mining operations, leaving affected communities particularly vulnerable because of a very tense environment. At the same time, artisanal miners are also victims of hostility, assault and violence. Their reputation is very low because they are blamed for violence exerted by gangs and mining bosses operating in communities. Communities, but especially the media, often make no distinction between ordinary workers who are looking for gold in search of economic prospects and those who are involved in the often violent illegal trade (Thornton 2014). The negative perception of artisanal miners can also be traced back to xenophobic attitudes in certain communities, which have been frequently reported in South Africa in recent years (Human Rights Watch 2020).

This escalation of conflicts around artisanal gold mining in South Africa explains the changing nature of reported causes of deaths of artisanal miners. In 2012, 92 per cent of fatalities were due to unsafe working conditions (rockfall or tunnel collapse), 8 per cent due to turf war and murder. Within three years, the situation changed completely. In 2015, 67 per cent of fatalities were due to turf war and murder, 1 per cent due to police or security battles and 32 per cent due to working conditions

1 See also: Directorate for Priority Crime Investigation (2017).

(Johnson 2016). The representativeness of these figures must be viewed with caution, as most accidents and assaults don't get reported because of the criminalisation of artisanal mining. But these figures do suggest that violence in mining communities continues to increase.

In South African media and politics, attention to the violent conflicts in the artisanal mining sector has increased in recent years. So far, however, no comprehensive efforts of the South African government to systematically address the problem are apparent. The discussion on the formalisation of artisanal mining is a step in the right direction but progresses much too slowly to change the situation immediately. Approaches such as more intensively policing communities and artisanal miners do not seem to solve the problem because they rather shift the blame to workers and do not necessarily address underlying causes as well as the role of criminal networks. In 2019, researcher and artisanal gold specialist Alan Martin presented an in-depth study for the Institute for Security Studies (ISS) in Johannesburg, which also reveals the role of networks involved in the trade of artisanal (and illegal) gold (Martin 2019a; Martin 2019b).

South Africa will have to address these challenges in the artisanal mining sector soon. This is because the socioeconomic impact of the COVID-19 pandemic is driving many people – in South Africa, but also in other countries in Southern Africa – to look for economic alternatives. Since the beginning of the pandemic in South Africa in the first quarter of 2020, the unemployment rate has risen from 29 percent to around 35 percent (Müller 2021; Statistics South Africa 2020: 1; Statistics South Africa 2021: 6). This dire economic situation has left many people with no other option than to take advantage of opportunities that arise to make money, even if they are short-term and often not legal, especially during the strict lockdown which the South African government imposed. At the beginning of the pandemic, gold production decreased as a consequence of strict lockdowns many countries worldwide imposed (Muthuri et al. 2021). But at later stages of the pandemic, increasing prices for commodities have provided an additional incentive for people to search for gold. It is therefore not surprising that South African media reported in March 2021 on a case of 100 gold miners who continued to work despite a strict lockdown and hid from the police in a shaft for fear of consequences (Harrisberg 2020). This shows that illegal gold mining remains financially lucrative as long as the material finds its way into the market.

“Legalising” artisanal gold

The question remains: what happens after the illegal extraction of gold in South Africa? When and how does gold from illegal artisanal mining enter the legal supply chain? The process of legalising illegal gold is called “gold laundering”: *“Gold laundering is the process whereby illegally obtained gold is melted and recast into another form. The recasting is performed to obscure or conceal the true origin of the gold. The recast gold is then sold, thus laundering it into cash.”* (Williams 2019) South Africa is an exceptional case because – compared to many other African countries – it can be assumed that a large part of the gold laundering takes place in the country and the gold is transferred either to the legal market in South Africa or to the legal market in other countries.

Gold laundering in South Africa (and its neighbouring countries)

In his study, Alan Martin identified a “five-tier crime syndicate hierarchy” of “1) individual criminal miners; 2) gangs and illegal mining bosses; 3) bulk buyers at national/regional levels in the form of licensed or registered entities; 4) front company exporters; and 5) international intermediary companies and buyers.” (Martin 2019b: 4–5). According to his research, the laundering of gold from illegal sources takes place at level 3. Actors with occupations in which it is legal to possess and process gold – such as licensed scrap-metal dealers, pawnshop owners or jewellers – are key players: “It is they who launder the illicit gold into the legal supply chain by converting the lower-grade doré bars (doré is a semi-pure alloy of gold and silver). Prior to delivering the gold to the refineries, the Level 3s often mix and melt down the doré with alloys to make it consistent with jewellery. As with the laundering of any product, the more stages it goes through to disguise its origins, the harder is it for police to connect it to its illicit source.” (Martin 2019b)

Normally, every seller is legally required to document this process, but in the South African case, this requirement is regularly circumvented, e.g. by issuing fake certificates. After the laundering of illicit gold into the legal market, the product is either sold there or leaves the country as a legal product. Because actors at level 4 and level 5 “frequently operate from outside South Africa”, the last possible access point for South African law enforcement is level 3 – which is the crucial step in the hierarchy. By selling gold as scrap metal, sellers disguise the poorer quality of artisanal gold that would normally give buyers an indication of its origin

from non-industrial mining with lower quality. In South Africa, gold is already laundered in one of the many local refineries and leaves the South African market as an officially recognised “legal product” (Martin 2019b), thus making it even more complicated for gold importers to trace the origin of the metal. Illegal traders are taking advantage of the bottleneck in supply chains at the smelters. Although there are technical means to ensure traceability in the form of analytical fingerprints, these reach their limits, for example when many components are mixed together or only small proportions of gold of poorer quality are added. Larger smelters – Martin cites Rand Refinery as a positive example – are aware of the fact that artisanal gold is very often sold as scrap metal and are now checking provenance more closely (Martin 2019b). But it cannot be assumed that all smelters in South Africa are handling these processes responsibly. With more than 100 smelters in the Gauteng region alone, it has been almost impossible for the state to trace these activities (Martin 2019b: 5). In some cases, illegal gold is smuggled across the country’s border and transferred to the legal market in the same way as in South Africa because smelters in neighbouring countries are used to launder gold from illegal sources (ibid: 7).

The role of international trading hubs

A number of other studies have highlighted the role of countries that are central to the illicit trade in commodities (The Sentry 2018; Lezhnev 2021). For the African region, the United Arab Emirates (UAE) are crucial actors. In recent years, several reports and studies have investigated the central role of the UAE in the global trade of gold, and the city of Dubai plays a particularly important role. Dubai’s limited regulation of trade in commodities and inadequate implementation of existing regulatory approaches has created an attractive market for artisanal and small-scale gold traders. In the UAE, lack of money laundering regulation provides a favourable environment for illicit trade in commodities, according to “The Sentry”: “Dubai’s limited regulations and lax enforcement attract traders of artisanal and small-scale gold, and The Sentry has identified four main money laundering risk factors for gold in the UAE: large cash transactions for gold continue to take place, customs checks and controls for hand-carried gold are weak and do not require proof of payment, oversight of the Dubai gold souk is inadequate, and numerous large refiners are not subject to independent audits.” (Lezhnev 2021: 7) Research points to the UAE as a gateway for the import of gold from conflict regions, whose origin is thus

concealed (Grynberg and Singogo 2021a, 2021c). From the UAE, artisanal gold from various sources in Africa finds its way into the legal market, and very likely to Europe. Switzerland is one of the entry points for gold from other regions to enter the European market. In a recent study, the NGO SWISSAID revealed that Swiss gold smelters also source their raw materials from the UAE. It is thus likely that illegal gold – from South Africa but also from other African countries – enters the European market via this route, but so far there is no evidence that this connection exists (SWISSAID 2020).

The lack of an international scheme to measure and quantify illicit financial flows and to address trade misinvoicing and money laundering makes it even more difficult to prove connections, as this can lead to inaccurate and contradictory conclusions. In 2016, the UN Conference on Trade and Development (UNCTAD) released a report which investigated trade misinvoicing by comparing two decades of declared commodity exports from different developing countries with declared commodity imports into other countries (see also Fabricius in this volume). The report indicated that two-thirds of South Africa’s gold exports were under-invoiced, which would amount to 78.2 billion dollars (UNCTAD 2016). Following UNCTAD’s publication, the South African government commissioned an agency to get to the bottom of the findings, as it doubted the study’s results. The agency concluded that the large discrepancies between exports and imports were not due to underinvoicing, but that the different methodologies used to record the origin of raw materials were the main reason for the mismatch. The agency compared figures from different South African databases and was able to narrow down the gap to US\$19.5 billion: “We have now determined that most of the USD 19.5 billion discrepancy can very likely be attributed to errors in the reported gold imports of South Africa’s trading partners, not in South Africa’s reported gold exports. This likely occurs through the fact that SA refines large amounts of gold for certain African (e.g. Ghana or Mali) gold producing countries (currently standing at approximately 50 percent of total refined gold), which is reported as South African gold, instead of from its real origin.” (Eunomix 2016) Although the information provided by the South African government led to the correction of the UNCTAD report, this example illustrates that the international regulatory framework is not sufficient to ensure adequate traceability of licit and illicit financial flows. Grynberg and Singogo (2021b) therefore argue that the use of trade data alone is not sufficient to estimate misinvoicing and illicit financial flows in the mining sector, but that other techniques – forensic techniques and accounting techniques – need to be included.

A transnational approach to the illicit trade of gold

The analysis of artisanal gold mining in South Africa shows that a complex network of legal and illegal actors facilitates the process of gold laundering in South Africa, from where the product finds its way to the legal market. After the smelting process is completed, it is almost impossible for international buyers to trace the origin of the metal. As a consequence, they rely on smelters to source their materials responsibly, but also on international traders to transparently report the origin of metals. While the analysis of the different stages of the supply chain can reveal (possible) linkages between actors in different countries, it also highlights the research gaps in the field of transnational supply chains. While individual stages of the gold supply chain have been investigated, hardly any analyses look at transnational linkages or at the role of actors who enable cross-border trade and smuggling. Such analyses are challenging and require investigative research approaches because the very goal of illegal traffickers and smugglers is to remain in the dark.

While conflicts over gold mining in South Africa remain below the threshold of a civil war, the chapter has shown that South Africa faces serious local conflict over artisanal mining, with negative impacts on human rights. The formalisation of artisanal mining in South Africa could help to address some of the serious questions the country is currently facing. First of all, it could release economic potential and create an opportunity for those who are already trying to make a living by working in the sector – but not in a legal environment. The state would also benefit from this because of tax revenues on legal artisanal mining. Supporting artisanal miners by applying for licences could be combined with educational programmes on safety and sustainability, which would increase safety both for workers and for surrounding communities. The state would be able to distinguish more clearly between actual criminal structures and artisanal mining activities that aim at making a living. The introduction of the draft policy on artisanal and small-scale mining in South Africa in 2021 (DMRE 2021) is a step in the right direction, but so far questions remain about the concrete design of the policy. Many points have not been clarified, such as legal questions about equal access to land, but also the question of whether foreign workers should also receive permits (Wet 2021). The draft policy proposes to issue licences only to South Africans, which has met with resistance from various actors from civil society, e.g. NAAM and mining-affected communities (Macua & Wamua 2021; NAAM 2019), and is also expected to be rejected by the South African constitutional court.

At the end of the supply chain, since the beginning of 2021 European companies must exercise special due diligence when importing tin, tantalum, tungsten or gold, especially if they import these raw materials from conflict-affected and high-risk areas. To date, South Africa has not been the focus of stakeholders concerned with the implementation of the EU Conflict Minerals Regulation, but the introduction of the Regulation has increased awareness of the risks associated with artisanal mining, especially in an informal environment. The possible introduction of a European directive on due diligence will increase the awareness of European companies even further. Therefore, South Africa could and should take the introduction of stronger European legislation as an opportunity to clarify the legal status of artisanal mining in the country and improve the human rights situation in the mining sector, which has been subject to critical investigations.

The chapter has shown that it is possible that illegally extracted artisanal gold from South Africa enters the European market as a legal product. After the laundering of gold in South Africa or its neighbouring countries, it becomes almost impossible to trace the origin of the product. It then enters the legal market and can be traded as a legal good. Trading hubs such as the UAE enable sellers to disguise the origin. Overall, the analysis highlights the importance of illicit trade as a precondition for making the extraction of artisanal gold lucrative. At various points in the supply chain of illegally mined artisanal gold, a network of actors is involved that benefits from the extraction. As the case of South Africa illustrates, these are not only illegal actors, but also legal ones that profit from gold laundering. These include security forces such as the police as well as traders and refineries. On a global scale, states such as the UAE have developed a lucrative business model because they benefit from their position in the international economy as a hub which facilitates smuggling of gold from illicit sources – not only from South Africa but also from war zones. This highlights that national approaches to tackling illicit trafficking in commodities are not sufficient. In order to understand the transnational interconnectedness of these actors, more research is needed to better understand the interrelationships and make policy recommendations to address these problems.

References

- Alexander, Peter (2013): "Marikana, turning point in South African history". In: *Review of African Political Economy*, 40, 138, pp. 605–619.
- Alexander, Peter/Sinwell, Luke/Lekgowa, Thapelo/Mmope, Botsang/Xezwi, Bongani (2013): *Marikana. A view from the mountain and a case to answer*. Johannesburg: Jacana.
- Carry, Inga/Müller, Melanie (forthcoming): "Addressing environmental injustices in South African artisanal gold mining". In: Nalule, Victoria R./Okoi, Obas-esam/ Okafor Yarwood, Ife (eds.): *Natural resource governance and sustainable peace in Africa. Environmental justice and conflict resolution*. London: Routledge.
- Cairncross, E./Kisting, S. (2016): "Platinum and gold mining in South Africa. The context of the Marikana massacre". In: *New Solutions*, 25, 4, pp. 513–534.
- Clark, Christopher (2019): "'There's a lot of money down there'. The deadly cities of gold beneath Johannesburg". At: <https://www.theguardian.com/cities/2019/oct/24/theres-a-lot-of-money-down-there-the-deadly-cities-of-gold-beneath-johannesburg> (accessed 8 June 2022).
- Crawford, Gordon/Agyeyomah, Coleman/Mba, Atinga (2017): "Ghana – Big Man, Big Envelope, Finish. Chinese corporate exploitation in small-scale mining". In: Engels, Bettina/Dietz, Kristina (eds.): *Contested extractivism, society and the state. Struggles over mining and land*. London: Palgrave Macmillan, pp. 69–99.
- Directorate for Priority Crime Investigation (2017): "Briefing session: Portfolio Committee on Police. Tackling illicit mining activities impacting South Africa. Presentation Lieutenant General Matakata". At: https://static.pmg.org.za/171114_Illicit_Mining.pdf (accessed 1 June 2022).
- DMRE, Department of Mineral Resources and Energy (2021): "Discussion document. Artisanal and Small-Scale Mining Policy. Second draft, V2". At: <https://cer.org.za/wp-content/uploads/2021/09/Draft-Small-Scale-and-Artisanal-Mining-Policy-5-May-2021.pdf> (accessed 1 March 2022).
- Durand, Francois (2012): "The impact of gold mining on the Witwatersrand on the rivers and karst system of Gauteng and North West Province, South Africa". In: *Journal of African Earth Sciences*, 68, pp. 24–43.
- Engels, Bettina (2016): "Mining conflicts in sub-Saharan Africa. Actors and repertoires of contention". In: *GLOCON Working Paper Series*, 2.
- Engels, Bettina (2017): "Not all glitter is gold. Mining conflicts in Burkina Faso". In: Engels, Bettina/Dietz, Kristina (eds.): *Contested extractivism, society and the state. Struggles over mining and land*. London: Palgrave Macmillan, pp. 149–170.
- Engels, Bettina (2019): "Handwerklicher Bergbau". In: Brunner, Jan/Dobelmann, Anna/Kirst, Sarah/Prause, Louisa (eds.): *Wörterbuch Land- und Rohstoffkonflikte*. Bielefeld: transcript Verlag, pp. 135–140.
- Engels, Bettina/Dietz, Kristina (2017): *Contested extractivism, society and the state. Struggles over mining and land*. London: Palgrave Macmillan.

- Environmental Justice Atlas (2021): “Zama zama gold mining in Durban Deep, Gauteng, South Africa”. At: <https://ejatlas.org/conflict/zama-zama-gold-mining-in-durban-deep-south-africa> (accessed 1 June 2022).
- Eunomix (2016): “A review of the UNCTAD report on trade misinvoicing, with a focus on South Africa’s gold export”. At: <https://www.mineralscouncil.org.za/industry-news/media-releases/2017/send/29-2017/471-independent-review-of-the-unctad-report-final> (accessed 1 March 2022).
- European Commission (2022): “Just and sustainable economy. Commission lays down rules for companies to respect human rights and environment in global value chains”. At: https://ec.europa.eu/commission/presscorner/detail/en/ip_22_1145 (accessed 1 March 2022).
- Grynberg, Roman/Singogo, Fwasa (2021a): “Dubai: Conflict gold, money laundering and illicit global trade”. In: Grynberg, Roman/Singogo, Fwasa K. (eds.): *African gold*. Cham: Springer International Publishing, pp. 315–355.
- Grynberg, Roman/Singogo, Fwasa (2021b): “Taxation and illicit financial flows in the gold mining sector”. In: Grynberg, Roman/Singogo, Fwasa K. (eds.): *African gold*. Cham: Springer International Publishing, pp. 443–469.
- Grynberg, Roman/Singogo, Fwasa (2021c): “Trade and the smuggling of gold from West Africa to the UAE”. In: Grynberg, Roman/Singogo, Fwasa K. (eds.): *African gold*. Cham: Springer International Publishing, pp. 217–245.
- Harrisberg, Kim (2020): “Exclusive: Fears rise for illegal South African miners hiding underground in virus lockdown”. At: <https://www.reuters.com/article/us-health-coronavirus-safrica-exclusive-idUSKBN22B1F9> (accessed 10 February 2022).
- Hilson, Gavin (2020): “‘Formalization bubbles’: A blueprint for sustainable artisanal and small-scale mining (ASM) in sub-Saharan Africa”. In: *The Extractive Industries and Society*, 7, 4, pp. 1624–1638.
- Hilson, Gavin/Maconachie, Roy (2020): “Artisanal and small-scale mining and the Sustainable Development Goals: Opportunities and new directions for sub-Saharan Africa”. In: *Geoforum*, 111, pp. 125–141.
- Hilson, Gavin/Mondlane, Salvador/Hilson, Abigail/Arnall, Alex/Laing, Tim (2021): “Formalizing artisanal and small-scale mining in Mozambique. Concerns, priorities and challenges”. In: *Resources Policy*, 71.
- Hilson, Gavin/Sauerwein, Titus/Owen, John (2020): “Large and artisanal scale mine development. The case for autonomous co-existence”. In: *World Development*, 130.
- Human Rights Watch (2020): “They have robbed me of my life”. At: <https://www.hrw.org/report/2020/09/17/they-have-robbed-me-my-life/xenophobic-violence-against-non-nationals-south> (accessed 10 February 2022).
- Hunter, Marcena (2019): “Combating criminal consortia in the African artisanal and small-scale gold mining and trade sector”. At: <https://enact-africa.s3.amazonaws.com/site/uploads/2019-04-24-pulling-the-golden-webs-research-paper.pdf> (accessed 15 April 2021).

- Hunter, Marcena/Sibanda, Mukasiri/Opala, Ken/Kaka, Julius/Modi, Lucy (2019): "Illicit gold markets in East and Southern Africa". At: <https://globalinitiative.net/wp-content/uploads/2021/05/Illicit-gold-markets-in-East-and-Southern-Africa-GI-TOC-.pdf> (accessed 10 February 2022).
- Interview with Lethoko, Shawn, NAAM, online, 3 March 2022.
- Interview with Nel, Lauren, Legal Resource Centre, Johannesburg, 4 March 2022.
- Interview with Nhlengetwa, Kgothatso, researcher, online, 1 April 2022.
- Johnson, Cecilia (2016): "Lethal toll of informal gold mining". At: <https://www.groundup.org.za/article/lethal-toll-informal-gold-mining/> (accessed 10 June 2022).
- Lezhnev, Sasha (2021): "Conflict gold to responsible gold. A roadmap for companies and governments". At: <https://cdn.thesentry.org/wp-content/uploads/2021/02/ConflictGoldResponsibleGold-TheSentry-Feb2021.pdf> (accessed 1 March 2022).
- Lusilao-Makiese, Julien/Cukrowska, Ewa/Tessier, Emmanuel/Amouroux, David/Weiersbye, Isabel (2013): "The impact of post gold mining on mercury pollution in the West Rand region, Gauteng, South Africa". In: *Journal of Geochemical Exploration*, 134, pp. 111–119.
- Luthango, Sikho (2022): "Extraterritorial obligations in the governance gap. South Africa's mine closures and the utility of binding international legal frameworks". At: <https://www.rosalux.de/en/publication/id/46314/extraterritorial-obligations-in-the-governance-gap> (accessed 1 June 2022).
- Macua & Wamua (2021): "Submissions on the Draft Artisanal and Small-Scale Mining Policy 2021". At: <https://macua.org.za/wp-content/uploads/2021/06/MACUA-WAMUA-Submission-On-ASM-Policy-June-21.pdf> (accessed 1 March 2022).
- Marais, Lochner/Nel, Verna/Rani, Kholisa/van Rooyen, Deidré/Sesele, Kentse/van der Watt, Phia/Du Plessis, Lyndon (2021): "Economic transitions in South Africa's secondary cities. Governing mine closures". In: *Politics and Governance*, 9, 2, pp. 381–392.
- Martin, Alan (2019a): "Solving South Africa's Violent and Costly Zama Zama Problem". At: <https://issafrica.org/iss-today/solving-south-africas-violent-and-costly-zama-zama-problem> (accessed 1 March 2022).
- Martin, Alan (2019b): "Uncovered. The dark world of the Zama Zamas". At: <https://globalinitiative.net/wp-content/uploads/2019/04/ENACT-Policy-Brief-008-Zama-Zama-24Apr1115-WEB.pdf> (accessed 1 March 2022).
- Medina Bernal, Javier/Cuenca Castelblanco, Tatiana/Serrano Pérez, Catalina/Carrillo González, Lorena (2019): "Gold Mining and local communities in Southern Córdoba in Colombia, the case of El Alacrán mine". At: <https://www.tecnologiaibredeconflicto.org/wp-content/uploads/documentos/ALBOAN-MineriaColombia-en.pdf> (accessed 15 April 2021).
- Mhlongo, Sphiwe E./Amponsah-Dacosta, Francis/Muzerengi, Confidence/Gitari, Wilson M./Momoh, Abuh (2019): "The impact of artisanal mining on rehabilitation efforts of abandoned mine shafts in Sutherland goldfield, South Africa". In: *Jamba: Journal of Disaster Risk Studies*, 11, 2.

- Minerals Council South Africa (n.d.): “Illegal Mining”. At: <https://www.mineralscouncil.org.za/work/illegal-mining> (accessed 1 March 2022).
- Minerals Council South Africa (2019): Facts and figures. Pocketbook 2019.
- Müller, Melanie (2021): „South Africa’s social and political challenges. Covid exacerbates socioeconomic inequalities amid ANC infighting”. At: <https://www.swp-berlin.org/publikation/south-africas-social-and-political-challenges> (accessed 1 June 2022).
- Muthuri, Judy/Jain, Aditya/Ndegwa, Arthur/Mwagandi, Shadrack/Tagoe, Naa (2021): “The impact of Covid-19 on gold and gemstone artisanal and small-scale mining in sub-Saharan Africa. The case of Ghana and Kenya”. In: *Africa Journal of Management*, 7, 1, pp. 121–147.
- NAAM, National Association of Artisanal Miners (2019): “Media Statement: 04 September 2019”. At: <https://macua.org.za/2019/10/27/national-association-of-artisanal-miners-media-statement-04-september-2019/> (accessed 1 March 2022).
- Nhlengetwa, Kgothatso/Hein, Kim (2015): “Zama-Zama mining in the Durban Deep/Roodepoort area of Johannesburg, South Africa. An invasive or alternative livelihood?”. In: *The Extractive Industries and Society*, 2, 1, pp. 1–3.
- OECD, Organisation for Economic Co-operation and Development (2016): “OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas”. At: <https://www.oecd.org/daf/inv/mne/OECD-Due-Diligence-Guidance-Minerals-Edition3.pdf> (accessed 14 December 2021).
- Parliamentary Monitoring Group (2017): “Illegal Mining: Hawks & Department of Mineral Resources briefing”. At: <https://pmg.org.za/committee-meeting/24894/> (accessed 1 June 2022).
- Prause, Louisa (2014): “If you put a catfish next to a caiman. Truning the local into global: resistance against land grabbing in Senegal”. At: https://www.rosalux.de/fileadmin/rls_uploads/pdfs/Standpunkte/policy_paper/PolicyPaper_05-2014.pdf (accessed 1 March 2022).
- PwC (2021): “SA Mine 2021. Harvest season, call to action”. At: <https://cer.org.za/wp-content/uploads/2021/09/Draft-Small-Scale-and-Artisanal-Mining-Policy-5-May-2021.pdf> (accessed 1 March 2022).
- Refinitiv (2020): “GFMS Gold Survey. H2 2019 Update & Outlook”. At: https://images.marketing.refinitiv.com/Web/ThomsonReutersFinancialRisk/%7B08b444af-7357-485a-a6fc-4b2047c237f0%7D_GS19_H2_Update_for_Eikon_compressed.pdf?elqTrackId=105e8a3c0fa648ed9ce9def3e17653e6&elqaid=8538&elqat=2 (accessed 10 June 2022).
- Responsible Minerals Initiative (n.d.): “Conflict Affected and High-Risk Areas (CAHRAs)”. At: <https://www.responsiblemineralsinitiative.org/minerals-due-diligence/risk-management/conflict-affected-and-high-risk-areas/> (accessed 1 March 2022).
- Roberts, Richard James/Dixon, Roger/Merkle, Roland (2016): “Distinguishing between legally and illegally produced gold in South Africa”. In: *Journal of Forensic Sciences*, 61, pp. 230–236.

- Shandro, Janis/Veiga, Marcello/Chouinard, Rebecca (2009): "Reducing mercury pollution from artisanal gold mining in Munhena, Mozambique". In: *Journal of Cleaner Production*, 17, 5, pp. 525–532.
- Statistics South Africa (2020): "Quarterly Labour Force Survey. Quarter 4: 2019". At: <https://www.statssa.gov.za/publications/P0211/P02114thQuarter2019.pdf> (accessed 7 June 2022).
- Statistics South Africa (2020): "Quarterly Labour Force Survey. Quarter 4: 2019". At: <https://www.statssa.gov.za/publications/P0211/P02114thQuarter2021.pdf> (accessed 7 June 2022).
- SWISSAID (2020): "Golden Detour. The hidden face of the gold trade between the United Arab Emirates and Switzerland". At: https://swissaid.kinsta.cloud/wp-content/uploads/2020/07/SWISSAID-Goldstudie-EN_final-web.pdf (accessed 10 February 2022).
- The Sentry (2018): "The Golden Laundromat. The conflict gold trade from Eastern Congo to the United States and Europe". At: https://cdn.thesentry.org/wp-content/uploads/2018/10/GoldenLaundromat_Sentry_Oct2018-final.pdf (accessed 15 April 2021).
- Thornton, Robert (2014): "Zamazama, 'illegal' artisanal miners, misrepresented by the South African Press and Government". In: *The Extractive Industries and Society*, 1, 2, pp. 127–129.
- UNCTAD, United Nations Conference on Trade and Development (2016): "Trade Misinvoicing in Primary Commodities in Developing Countries. The cases of Chile, Côte d'Ivoire, Nigeria, South Africa and Zambia". At: https://unctad.org/system/files/official-document/suc2016d2_en.pdf (accessed 10 February 2022).
- UNICRI, United Nations Interregional Crime and Justice Research Institute (2016): "Strengthening the security and integrity of the precious metals supply chain. Technical report". At: <https://www.mineralscouncil.org.za/component/jdownloads/send/25-downloads/342-unicri-repor> (accessed 1 March 2023).
- Wagner, Livia/Hunter, Marcena (2020): "Links between artisanal and small-scale gold mining and organized crime in Latin America and Africa". In: Zabyelina, Yuliya/van Uhm, Daan (eds.): *Illegal mining*. Cham: Springer International Publishing, pp. 77–104.
- Wan, Pei (2014): "Environmental justices and injustices of large-scale gold mining in Ghana. A study of three communities near Obuasi". In: *The Extractive Industries and Society*, 1, 1, pp. 38–47.
- Wet, Phillip de (2021): "Illegal miners will get licences and help under a new govt plan – if they're South African". At: <https://www.businessinsider.co.za/illegal-mining-formalisation-is-part-of-the-artisanal-and-small-scale-mining-draft-government-plan-2021-5> (accessed 1 March 2022).
- Williams, Lee (2019): "Gold laundering: The new alchemy". At: <https://www.minespider.com/blog/gold-laundering-the-new-alchemy> (accessed 10 February 2022).
- World Bank (2018): *Overcoming poverty and inequality in South Africa*. Washington, DC: World Bank.

Young, Steven/Fernandes, Shannon/Wood, Michael (2019): “Jumping the Chain. How Downstream Manufacturers Engage with Deep Suppliers of Conflict Minerals”. In: *Resources*, 8, 1.

