

# Tracking and Certification of Mineral Output in Southern Africa

Final Report



Economic Commission for Africa  
Subregional Office for Southern Africa





Economic Commission for Africa



Southern African  
Development Community

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# Table of Contents

Acronyms and Abbreviations	v
Preface	vi
Executive Summary	vii
1. Introduction	1
Context of the Research	2
Where do illegitimately acquired minerals manifest themselves?	6
Can a single system for tracking and certifying mineral output be designed and implemented?	9
2. Minerals trading in Southern Africa: a proposal for certification	11
3. Principal features of a mineral tracking and certification system	13
Administrative	13
Operational	13
4. An overview of existing mineral management mechanisms	15
Actors and stakeholders in the mining sector	21
The Kimberley Process Certification Scheme	21
The International Conference on the Great Lakes Region	23
The Guyana Diamond Tracking System	24
5. Elements of the proposed tracking system	26
Model tracking and certification system	26
6. Transfer pricing and the tracking and certification system	30
The Minerals Security Framework and regional integration	31
7. Conclusion and the way forward	32
Bibliography	36
Annex A: Minerals and main export destinations of SADC minerals	39



# Acronyms and Abbreviations

AEGM	Ad Hoc Expert Group Meeting
BACSA	Business Against Crime in South Africa
BPC	Botswana Power Corporation
DDII	Diamond Development Initiative International
DMR	Department of Mineral Resources
DRC	Democratic Republic of the Congo
ECOWAS	Economic Community of West African States
ICGLR	International Conference on the Great Lakes Region
GDP	Gross Domestic Product
GW	Global Witness
ISS	Institute for Security Studies
KP	Kimberley Process
KPCS	Kimberley Process Certification Scheme
KPWGM	Kimberley Process Working Group on Monitoring
MEPC	Minerals and Energy Policy Centre
MIASA	Mining Industry Association of Southern Africa
MIGDETT	Mining Industry Growth, Development and Employment Task Team
PAC	Partnership Africa Canada
SADC	Southern African Development Community
SMSCU	SADC Mining Sector Co-coordinating Unit
UNECA	United Nations Economic Commission for Africa
USA	United States of America
WGAAP	Working Group on Artisanal and Alluvial Production
WGS	Kimberley Process Working Group on Statistics
WUC	Water Utilities Corporation Botswana

# Preface

The Secretariat of the Southern African Development Community (SADC) and the Southern African Office of the United Nations Economic Commission for Africa (UNECA-SA) commissioned a study to recommend a framework for tracking and certifying mineral products produced and/or transiting through member countries of SADC. This report is the outcome of the study conducted on behalf of the two institutions by the Institute for Security Studies (ISS).

The report is part of the SADC programme for harmonizing the mineral policy space as called for by the Protocol on Mining and by the SADC Mining Ministers. The first draft of the report was reviewed by a joint UNECA-SA and SADC Secretariat Ad Hoc Experts Group Meeting (AEGM) which took place from 22 to 24 November 2010 in Lusaka, Zambia.

The AEGM brought together high-level participants primarily drawn from the mining sector in Southern Africa. The participants combined a broad spectrum of expertise from the private sector, governments, non-governmental organizations (NGOs), research and academic institutions, and Chambers of Mines. The study also had input from several researchers commissioned to conduct an overview of comparative scenarios in Tanzania and Zimbabwe.

UNECA-SA and the SADC Secretariat are grateful for the contribution from the ISS team, which, coordinated by Mr. Charles Goredema, conducted the study and made the related presentation during the AEGM. The preparation of the study was supervised by a team comprising Ms. Alisoa Vololoniaina and Mr. Kabelo Tlhapi from SADC and Wilfred C. Lombe, Oliver Maponga and Jean Luc Mastaki Namegabe from UNECA-SA.

UNECA-SA and the SADC Secretariat extend their sincere appreciation to the participants who attended the AEGM. They took the opportunity to share their experiences and to identify ways of addressing the persistent leakages and accountability problems in the mineral value chains between the point of mining and the exit points to export markets outside SADC.



# Executive Summary

The illegal exploitation of minerals and fraudulent manipulation of the volume or the value of exported minerals are enduring challenges for producing countries in Southern Africa. Illegal exploitation of minerals in particular has regularly been linked to instability and conflict in the region. There have been calls for effective mechanisms for regulating the exploitation and movement of the minerals.<sup>1</sup>

Regulation of the mining industry in Southern Africa is quite challenging partly because of its history and partly because of its nature. Some of the mineral exploitation occurs in areas with difficult access either because of conflict or because of the nature of the terrain. This makes it difficult to verify any declarations of output issued from such areas. The estimated yield of each mine is based on the scientific analysis of samples collected at various stages of mineral processing. Intimately connected to the prospects for development, the mining industry is also capital intensive and taxing on the personnel and equipment of various stakeholders, including corporate institutions and Governments.

This study was conducted against the backdrop of the commitment by SADC member States to gather information on the identity, origin and volume of SADC mineral output in order to develop standardized mechanisms for tracking and certification. This was motivated by the growing conviction within the region that the mineral value chains were being undermined by leakages through neighbouring countries. Gold is said to be illegally imported from the Democratic Republic of the Congo (DRC) into Kenya, Burundi and Uganda and re-exported further. Limited benefit accrues to the DRC as a result of the process. Diamonds are said to be illegally imported from Zimbabwe into Mozambique and South Africa for onward exportation. Similar allegations are heard about illegal tin, coltan and wolframite which are exported through Rwanda. Monitoring mineral value streams in the producing countries is complicated by the large informal small-scale mining sector active within them.

There are also concerns about such practices as transfer pricing by large-scale mining conglomerates taking advantage of intra-group agreements involving the holding companies based in low tax jurisdictions and the subsidiaries based in the region. Transfer pricing abuses take various forms, including over- or under-invoicing of exports and imports, overloading of costs onto the subsidiary, service contracts and intra-group loans. Through such agreements, the holding companies are able to transfer income and allocate costs in a hidden manner that unfairly favours them. These malpractices reduce revenue which would have accrued to the producing States, thus exacerbating poverty amidst a rich natural resources heritage – the so-called ‘paradox of plenty!’ (UNECA, 2010).

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<sup>1</sup> Liberta Mulamula, the Executive Secretary of ICGLR, The International Conference on the Great Lakes Region (ICGLR), Thursday, 01 October 2009.

The SADC Mining Protocol was adopted in September 1997 by twelve member States and came into force in February 2000. The SADC Mining Sector Co-coordinating Unit (SMSCU), under the previous SADC structure, promoted adoption of the Mining Protocol. The Protocol recognizes that a 'thriving mining sector can contribute to economic development, alleviation of poverty and the improvement of the standard and quality of life throughout the Region.'<sup>2</sup> In principle, the SADC Protocol seeks to 'harmonize national and regional policies, strategies and programmes related to the development and exploitation of mineral resources.' In this spirit, SADC aims to develop and adopt common mineral certification standards, in accordance with internationally acceptable standards, in order to minimize illegal trade in minerals and thereby optimize the benefits to member States.

SADC member States intend to 'adopt policies that encourage the exploration for and commercial exploitation of mineral resources by the private sector.' Furthermore, the Protocol seeks to facilitate the development of small-scale mining through, among other initiatives, the establishment of marketing facilities, including exhibitions and mineral exchanges.

The study on which this report is based proposes a tracking and certification regime that is motivated by the above tenets. It suggests that the same goals that motivated the formulation and adoption of a tracking and certification system for diamonds in Guyana could be adapted by SADC. The key points are:

- (a) To provide reliable data to States on producer, exporter and purchaser behaviour;
- (b) To ensure the payment of the royalties and taxes due to the State;
- (c) To strengthen the State's oversight function along the mineral value chain; and
- (d) To prevent the mixing of minerals that are lawfully produced and/or acquired with illicitly produced and/or acquired ones in order to reduce illegal trade in minerals and consequently increase legal revenue flows through legal trade at both the national and subregional levels.

The Kimberley Process Certification System (KCPS) was prompted by the concern summed up in (d), specifically that lawful output could and, in several demonstrable instances, had been contaminated by rough diamonds originating from zones of conflict. The study on which this report is based concerns minerals other than diamonds. Since some of them, like emeralds, share many characteristics with diamonds, the study borrows some lessons from the KCPS.

The scope of the study determined by the terms of reference, namely:

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2 SADC Mining Protocol

- (i) To assess legislation and licensing procedures relating to mining, sale and transportation of minerals to overseas markets and their effectiveness in preventing fraudulent trade in mineral commodities;
- (ii) To examine national technical reporting requirements for mining and export of SADC mineral products and their efficacy in providing needed data for preventing fraudulent trade in mineral commodities;
- (iii) To review national, regional and international systems for tracking and certifying mineral products and make proposals for a possible tracking and certification system that would ensure an effective product audit trail of SADC minerals;
- (iv) To examine export documents and regulations and recommend how they might be adjusted to form part of the certification audit trail;
- (v) To examine customs conventions and formalities to assess how these might affect the formulation and application of rules of origin for a SADC-wide certificate of origin for SADC mineral products; and
- (vi) To assess current regional integration efforts in trade and how these might help or hinder the development of a SADC certificate of origin for mineral products.

The study considered prevailing legislation and licensing procedures in several countries in order to assess their effectiveness in preventing fraud in the trade of minerals. It found that most national legislation did not prioritize this objective, and could not be considered effective in preventing the most pernicious form of illegality in minerals marketing, namely transfer pricing. It found that a tracking regime on its own is not the appropriate vehicle for policing transfer pricing, and that this could be better done by combining centralization of the marketing of minerals and creating incentives for localized beneficiation of mineral output.

Recognizing that the latter initiative might not be viable in some countries, and that even in those where it could be implemented, it would take time to achieve, the study recommends the expansion of access to information relating to ownership of mining companies. Once the location of beneficial ownership is established, the authorities in countries producing minerals and countries hosting the holding companies should exchange information pertaining to the accrual of income to the relevant mining companies, in so far as such information is relevant to tax purposes.

Although the imposition of any certification system could be viewed as a regulation detrimental to prospective investors, it would help to correct the loss of development-related revenues through leakages.

The study reviewed various regional and international systems for tracking and certifying relevant mineral products. It recommends a framework that has administrative and operational elements. The framework depends on the registration of a range of stakeholders, using 'carrot or stick' mechanisms,

in the sense that incentives are created to encourage registration, while non-registration carries disadvantages and penalties.

Registered participants in the mining sector will be expected to make the framework viable by documenting the origin of mineral output, at the earliest feasible stage, in a form that is preserved until the minerals are refined and marketed. It is believed that this will assist in deterring and possibly detecting occurrences of smuggling and infiltration of illegal output into lawful product. The framework has as its centrepiece a monitoring institution called an Independent Authority (IA), to act both as a clearing house and a whistleblower if suspicious transactions are detected. The IA will have the mandate to issue a certificate of origin where required.

The structure and location of the IA suggested in this report (namely at the SADC secretariat) are tentative. This matter requires further discussion within the region before finalization because of the implications for the autonomy of national economies before regional integration has been fully achieved. It is also suggested that the IA should have a presence in the mineral-producing countries, in order to be closer to the nodal points at which the malpractices are likely to occur. The study further suggests that the IA should be able to access relevant information from the importing jurisdictions in real time. This is possible if it is set up from scratch as a supranational, regional entity at the SADC level.

The study examined existing export regimes in some SADC countries. While export certificates were required to support mineral exports, the incidence of certificates that were either false or inaccurate was noted in certain countries. Bearers bribe government or security officials to allow such certificates to be used. In some instances, certificates were issued without a physical verification of the related output. In others, the certificates falsely covered output originating from areas other than those named. The existing certification system can only be effective if complemented by an independent mineral chain auditor, such as stipulated by the International Conference on the Great Lakes Region (ICGLR). The role of such an auditor is described in full in the report.

The study noted current efforts to speed up regional integration within SADC and at the continental level through sectoral policy harmonization and other initiatives. Regional integration could have positive spin-offs for the suggested tracking and certification system.. It will have a positive impact on the system if it:

- (i) Results in greater intra-regional trade in some of the currently illegally traded minerals.
- (i) Enhances the efficacy of the IA and the respective national authorities on which it depends;
- (ii) Enhances the adoption of common policies and harmonized measures on encouraging the beneficiation of minerals within the region, and

- (iii) Opens up access to information on who owns what (or whom) in the mining sector, partly by standardizing positions on off-shore businesses.

Currently, some SADC countries have set up off-shore business centres that trade on guaranteeing confidentiality of ownership and financial information. This could be prejudicial to application of due diligence.



# 1. Introduction

Apart from its likelihood to cause and fuel political instability and conflict, the illicit flow of mineral output is often linked to corruption and underdevelopment in the source countries, the so-called 'resource curse'. SADC member States have decided that illegally procured mineral output should not enter the legitimate value chains in mining countries, mineral export transit countries and mineral export destination countries.

Smuggling and false declaration of mineral output distort trade statistics and are economically and financially prejudicial to producing countries. The 'leakage' of traded minerals deprives African communities of the developmental value of mineral resources due to diminished revenues (Smillie, 2005). The adverse publicity given to the impact of conflict diamonds in Africa, primarily by such NGOs as Global Witness (GW) and Partnership Africa Canada (PAC) in the late 1990s eventually brought about the Kimberley Process Certification System, a regime intended to keep the industry free of diamonds tainted by armed insurrection. All diamond-producing member States of SADC have subscribed to the Kimberley Process.

The main objective of the study is to develop a comprehensive system for tracking and certifying SADC mineral products, from mining and basic/preliminary processing sites through to their sale and export. The primary benchmark for measuring the system's efficacy will be its ability to ensure that illegitimately acquired mineral products do not enter legitimate value chains both in the countries where actual mining and processing takes place and in those through which the minerals transit during export. The intention is to keep such products away from importing countries.

The proposed regime is intended to promote ethical practices (broadly defined to include environmental and social standards) in mining through transparent declaration of production and export figures. As the architects of the Kimberley Process acknowledged during the negotiations to establish the KPCS, reliable production and trade data are critical to any resource management and monitoring system. Improved transparency in this sector is expected to increase the level of revenues accruing to SADC member States. While the KPCS provides for the diamond sector, the tracking and certification system discussed and suggested in this study relates to precious minerals other than diamonds. Lessons are drawn from the diamond sector because of its pioneering role, and because criminality in the mining sector as a whole is indivisible.

The report attempts to respond to such questions as:

- (i) What are the challenges to the production and trading of mineral products? What is the nature of the problem of illegal trade in minerals?
- (ii) Where are minerals illegitimately acquired in SADC countries?
- (iii) Can a single system for tracking and certifying mineral output be designed and implemented?
- (iv) What are the pre-requisites for and key elements of such a tracking and certification system?
- (v) What policy and legislative interventions are required to implement a tracking and certification system in SADC?

## Context of the Research

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Emerging from a gold mine near the city of Welkom on 21 October 2010, South African Police Commissioner, General Cele, lamented the continued significantly high proportion of illegal mining of gold in South Africa. He saw it as part of organized crime which required specialized responses to be contained.<sup>3</sup> General Cele pointed out that the illegally acquired gold was not sold to 'spazza shops', but (presumably) to organized syndicates and ultimately enters the legal mineral trade value chain.

Gold is certainly not the only mineral in the shadow economy. Copper, platinum, emeralds, tanzanite, sapphire and coltan are also illegally produced and procured from many parts of the region. The annual value of the illicit mining economy in any country is unclear. Business Against Crime in South Africa (BACSA) suggests that the cost of illegal mining amounts to five billion rands (approximately 525 million dollars) a year. The value of stolen minerals recovered by joint teams comprising mining house security and the police in South Africa indicates that mineral theft is high. From 1994 to 1998, gold valued at approximately 157.2 million rands (22.8 million dollars) was recovered, an average of 31.4 million rands (4.5 million dollars) worth of stolen gold a year (Gastrow, 2001).

From 2000 to 2004, 69 million rands (9.98 million dollars) worth of gold was recovered. During the same period, 79.95 million rands (11.573 million dollars) worth of platinum was recovered. A criminal syndicate involved in stealing platinum was suspected of having shipped out 232,000 kg of the product in 2004 (Coetzee & Horn, 2006). Smuggling of gold, silver and platinum from South Africa to the UK is believed to be currently worth at least 230 million rands (33.293 million dollars) every year. Globally, illegal trade in minerals is estimated at about 20,000 billion dollars.

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<sup>3</sup> See <http://www.news24.com/SouthAfrica/News/Illegal-mining-costs-sector-R5bnyear-20101021-2>



Research conducted by the ISS in Zambia during 2010 found that the mining sector was affected by theft, corrupt business practices, tax evasion and smuggling.<sup>4</sup> Tax evasion and corrupt practices occur at all levels (informal to large-scale) of the mining sector. In recent years, some SADC countries have been seriously affected by predatory activities in the mining sector, with DRC being a particularly ravaged territory (Huebschle, 2010), especially in the precious metal and coltan sectors.

While large mining companies employ highly complex and often opaque mining production systems that create a formidable challenge to revenue collectors, numerous other small-scale mining producers occupy a sector replete with unregistered and informal operators. Clandestine activities prejudicial to tax collection also occur in the highly fluid artisanal and small-scale sector. Trade in illicitly acquired minerals by registered and unregistered groups continues to cause costly fiscal challenges in several countries.

The trafficked minerals include copper ore illegally procured and transported from the DRC to Zambia for processing. In the case of gemstones, it is common for them to be traded between unregistered groups and subsequently smuggled out of the country of origin. These leakages and practices lead to revenue loss through unregistered and untracked and, therefore, untaxed mineral movements. The secrecy which obscured criminal conduct and the use of diamonds to support armed conflict in Sierra Leone, Liberia and Angola in the 1980s and 1990s continues to affect transfer and trading transactions involving other gemstones.

The two methods generally used to introduce illicit gemstones into the value chain are smuggling and false declaration. The experience of conflict diamonds may be applied to other minerals. In a case scenario, if someone brings minerals to a trading centre – Israel or New York, for example – either smuggling them past customs or making a false declaration. These minerals eventually find a buyer. A dealer may also go to Africa and buy them from rebels or from a third or fourth party and then take them to Europe, Israel or New York and smuggle them past customs or make a false declaration (UN Panel of Experts Appointed Pursuant to UN Security Council Resolution 1306, 28).

The mineral value chains continue to be undermined due to leakages internally and through neighbouring countries. Allegedly, gold from the DRC is illegally imported into Burundi and Uganda where it is mixed with locally produced gold prior to export. There are similar allegations concerning illegal tin, coltan and wolframite which pass through Rwanda for export. Illegal mineral value chain within the DRC and across neighbouring States are facilitated by the large informal small-scale mining sector.

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4 A Mafuleka, *Organised Crime in Southern Africa: the case of Zambia* (unpublished report). Mafuleka's report was subsequently incorporated into a review of organised crime compiled by A Huebschle *Organised Crime in Southern Africa: First Annual Review* (2010) Institute for Security Studies pp. 59-61

However, even for the large-scale formal mines, copper ore and concentrates from the Katanga province of the DRC routinely cross the Zambian border for processing and smelting. In fact, the Lubumbashi-Lusaka corridor accounts for 57 per cent of the DRC exports. This is virtually unprocessed copper and cobalt ores (90 per cent) which, after processing, are exported as originating from Zambia. Some mines with operations in the Katanga and processing facilities in Zambia do not move their ores through formal border posts. Available estimates suggest that unrecorded copper mineral trade between the two Countries is as high as 40 per cent of the official trade figures.

Illegal or untracked mineral trade common in all SADC countries, including those not emerging from conflict. Within Zambia, the mining industry was privatized, with the downstream processing facilities such as smelters and refineries disposed of separately from upstream mining and mineral processing facilities. This led to a liberal movement and trade in ores and concentrates seeking smelting facilities. The liberal space, which allows for the export of ores and concentrates, and the Government's inability to monitor declarations have dramatically increased illegal local and export trade in these minerals. Tanzania too has illegal gold trade either in flows to outside countries, such as Burundi, or in local production. The South African Police has always had a diamond and gold flying squad but this is unable to eliminate the illegal trade, especially in gold.

The gemstone mining sector in the SADC region is notorious for illegal trade activities. Many middlemen are responsible for a significant portion of the total trade, and these often finance artisanal mining activities (both legal and illegal diggings). Most SADC countries have significant amounts of gemstones in commonly occurring pegmatites. Examples are Malawi (rubies, sapphire, emeralds and aquamarines), Mozambique (aquamarines, tourmaline and garnets), Tanzania (rubies, sapphire, emeralds, tanzanite, tourmaline and garnets) and Zambia (aquamarines, emeralds and garnets). Regrettably, available reports indicate that official trade in gemstones is only a fraction of total trade primarily due to the influx of middlemen and the difficulties in monitoring production.

Whatever the case, unrecorded trade due to fraudulent and untaxed mineral flows through borders results in loss of developmental revenue accruing to the State in which mining takes place and exacerbates poverty amidst a rich natural resources heritage – the so-called 'paradox of plenty'. In the case of the DRC, illegal mineral flows are sources of funds for rebel groups within the country and in neighbouring countries, thus creating instability in the region. This limits investment flows into mining areas, and illegally traded mineral commodities can cause consumer boycotts internationally. This was the case with conflict diamonds and appears to be the case for coltan from the DRC, which is currently causing concern among major mobile phone manufacturers.

The pertinent regional challenges can be summed up as follows:

- » Illegal production of minerals

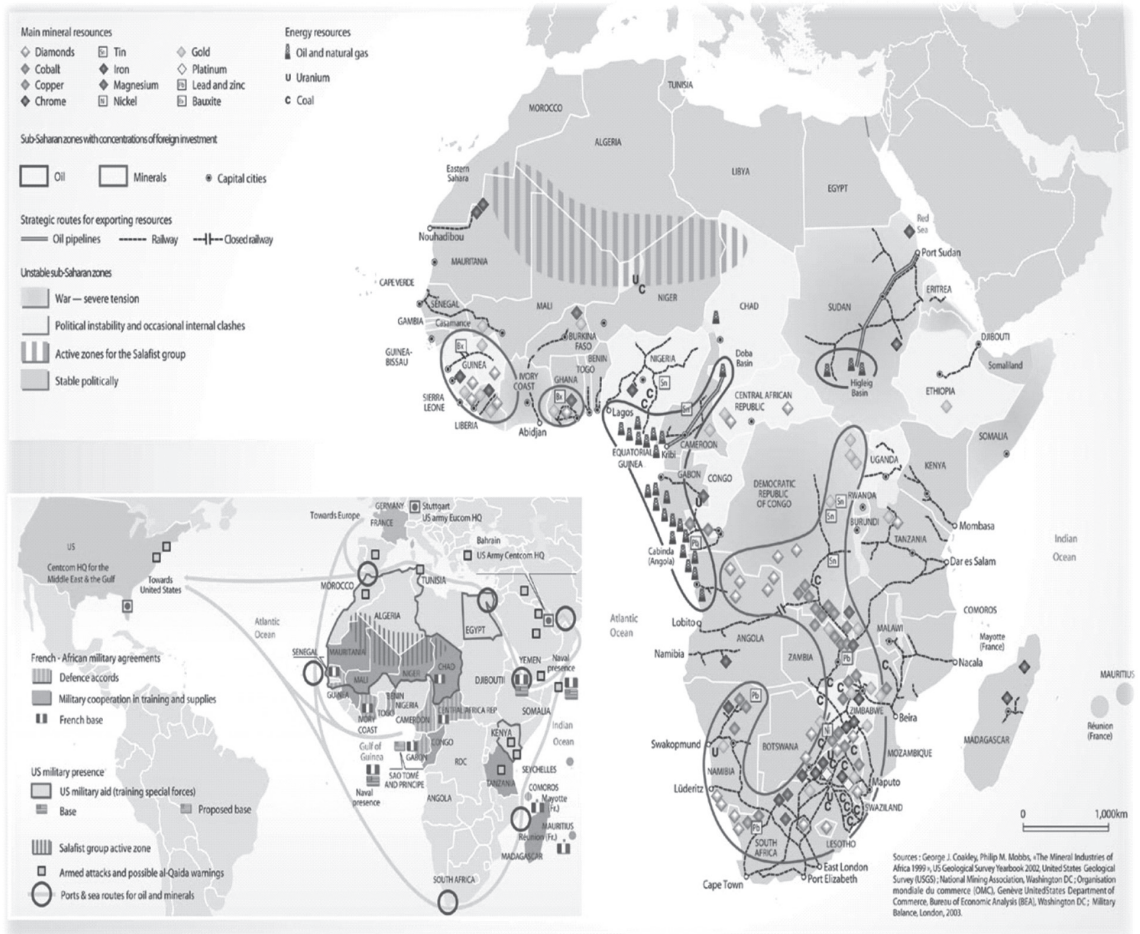
- » Poor monitoring of production declaration even from legitimate producers.
- » Trade in illegally acquired minerals
- » Cross-border smuggling of minerals, mineral ores and concentrates
- » Fraudulent activities in the trading of minerals, such as false declarations of value, limited capacity and achieved with the complicity of public officials in the mining sector
- » Fragmentation of institutions that could play a role in combating theft, smuggling and fraud involving mineral products, and
- » Inadequate cooperation across countries to detect and combat the above activities throughout the mineral chain.

These challenges are compounded by the increased attention being paid to malpractices in the extraction of minerals by some key trading partners. The Organization for Economic Co-operation and Development (OECD) has issued guidelines to be followed by companies in member countries in conducting due diligence on minerals emanating from conflict-affected and high-risk areas. In the United States, the Wall Street Reform and Consumer Protection Act (also known as the Financial Reform Act) empowers the Securities and Exchange Commission to create rules to address potential conflict materials and to assess whether materials originating from the DRC are benefiting armed groups. The Act requires the Secretary of State and the United States Agency for International Development to develop a strategy to address the linkages between human rights abuses, armed groups, and mining of conflict minerals and commercial products.

These initiatives are consistent with and complement the United Nations Security Council Resolution 1857 (2008) which seeks to ensure that the trading of minerals emanating from the DRC does not support illegal activities (especially armed rebellions) in the eastern part of the country. It requires member States to "...ensure that importers, processing industries and consumers of Congolese mineral products under their jurisdiction exercise due diligence on their suppliers and the origin of the minerals they purchase" (UN Resolution 1857, 2008).

As a result, there is growing pressure on mineral-exporting countries and companies involved in importing minerals from the DRC in particular, and Southern Africa in general, to adopt and implement effective measures to track supply chains through which minerals are traded.

**Figure 1: Map showing the main minerals extracted from Africa**



## Where do illegitimately acquired minerals manifest themselves?

Most member States of SADC produce precious minerals. Eight of them produce sizeable quantities of gold<sup>5</sup> and eight produce diamonds.<sup>6</sup> In addition, the region produces significant cobalt, coltan, copper, nickel, platinum group metals (with two producers in the top tier of global producers) and several types of gemstones.

5 South Africa, Tanzania, Zimbabwe, DRC, Tanzania, Namibia, Mozambique, Botswana and Zambia.

6 DRC, Botswana, South Africa, Angola, Namibia, Zimbabwe, Tanzania and Swaziland.

Mineral exploitation can enhance economic growth in the producing countries. The developmental role of mining has long been recognized in several SADC economies.<sup>7</sup> However, the relationship between growth in mining and economic development is not predictable. Many mineral-rich countries or areas endowed with minerals have either slow or skewed economic growth. Analysts have pointed to the notorious ‘Dutch disease’ that generally afflicts resource-dependent countries with underdevelopment and destitute populations (Standing, 2007). The income derived from production in the mining sector does not always filter through to communities that would be expected to benefit. In the words of Twerefou:<sup>8</sup>

*In development literature, a country rich in natural resources should, all things being equal, be better off than one poorly endowed. The simple reason is that natural resource is a form of capital that, if well exploited, can generate wealth and thus bring about development. Unfortunately, this somehow does not seem to be the case in Africa where after over seven decades of mineral exploitation, the continent remains the poorest in the world. According to the recent World Bank Development Report (2010), about 40 per cent of Africa’s inhabitants live on less than a dollar a day. Except for a few countries, the situation is the same for mineral-rich and non-mineral-rich countries.*

In Southern Africa, as in other developing regions, the most valuable minerals are exported for refining and beneficiation, thus depriving countries of the benefits of domestic processing, including the linkages. The disparity between growth in mineral output and economic prosperity is partly due to contrived leakages in the volume of output between production and exportation.

For instance, although the SADC region is well endowed with gemstones, available reports indicate that the official trade in gemstones is only a fraction of total trade primarily due to the influx of unofficial middlemen and the difficulties in monitoring production.<sup>9</sup> The key indicator of the incidence of illicit activity in mineral trading is the disparity in reported exports and imports of a particular commodity from a given country. The disparity is important especially for unprocessed ores. A comparison between data recorded at the point of export and data recorded at the point of import should indicate whether there has been an under-declaration at either point. It is important to identify import destinations to be able to conduct the exercise.

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7 African Union ‘Africa Mining Vision’ February 2009. See also, Dreschler, Bernd ‘Small-scale mining and sustainable development within the SADC Region, International Institute for Environment and Development (IIED), 2002.

8 DK Twerefou: Mineral Exploitation, Environmental Sustainability & Sustainable Development in the EAC, SADC and ECO-WAS Regions, ATPC 2009 p. 1

9 Report on Gemstone Trading in SADC countries.

Using a number of countries in West Africa, Smillie (2005) illustrated the volume of illicit diamonds that passed to Belgium over a six-year period between 1994 and 1999.<sup>10</sup> The figures for Sierra Leone, Liberia and the Gambia (in millions of dollars) are reproduced in Tables 1 to 3:

**Table 1: Extent of illegal trade: Sierra Leone**

Year	1994	1995	1996	1997	1998	1999
Recorded Official Exports	30.2	22	27.6	10.5	1.8	1.2
Declared Belgian Imports from Sierra Leone	106.6	15.3	93.4	114.9	65.8	30.4
Difference	76.4	-6.7	65.8	104.4	64	29.2

**Table 2: Extent of illegal trade: Liberia**

Year	1994	1995	1996	1997	1998	1999
Recorded Official Exports	No data available because of civil war				0.8	0.9
Declared Belgian Imports from Liberia	283.9	392.4	616.2	392.2	269.9	298.8
Difference	283.9	392.4	616.2	392.2	269.1	297.9

**Table 3: Extent of illegal trade: The Gambia**

Year	1994	1995	1996	1997	1998	1999
Recorded Official Exports	0	0	0	0	0	0
Declared Belgian Imports from The Gambia	74.1	14.9	128.1	131.4	103.4	58.0
Difference	74.1	14.9	128.1	131.4	103.4	58.0

<sup>10</sup> Ian Smillie, *Criminality and the Global Diamond Trade: A Methodological Case Study in van Schendel & Abraham, Illicit Flows and Criminal Things* (2005) Indiana pp. 177-200, at 188-189

Noting that none of the three countries officially imported diamonds, Smillie concluded that the disparity in the value declared to have been exported and that recorded as having been imported into Belgium represented illicit product. He observed that:<sup>11</sup>

*“All these diamonds were one of two things: diamonds produced in the countries recorded by Belgian import authorities and not recorded as exports (i.e. smuggled out); or diamonds produced elsewhere and imported into Belgium under false declarations.”*

Incidentally, during the period in question, the Gambia produced no diamonds at all, which meant that all diamonds in the country credited as exports originated from a third country. This was not an isolated occurrence, as in the same period, another non-producing country, Republic of Congo (Congo-Brazzaville), ‘exported’ 2.2 billion dollars worth of diamonds to Belgium.<sup>12</sup>

## **Can a single system for tracking and certifying mineral output be designed and implemented?**

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It is necessary to define such a system before discussing its feasibility and possible utility. Tracking minerals has assumed importance because of the high rate of illicit transactions involving high-value minerals. A significant proportion of these transactions involves organized crime. Others raise suspicion of sanctions busting.<sup>13</sup> Using various methods, criminals attempt to obscure the origin of illicitly procured minerals by mixing them with lawfully produced output. Documenting the origin of mineral output at the earliest feasible stage, in a form that is preserved until the minerals are refined or otherwise disposed of, would assist in deterring and possibly detecting such occurrences.

There are two types of mineral certification: one declaratory of a negative situation and the other of a positive status. A certificate of origin is predominantly used to exonerate the mineral to which it relates, namely, that it does not originate from armed conflict, human rights abuses or criminality. The other is a certificate of ethical quality<sup>14</sup> that gives the affirmative assurance that the minerals have been mined, processed and traded in ways that do not compromise defined ethical standards.<sup>15</sup> Cer-

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11 *ibid*, at p.190

12 Smillie, at p 190

13 As was the case with the widely reported attempt by one Nyasha del Campo to sell 3,700 kg of gold and an undisclosed quantity of diamonds to Firststar, a European gold dealing corporation, Details are available at <http://www.firststar.eu/BLACKLIST/mujuru-del-campo.htm> (accessed 10 November 2010)

14 Certification and Artisanal and small-scale mining; an emerging opportunity for sustainable development’ June 2008 Report series.

15 Certification and artisanal and small-scale mining; an emerging opportunity for sustainable development’ June 2008 Report series.

tification is part of the security mechanism to ensure that legitimate mineral product value chains are not contaminated by illegal mineral products.<sup>16</sup>

Arguably the best-known mineral certification regime world wide is the KPCS. As currently conceived, the KPCS appears to revolve around consumer concerns, tied as it is to the use of a certificate that guarantees to consumers that a product is not tainted by certain iniquities including illegality. As commentators have observed, one of the shortcomings of the KPCS is that it is preoccupied with the connection between diamonds and a certain kind of conflict and ignores other factors that render diamonds illicit (Smillie, 2005). Diamonds originating from unlawful transactions such as robberies, theft or smuggling would not necessarily fall foul of the KPCS. Neither would those dishonestly concealed in other ways from the legitimate export-verification authorities. The perspectives of parties other than the producer and the consumer seem to be overlooked, almost as if they have no interests to be protected. The tracking and certification system envisaged in this study requires a regime that recognizes and takes account of these interests. This suggests a certificate based on a more comprehensive range of factors and that has greater potential utility than the KPCS certificate.

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16 UNECA-SADC Concept note and terms of reference for a consultant to develop a security framework for SADC mineral products, June 2010.



## 2. Minerals trading in Southern Africa: a proposal for certification

Adopting and implementing a comprehensive system for tracking and certifying mineral products might assist SADC member States to reap more benefits from the mining sector. The ideal system should be underpinned by documentation generated or renewed at all the important stages of the mineral value chain, from production sites through to mineral sales and export. Indeed, it is with the creation of such a system in mind that a framework for the “Harmonization of Mining Policies, Standards, Legislative and Regulatory Framework in Southern Africa” was developed and approved by SADC Mining Ministers in 2006.<sup>17</sup> The Framework seeks to create ‘policy guidelines’ for key areas of the SADC mineral economy.

At the global level, the KPCS<sup>18</sup> provides instructive guidelines and a programme for certifying the origin and international trading of diamonds. This emerged from concerns that diamonds were being used to fuel civil war and conflicts in certain regions of the world; hence the need to identify ‘conflict diamonds’.<sup>19</sup> Such concerns led to the introduction, following calls by the UN Security Council,<sup>20</sup> of a Certificate of Origin, which later became the KPCS blueprint, a form of mineral finger printing.

There is some pressure to replicate the KPCS for other minerals too, given the risk that proceeds from other minerals could also be used to fund terrorism, civil unrest and conflict in Africa.<sup>21</sup> The ICGLR developed and adopted a regional certification mechanism for the exploration, monitoring and verification of natural resources flows within the Great Lakes region. The Guyana Diamond Tracking System provides an example of a successful security framework. It is a system used to track the production of alluvial diamond production from artisanal alluvial sources to points of export.<sup>22</sup>

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17 Framework for the Harmonisation of Mining Policies, Standards, Legislative and Regulatory Framework in Southern Africa, 2006.

18 The Kimberley Process Certification Scheme [[http://www.kimberleyprocess.com/home/index\\_en.html](http://www.kimberleyprocess.com/home/index_en.html)]

19 Conflict diamonds are diamonds that originate from areas under the control of armed forces fighting elected and internationally recognized Governments. Examples in the literature have included Sierra Leone, Angola, Liberia and the DRC which have all experienced devastating conflicts in the past.

20 United Nations General Assembly Resolution 55/56 (2000) on the role of the trade in conflict diamonds in fuelling armed conflict

21 McConnell, Tristan ‘Cell phone minerals fuel deadly Congo conflict’ Global Post January 19, 2010.

22 Guyana’s diamond tracking system: a model for artisanally mined diamonds’ Diamonds Development Initiative. < [www.ddiglobal.com](http://www.ddiglobal.com) >

As argued above, the proposed tracking and certification regime should go beyond the objectives and aspiration of KPCS. The same goals that motivated the formulation and adoption of a tracking and certification system for diamonds in Guyana could be adapted to the tracking and certification system in SADC. These are:

- (a) To provide reliable data to the States on producer, exporter and purchaser behaviour;
- (b) To ensure payment of the royalties and other taxes due to the State;
- (c) To strengthen the State's oversight function along the mineral value chain; and
- (d) To prevent the mixing of minerals that are lawfully produced and/or acquired with illicitly produced and/or acquired output, in order to reduce illegal trade in minerals and consequently increase legal revenue flows through legal trade at both the national and sub regional levels.

### 3. Principal features of a mineral tracking and certification system

The elements for a regulatory policy framework for a mineral tracking and certification system can be divided into two: administrative and operational.

#### Administrative

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A common administrative system should be established to embrace the entire mineral value chain from the mines to the end user, focusing on:

- » Streamlining mineral production recording systems and declaration requirements;
- » Harmonizing mineral tax regime and royalties to develop a common policy on transparency in the management of mineral resources;
- » Documenting sources of all mineral products within each producing country;
- » Documenting the origin of unrefined non-bulk minerals at the earliest feasible stage, thus preserving them until they are refined. The record of origin supplemented, where applicable, with details of appearance and quality, should be passed on along the supply chain simultaneously with the movement of the related minerals;
- » Monitoring the implementation of the documentation system by an institution mandated to manage mining intelligence, such as a mineral marketing authority, mining departments and geological surveys. The subregional mineral policy framework should stipulate a mandatory requirement for mineral industry producers to collect and maintain accurate records. The right to trade is a central incentive, which should be extended only to registered producers whose output records are regularly audited; and
- » Developing and enforcing a mineral production declaration framework for artisanal and small-scale mining (ASM) which offers technical assistance to enable small producers to register and adopt a record-keeping system at no cost to themselves during an initial phase that could be twelve months long.
- » Developing a framework for transit monitoring of products.

#### Operational

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The tracking and certification system must ensure that the mining process conforms to international standards by:

- » Ensuring that all stakeholders in the mineral trading chain conducting business within the territorial jurisdiction are registered and regulated.
- » Implementing a phased registration, documentation and monitoring system, drawing on lessons from the proposed Industrial Technology Research Institute (ITRI) Tin Supply Chain Initiative.<sup>23</sup> The latter is divided into three phases: During the first phase, the focus is on the downstream supply chain to ensure that producers and intermediaries (such as *comptoirs* in the DRC) are licensed. The second phase establishes a system for crosschecking and verifying the reliability of the regime by a credible national authority. This authority may use data derived from other credible stakeholders, including such non-State sources as civil society and NGOs. During the third phase, the system is co-ordinated across relevant foreign countries.
- » Harmonizing boarder control systems.

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23 See the ITRI Discussion Paper at [http://www.itri.co.uk/SITE/UPLOAD/Document/iTSCi\\_Final\\_Version\\_2\\_English\\_\\_2.10.09.pdf](http://www.itri.co.uk/SITE/UPLOAD/Document/iTSCi_Final_Version_2_English__2.10.09.pdf) (Accessed December 2010)

## 4. An overview of existing mineral management mechanisms

This part of the Report gives an overview of the existing documentation and tracking regimes in some SADC countries. The overview is limited to the trading of mineral resources in and from Botswana, Namibia, South Africa, Tanzania and Zambia. It analyses the regulatory framework for licensing, mining, sale and transportation of minerals, and their effectiveness in preventing fraudulent trade in mineral commodities.

Regulation of the mining sector in SADC may be subdivided into regulation of the large-scale industrialized, the semi-industrialized and the formal and informal small-scale sectors. In some countries such as Malawi, informal, small-scale sectors predominate. In all countries, all sectors are required by law to be licensed, but degrees of compliance are uneven. (Dreschler, 2001). The predominant aim of the licensing regime for small-scale miners is to be facilitative, to enable the licensees to access mining sites, mine in a safe and environmentally sound manner and to market their output. The research did not find any country in which licensing requirements stipulated conditions for keeping the extraction of minerals free from crime and other unethical practices.

A separate study on organized crime in SADC showed that mineral output from the informal sector is sold to intermediaries within the country, at the origin or across the border. Smuggling of unprocessed minerals affects most countries, facilitated by porous frontiers and encouraged by the incentives offered by the intermediaries. Disposal of minerals to networks of Nigerian and Lebanese buyers is common in Manica, Nampula, Tete and Niassa provinces in Mozambique,<sup>24</sup> as is the smuggling of gold from the DRC and Zimbabwe into Zambia for export to Zurich. It is suspected that more than 90 per cent of the gemstones produced in Tanzania are smuggled out of the country (Hubschle, 2010).

There are indications that licensing legislation does not prevent illicit practices in mining. Evidently, some illicit mining is conducted by persons holding work and investor permits corruptly obtained from immigration departments (Hubschle, 2010). Even more insidious is exploitation by traditional leaders, including chiefs who purchase or lease mineral-bearing plots of land. Such transactions occur without the involvement of the relevant minerals departments. The trading chain along which tanzanite passes from the major sources such as the Merani area in Tanzania prior to its export involves three phases. The gems are first sold to a broker at the point of extraction. The broker then carries the tanzanite to a long-distance broker who in turn sells it to a branch office in town from where

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24 A Hubschle (editor) Organised Crime in Southern Africa, ISS (2010) pp. 59-63

the tanzanite is exported. The chain could be circumvented by directly selling tanzanite to a foreign buyer straight from the point of extraction or the first village-based buyer. Evidently, the attraction of the latter option causes tanzanite to find its way into Kenya.

The semi-industrialized or medium-level mining sector is better regulated than the informal sector for such factors as capital investment and labour regulations. However, this does not insulate it from criminal activities. The diamond, copper and cobalt sectors have proved attractive to unscrupulous dealers in various parts of the region. As Hubschle cautions:

*“There are segments in the mining industry in which organized criminals work in both legal and illegal markets. The first level of operation includes a few large mines that produce the ore, process and export it: the second level includes many small companies (called jalabos) that have no mines but have legal licences to sell ore or process metal; and the third level includes the markets, the large companies and the international markets.”*

Some large mining houses have been implicated in the illegal purchase of copper and cobalt ore from the DRC.<sup>25</sup> Most mining departments in SADC member states have strengthened their regulatory instruments for diamonds. In Botswana, the Ministry of Minerals, Energy and Water Resources is responsible for the coordination, development and operational activities in the energy, water and minerals sector. The role of this Ministry is to promote, regulate, provide as well as collect, synthesize and disseminate mining- and mineral-related information.<sup>26</sup> The Mines and Mineral Act of 1999 is the main legislation in Botswana that regulates mines and minerals and provides for the granting, renewal and termination of mineral concessions. Section 3 of the Act provides that all rights of ownership of minerals are vested in the Republic.

Similarly, the Ministry of Mines and Energy is the main controlling authority in Namibia, with the Directorate of Diamond Affairs having the responsibility of monitoring and regulating the diamond industry in order to protect it from the threats of smuggling and other illicit activities. According to the Ministry of Mines and Energy Annual Report 2007/2008, the Directorate fully oversees all exploration, mining and diamond manufacturing activities in the country. This is to ensure compliance with the provisions of the Diamond Act of 1999 and its subsidiary regulations as well as compliance with the requirements of the Kimberley Process International Certification Scheme for the import and export of rough diamonds.

The main actors in the mining industry are the Chamber of Mines of Namibia and the Namibian Government. The country also has a small artisanal mining sector. The Minerals Policy of Namibia seeks to regularize and improve ASM to make it part of the formal mining sector. The number of small-scale

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25 Hubschle, *ibid*

26 Government of Botswana website at <http://www.mmewr.gov.bw/>

miners is estimated at about 2000 people, mostly one-man operations digging for gemstones. Admittedly, the ASM sector suffers from lack of finance, structured marketing systems and marketing information. These problems are aggravated by the theft of minerals and by transfer pricing. They result in a loss of revenue to Namibia and make the ASM sector unsustainable.<sup>27</sup>

In December 2009, Namibia established a State-owned mining company, Epangelo Mining, to explore for minerals across its territory.<sup>28</sup>

The Minerals and Petroleum Resources Development Act of 2002 is the main legislation governing South Africa's mining industry. It seeks to promote equitable access to the nation's mineral and petroleum resources to all South Africans and to ensure that holders of mining and production rights contribute to the socio-economic development of the area in which they operate. It also redress seeks to the plight of historically disadvantaged persons by advocating that they 'enter the mineral and petroleum industries and benefit from the exploitation of the nation's mineral and petroleum resources.'<sup>29</sup>The ASM sector in South Africa is regulated and therefore some of the illegal trade issues are at a much lower level compared to other countries.

The Act further recognizes that the State is the custodian of mineral and petroleum resources in South Africa on behalf of the country's citizens.<sup>30</sup> In terms of transformation, existing prospecting and mining operations will continue to operate unhindered and will be entitled to new prospecting rights.

The Mineral and Petroleum Resources Royalty Act gives effect to the Mineral and Petroleum Resources Act and in particular serves to compensate the State for the permanent loss of the country's non-renewable resources.<sup>31</sup> The Act, which came into effect on 1 April 2010, is expected to improve revenue from mining. The legislation requires mining corporations to pay royalties proportional to the profitability of gross sales minus allowable cost and deductions, ranging from 0.5 per cent to 7 per cent. The Act was suspended in 2009 by the then Finance Minister, Trevor Manuel, to grant mining corporations relief from the recession.<sup>32</sup>

The Department of Energy and Mineral Resources are responsible for mining affairs in South Africa. Although the Department of Energy and the Department of Mineral Resources. A Parliamentary Com-

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27 The Minerals Policy of Namibia, 15.

28 Namibia sets up state-owned mining company <<http://www.pr-inside.com/namibia-sets-up-state-owned-mining-company-r1680937.htm>> (Sourced 21 July 2010)

29 Section 2(d), Objects of Act, Fundamental Principles, The Minerals and Petroleum Resources Development Act 2002.

30 Section 3 Custodian Of Nation's Mineral and Petroleum Resource, The Minerals and Petroleum Resources Development Act 2002.

31 PricewaterhouseCoopers 'The Mineral and Petroleum Resources Royalty Act - Putting it all together' [<http://www.pwc.com/za/en/publications/mineral-petroleum-resources-royalty-act.jhtml>]

32 Sharife, Khadija Diamonds: Burden or boon?

mittee on Mining convenes regularly to discuss issues concerning the mining industry, including undertaking field visits.

The Chamber of Mines of South Africa is a major actor in the mining industry. It represents the major mining houses. According to the Chamber's Annual Report 2008-2009, due to the global economic crisis, the mining industry's real GDP shrunk by 32.8 per cent.<sup>33</sup> The Chamber responded to the economic crisis by partnering with its stakeholders in organized business, labour and Government, to establish the Mining Industry Growth, Development and Employment Task Team in December 2008. The task team focused on short-term survival strategies such as sustainable investment in infrastructure. It also strived to reposition the industry for the next commodity demand cycle.<sup>34</sup>

Mining has been a priority economic sector<sup>35</sup> in Tanzania. Apart from gold, Tanzania has other mineral resources such as diamonds, ferrous minerals and a wide variety of gemstones, the most well known of which is tanzanite.<sup>36</sup> Tanzania produces gem varieties of emerald, beryl, opal, ruby, sapphire, turquoise, chrysoberyl, spinel, topaz, tourmaline, zircon, obsidian, peridot, moonstone, chrysoprase, amethyst, quartz, garnet, zoisite, tanzanite, cordierite and scapolite, in rough and uncut forms.

The Ministry of Energy and Minerals is responsible for mining affairs in Tanzania. The Ministry issues licences and permits. There are different categories of licences. Category one includes the prospecting licence and the retention license. Category two includes the primary license, special mining license, mining license and gemstone license. Category three is the license for dealing with raw gold, gemstones and other minerals. These include the broker's license and the dealer's licence. These mining rights are in line with the conventional stages in mining, namely prospecting, exploration and finally mining.

With regard to oversight, the Parliamentary Standing Committee for Energy and Minerals scrutinizes and deliberates on legislation and policy. It recently debated the updated Mining Act, 1998. Among other changes, the new Mining Act proposes an increase in the royalty rate levied on minerals; requires the Government to hold a stake in all future mining projects, the amount to be determined on a case-by-case basis; and that all mining companies operating in Tanzania should be listed on the Dar es Salaam Stock Exchange.<sup>37</sup> To avert conflicts between larger international mining companies and small-scale and artisanal miners, and mining communities, the Bill proposes that the Government

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33 Chamber of Mines of South Africa Annual Report 2008-2009, 5.

34 Chamber of Mines of South Africa Annual Report 2008-2009, 5.

35 World Trade Organisation, Trade Policy Review of Tanzania (Geneva: WTO, 2000) 55.

36 <http://www.tanzania.go.tz/mining.html#Mineral%20Sector%20Policy> (sourced 21 July 2010).

37 Business Monitor International Tanzania Mining Report Q3 2010, Business Monitor International, 8 July 2010. [<http://www.fastmr.com/catalog/product.aspx?productid=72797&dt=t>]. Also see Ng'wanakilala Fumbuka 'Tanzania increases royalties in new mining law' Reuters, 24 April 2010.



should set aside specific areas for small-scale miners.<sup>38</sup> With this Bill, the Government of Tanzania is seeking to restructure the mining sector to increase revenue for the State, increase State participation in the local mining industry and strengthen the development of ASM communities in the sector.<sup>39</sup>

The other actors in Tanzania's mining sector include the Office of the Commissioner for Minerals established by the Mining Act 1998 within the Ministry of Energy and Minerals. The Commissioner has a responsibility to supervise and regulate mineral exploration and extraction activities. The Commissioner is also part of the Mining Advisory Committee that is responsible for advising the Minister responsible for minerals on matters concerning the minerals sector generally.

The Tanzania Chamber of Mines is also a major actor in the mining industry. It is part of the Tanzanite Board, comprising government and non-government stakeholders in the industry. The board has a mandate to oversee the mining, trade and exporting of tanzanite, to promote a form of value adding for tanzanite within Tanzania and to develop a tanzanite certification system (similar to the Kimberley Process).<sup>40</sup>

Tanzania has a small-scale sector involved in gold and tanzanite mining. The number of miners active in the sector fluctuates between 20,000 and 100,000. ASM miners are stakeholders in Tanzania's mining sector in the form of the Federation of Miners Associations of Tanzania (FEMATA). The Tanzania Mineral Dealers' Association (TAMIDA) is a body of mainly tanzanite dealers and is also a stakeholder in the mining sector.<sup>41</sup>

The main legislation under which mining activities are regulated in Tanzania is the Mining Act, 1998. Other relevant statutes include the Income Tax Act, 2004, the Environment Management Act, 2004 and the Tanzania Investment Act, 1997. There are detailed regulations under the Mining Act such as the Mining (Environmental Management and Protection), 1999; the Mining (Safe Working and Occupational Health), 1999; and the Mining (Dispute Resolutions) Rules, 1999.

The Mining Act, 1998, also governs export of minerals. The export of all minerals requires a permit from the Commissioner for Minerals. The export process must comply with the export procedures described under the Mining (Mineral Trading) Regulations, 1999.

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38 Hall, Andrew 'Tanzania's Gold Sector: From Reform and Expansion to Conflict?' Foundation for Environmental Security and Sustainability (FESS), June 2010.

39 Hall, Andrew 'Tanzania's Gold Sector: From Reform and Expansion to Conflict?' Foundation for Environmental Security and Sustainability (FESS), June 2010.

40 Sanga, Sebastian Paschal, 'The Role of Poor Governance in the Tanzanite-Al Qaeda Link Controversy, and Policy Options for Tanzania Enabling it to Escape from 'Curses' in the Mining Industry' International Policy Fellowship Center For Policy Studies Central European University. 2006-2007.

41 Ibid.

Zambia produces various minerals such as copper, cobalt, and various precious stones, including amethyst, gold, blue stones and emeralds.<sup>42</sup> Copper has been the single largest contributor to the Zambian economy since independence.<sup>43</sup> Six per cent of the world's copper reserves is located in Zambia. The country is the world's second largest cobalt producer, supplying 20 per cent of the world's cobalt.<sup>44</sup> Mining and quarrying make up a large portion of the industry sector in the Zambian economy and it has accounted for the largest proportion of the country's total GDP.

The Mines and Minerals Act, 1995 is the main legislation regulating Zambia's mining industry. The Act divides the sector into two, large- and small-scale mining operations, according to investment capacity and capability.<sup>45</sup> The Mines and Minerals (Environmental) Regulations and the Beacons Regulation are subsidiary legislation applicable to sector.

As for the licensing system, there are three types of licenses available to the large-scale operator; the Prospecting License, the Retention License and the Large-Scale Mining License.<sup>46</sup> The Retention License confers the right to retain an area, subject to the Minister's agreement, over which feasibility studies have been completed, but market conditions are unfavourable for development of a deposit at the time. The size of the area may be as covered by a prospecting license or smaller as redefined by the license holder.

Large-Scale Mining Licenses confer exclusive rights to carry out mining operations and other acts reasonably incidental thereto in the area for a maximum of 25 years. The area to be held should not exceed the area required to carry out the proposed mining operations. Applications need to be accompanied by environmental protection plans and by proposals for the employment and training of citizens of Zambia.

Similar rights are available to smaller operators, but on a reduced scale. Artisans Mining Rights give the right to local people to mine on an artisanal basis in an area not exceeding five hectares, for a non-renewable period of two years.

Zambia's Finance Minister recently ordered an audit of mining companies to determine their earnings following claims by analysts that the country was not reaping enough benefit from its key mining in-

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42 Copper Mining in Zambia Overview <http://www.mbendi.com/indy/ming/cppr/af/za/p0005.htm> (sourced 20 July 2010).

43 Ministry of Mines and Development, Mines in Zambia <http://www.zambiamining.co.zm/investment-opportunities.htm> (sourced 20 July 2010).

44 Copper Mining in Zambia Overview <http://www.mbendi.com/indy/ming/cppr/af/za/p0005.htm> (sourced 20 July 2010).

45 Dreschler Bernd 'Small-scale Mining and Sustainable Development within the SADC Region' Mining, Minerals and Sustainable Development project, International Institute for Environment and Development (IIED), (2001).

46 Prospecting License - this confers the right to prospect for any mineral over any size of area for a period of 2 years renewable

dustry because of failure of revenues by some foreign owned mining companies.<sup>47</sup> The audit revealed the deliberate failure by some of the companies to pay taxes to Government.

## Actors and stakeholders in the mining sector

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It is necessary to identify the actors and stakeholders in any tracking and certification framework and who will be affected by it. In order to derive comparative lessons from emergent frameworks, the list of actors and stakeholders includes:

- » Large-scale mineral producers
- » Small-scale miners
- » Brokers and intermediaries
- » Mineral exporters
- » Departments of mining/geology
- » Revenue collection authorities
- » Parliamentary oversight committees
- » Inter-governmental organizations mandated to monitor trade volumes and flows, and
- » Civil society organizations (CSOs).

Any proposed security framework to combat illicit dealings should clearly allocate the role that each actor or stakeholder should play to make it effective. Role allocation may benefit from an overview of existing models, such as the one created for the diamond industry.

## The Kimberley Process Certification Scheme

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The KPCS partially regulates international trade in unpolished diamonds.<sup>48</sup> It provides a model for preventing illicit exploitation of diamonds to fuel conflict.<sup>49</sup> KPCS requires its members to maintain a system of due diligence against rough diamonds tainted by conflict. Forty-nine members, representing 75 countries, among which are major processing and consuming markets, subscribe to this Scheme. All diamond-producing SADC members States participate in the KPCS.

KPCS has a number of established working groups to assist it to carry out its mandate. The Working Group on Monitoring (KPWGM) deals with issues relating to implementation of KPCS by participants,

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47 Reuters 'Zambia starts copper mine audits to verify earnings'. Sourced [<http://www.miningweekly.com/article/zambia-starts-copper-mine-audits-to-verify-earnings-2010-07-19> >] . Sourced on 19 July 2010.

48 The Kimberley Process Certification Scheme [[http://www.kimberleyprocess.com/home/index\\_en.html](http://www.kimberleyprocess.com/home/index_en.html)]; See also section 1(h) South Africa Diamonds Amendment Act no 29 of 2005.

49 The Kimberley Process Certification Scheme [[http://www.kimberleyprocess.com/home/index\\_en.html](http://www.kimberleyprocess.com/home/index_en.html)]

with a view to promoting full and effective implementation by all the stakeholders.<sup>50</sup> The Artisanal and Alluvial Production Working Group (WGAAP) advocates for effective internal controls on the production and trade of alluvial diamonds.<sup>51</sup> Table 4 shows the roles of Actors in the KPCS.

The Moscow Declaration reinforces the idea that effective internal controls applied in alluvial mining areas are crucial to the effectiveness of the Kimberley Process in preventing conflict diamonds from entering the legitimate diamond trade.<sup>52</sup> The KPCS requires participants to establish internal controls to eliminate the infiltration of conflict diamonds.<sup>53</sup> Self-regulation of the diamond industry's system implies an increase in audits and inspections of the participant countries to ensure verification of industry compliance with the KPCS. An Amnesty International position paper on the Kimberley Process<sup>54</sup> recommends that participating Governments should agree on comprehensive common standards for verification of industry compliance.

The KPCS emphasizes regular exchange and analysis of statistical data.<sup>55</sup> The Kimberley Process Working Group on Statistics (WGS) ensures timely reporting and analysis of statistical data on the production and trade of rough diamonds.<sup>56</sup> KPCS prohibits trade between Kimberley participants and non-participants.<sup>57</sup> Exports of rough diamonds from a participant have to be accompanied by government-validated Kimberley Process certificates.<sup>58</sup>

Enhanced diligence of various interest groups has resulted in questions being raised about the efficacy of the KPCS for stemming the flow of rough diamonds used by rebel movements in Africa to finance wars against legitimate governments. A 2007 Global Witness report<sup>59</sup> established that illicit diamonds were slipping through Kimberley regulatory controls and contaminating legitimate international trade channels. The report is based on the Diamond Trade Statistics Review and highlights the United Nations Commodity Trade Statistics (Comtrade) database. The statistics reveal that illegal trade in rough diamonds from 2004 to 2006, worth \$10.2 million, took place between a Kimberley Process participant and non-participant countries.

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50 The Kimberley Process Working Groups [[http://www.kimberleyprocess.com/structure/working\\_group\\_en.html](http://www.kimberleyprocess.com/structure/working_group_en.html)]

51 The Kimberley Process Working Groups [[http://www.kimberleyprocess.com/structure/working\\_group\\_en.html](http://www.kimberleyprocess.com/structure/working_group_en.html)]

52 The Moscow Declaration, The Working Group on Artisanal and Alluvial Production (WGAAP) [[http://www.kimberley-process.com/structure/working\\_group\\_en.html](http://www.kimberley-process.com/structure/working_group_en.html)]

53 Kimberley Process Certification Scheme document, Section IV,

54 Amnesty International 'Kimberley Process: An Amnesty International Position Paper' Amnesty International, AI Index: POL 30/057/2006 (Public), December 2006.

55 Kimberley Process Certification Scheme document, Annex III Statistics.

56 The Kimberley Process Working Groups [[http://www.kimberleyprocess.com/structure/working\\_group\\_en.html](http://www.kimberleyprocess.com/structure/working_group_en.html)]

57 Kimberley Process Certification Scheme document, Section III (c).

58 Kimberley Process Certification Scheme document, Section III (b).

59 'Loopholes in the Kimberley Process: Illegal trade undermines efforts to combat conflict diamonds. Summary Of Results Of Diamond Trade Statistics Review' Global Witness, October 2007.

That revelation is indicative of the possible leakages that Kimberley Process statistical data fail to show. Calls have thus been made for the adoption of measures and procedures for better sharing of data among Kimberley Process officials, law enforcement agents, and border and customs controls.<sup>60</sup>

**Table 4: Actors and roles in the KPCS**

Actor	Role	Current Practices
Producers	To ensure that products are not tainted by conflict	Compliance is underpinned by registration
Exporters	To ensure that products are not tainted by conflict	Compliance is underpinned by registration
Regulatory authorities	To certify that output is not tainted by conflict	Certificates issued by relevant ministries
KP Working Group on Statistics	Collection and analysis of statistical data on production and trade of rough diamonds	Some trade between KPCS members and non-members has not been detected
Monitors	Monitoring consistency of implementation and effectiveness of system	Predominantly monitored by civil society structures in producing and consuming countries. <i>No role for transit countries</i>
KPWGM	Promoting full and effective implementation by participants	Vague delimitation of role between KPWGM and the Working Group on Statistics

## The International Conference on the Great Lakes Region

ICGLR has eleven member States.<sup>61</sup> It adopted a minerals tracking and certification initiative in 2010. The initiative has four main components:

- (i) Tracking from mine site to export, to be implemented by Governments – it represents a comprehensive mineral tracking and documentation system in each mineral producing, trade or transit country to ensure that minerals are not illegally transferred between countries. No ICGLR compliance certificate will be issued without full traceability of the mineral value chain.

<sup>60</sup> Global Witness ‘Loopholes in the Kimberley Process: Illegal trade undermines efforts to combat conflict diamonds. Summary of Results of Diamond Trade Statistics Review’ Global Witness, October 2007.

<sup>61</sup> ICGLR member states: Angola, Burundi, Central African Republic, Republic of Congo, Democratic Republic of Congo, Kenya, Uganda, Rwanda, Sudan, Tanzania, Zambia

- (ii) A Regional Database to facilitate tracking: all mineral data flows will be stored in a central regional database, which facilitates the reconciliation of production, trade and export statistics. The database will be publicly accessible to promote legitimacy and transparency.
- (iii) Regular independent third party audits, to be conducted independently of government, industry and civil society with the results made public. An audit committee comprising government, industry and civil society will undertake the audit. Industry participants must pass audits to be certified compliant, and
- (iv) Independent mineral chain auditor: The auditor's function is to analyse data for anomalies and discrepancies along the full mineral value chain that require investigations. He/she will therefore have authority to initiate investigations and to declare participants non-compliant. Table 5 shows the responsibilities and actors under the ICGLR initiative.

**Table 5: Actors and roles in the ICGLR**

Actor	Role	Current Practices
Producers	To ensure that products are not tainted by illegal conduct or conflict	Compliance is underpinned by registration
Exporters	To ensure that products are not tainted by illegal conduct or conflict	Compliance is underpinned by registration
Regulatory authorities	To certify that output is not tainted	Certificates issued by relevant ministries
Regional database	Collection and storage of statistics on production, trade and export of minerals	Too early to comment
Independent audit committee (government, industry and civil society)	To confirm compliance with the ICGLR system	Not yet in force
Independent auditor	Data analysis and initiation of investigations where there are anomalies	Not yet in force

## The Guyana Diamond Tracking System

The Guyana Diamond Tracking System revolves around six pillars, namely, the administration of mineral claims, the registration of diggers, the registration of dredges, the registration of buyers and exporters, tracking of diamonds from source to export and the use of field-based enforcement person-

nel.<sup>62</sup> To replicate the Guyana-style system in SADC, member States would require creation of monitoring mechanisms through which joint-venture concession holders could begin to collect revenue from legalized artisanal miners.<sup>63</sup> Using local government authorities in the formalization of ASM miners would also go a long way towards encouraging ownership and legitimization of the system.<sup>64</sup>

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62 Diamond Development Initiative International (DDII) 'Guyana's Diamond Tracking System: A model for Artisanally Mined Diamonds' Diamond Development Initiative International 2009, 2.

63 Diamond Development Initiative International (DDII) 'Guyana's Diamond Tracking System: A model for Artisanally Mined Diamonds' Diamond Development Initiative International 2009, 13.

64 Diamond Development Initiative International (DDII) 'Guyana's Diamond Tracking System: A model for Artisanally Mined Diamonds' Diamond Development Initiative International 2009, 13.

## 5. Elements of the proposed tracking system

As noted earlier, KPCS imposes obligations on various actors, in particular, the producers of rough diamonds, the exporters and the importers. Beyond these actors, it also requires members to comply with certain regulatory duties, at the centre of which is responsibility for ensuring the integrity of the KPCS certificate. It is suggested that the framework for non-diamond products should impose similar obligations on corresponding parties.

Each certificate is required to meet minimum requirements for inclusion, which are:<sup>65</sup>

- » The country of origin for shipment of parcels of unmixed (i.e. from the same) origin;
- » An English translation of the text of the certificate, if issued in some other language;
- » Unique numbering with the Alpha 2 country code, according to ISO 3166-1;
- » The certificate should be tamper-proof and forgery-resistant;
- » The date of issue and date of expiry;
- » The issuing authority;
- » Identification of the exporter and importer;
- » The weight/mass of the consignment;
- » Its value in US dollars;
- » The number of parcels in a shipment and
- » Validation of Certificate by the Exporting Authority.

While taking note of the successes achieved by KPCS, a model tracking and certification system for minerals other than diamonds cannot simply replicate the KPCS. Just as input from key stakeholders and regulatory institutions from the industry informed the KPCS, so should inputs inform a scheme for other mineral output. The model should be developed from a fully consultative process.

### **Model tracking and certification system**

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The recommended system has to apply to both large- and small-scale producers for effectiveness. Any producer who is also an exporter will be required to comply with obligations imposed on producers and exporters. Importers will also have reciprocal duties to verify compliance with the requirements on exporters. Exporting and importing countries should monitor implementation of the recommend-

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<sup>65</sup> Extracted from the KPCS website at <http://www.kimberleyprocess.com/> (August 2010)



ed system. In terms of the tools and instruments by which tracking will be achieved, there is merit in adapting what is in place for the KCPS, combined with the Guyana model.

Table 6. sets out the obligations of a producer, a dealer, an exporter and the country from which the minerals are exported. It takes into account the reality that most mineral trade emanating from SADC is with countries outside the Community. The model does not include obligations of importing countries as they are beyond the jurisdiction of SADC. However, it would have been ideal to close the loop completely, with the model including the whole worldwide trading chain.

**Table 6: Actors and roles in the proposed tracking and certification system**

Obligations of producer/miner	Obligations of dealer	Obligations of exporter	Obligations of exporting State
Registration as a producer Incentives: <ul style="list-style-type: none"> <li>• Right to sell</li> <li>• Access to capital</li> <li>• Access to health and safety support from the State</li> </ul>	Registration as a dealer	Registration as an exporter	To maintain and monitor use of a reliable, efficient registration system
To document production at regular intervals	To verify sources of purchased minerals (customer due diligence)	To verify and confirm output received and exported	To maintain up-to-date databases of mineral production CERTIFICATION by the State
To certify volume exchanged with exporter			
To pay tax in accordance with declared sales	To keep accurate transaction records	To maintain records of mineral sales	Tax clearance by State authorities

Figure 2a below illustrates how the proposed mineral tracking and certification system will interface with the mineral flow between two trading countries. Figure 2b illustrates how the proposed system will function where a third country B is involved as a transit country. The role of the transit country in the mineral tracking and certification system is to verify and ensure that the consignment is sealed while in transit.

The proposed SADC mineral tracking and certification system is designed to increase the collection of revenue derived from mining in the producer countries. A prominent feature is the Independent

Authority (Boxes 4 and 11 in figure 2a; and boxes 4 and 11 in figure 2b), which will be responsible for the main functions, including:

**(i) Verification of the origin of mineral products**

Preparation of regular audit reports on a quarterly basis on the three main stages of mineral certification (the production stage, the trading stage and the export/import stages). If the declared quantity in any of the production, trading or export stages does not tally with the audit reports, the IA should launch an investigation.

**(ii) Mandatory exchange of information and mutual cooperation between relevant authorities such as customs officials of trading countries**

It is proposed that the IA be established as a regional body at the level of the SADC Secretariat within the Directorate of Trade, Industry Finance and Investment under the Industrial Competitiveness Division. Its main office would be in Gaborone, but with sub-offices in producing countries. It is not necessary for the Authority to be represented in transit countries. In instances where a transit country is also a mineral-producing country, the IA would have no role over minerals in transit.

The tracking system requires and relies on the ability of producing countries to maintain a registration regime for producers, exporters and dealers as primary role players (box 5). The respective ministries responsible for administration of the mining sector are responsible for verifying the source and origin of mineral output (as presented to it by mineral traders (box 6) to be exported from their territory, through strategic inspections (box 7). Legal issues on the establishment and function of the IA and how it relates to national processes need to be dealt with and streamlined at the national level.

It is necessary for the IA to establish a presence in the major importing countries (box 10/11) to receive and compare outflow data from its counterpart offices in the producing/exporting countries. The challenge may arise if the importing country is outside SADC, raising jurisdictional issues. The Authority cannot exist and operate in isolation in a foreign territory without being recognized by the host State. Various options have been suggested, including:

- » The respective producer countries to negotiate for the Authority to have a presence through its Diplomatic offices. SADC could negotiate for such an Authority to be established in each or a group of importing countries. An institution in the importing country should be appointed to act on behalf of the IA.
- » Since the level of independence of the audit process will affect the credibility of the audits and of the whole system, selecting an independent auditor who meets the expectations of all key stakeholders will make the system effective. All stakeholders will

have to buy-in. Furthermore, the role of the “Certifying Authority” needs to be clarified in the system. The Rwanda model in which this role is played by the Rwanda Bureau of Standards could be adapted.

- » The ability of the framework to address the fact that the minerals trade does not support illegal activities depends on the quality of risk assessment conducted by both the producer countries and the IA. The challenges manifest themselves in different forms depending on the type of mineral, the size of the producer, the range of stakeholders involved in production, the importing countries and the complementary infrastructure existing in the producer country. It is beyond the scope of this study to anticipate the myriad of factors that may negate or support the effectiveness of the framework on the ground. All SADC countries should be obliged to support the IA by granting it access to the various nodal points at which the extraction and/or export of mineral products occur.

## 6. Transfer pricing and the tracking and certification system

The benchmark for measuring the effectiveness of measures to track the flow of mineral output in Southern Africa should be their impact on illicit financial flows connected to mineral trading. Among the challenges posed by illicit financial flows are fraudulent activities in the trading of minerals, such as false declarations of value, often achieved with the complicity of public officials in the mining sector. False declarations of the value of exported minerals can facilitate evasion of tax due to producer countries, through transfer-pricing malpractices.

Some multinational enterprises (MNEs) have been implicated in profit shifting through transfer pricing.<sup>66</sup> According to some analysts, intra-group flows account for about 50 per cent of all MNE transactions. These flows are often not subject to the same market forces as arm's length transactions, and there is a high probability of profit shifting (Mehta, 2009). Apart from under-declaring the volume or value of exports, MNEs can use related-party agreements to transfer disproportionate levels of costs of freight, insurance, or equipment leasing to the subsidiary mine, cutting income accruals and tax payable in the producing countries.

Transfer-pricing transactions usually involve a low-tax jurisdiction, in which the MNE conducts much of its banking and intermediation activities, and to which income earned from the mining activities is channeled. Detecting them involves accessing information on the ownership of the major MNEs in the relevant sector, and detailed information on financial transactions between related corporates. Unless it can provide access to such information, a regional tracking and certification system cannot negate transfer pricing. Notwithstanding its perceived adverse impact on investment, the centralization of minerals marketing through a State-controlled agency or an agency run jointly with private corporations appears to be the optimal way of curbing transfer pricing.

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66 Tax Justice Network (TJN) regularly reports on some of the most glaring cases. See for instance the reported activities of gold mining company Mineral Deposits Ltd, which mines gold in Senegal, but conducts its banking and mine-equipment leasing operations from Mauritius. Accessible at <http://taxjustice.blogspot.com/2010/04/transfer-mis-pricing-and-looting-of.html> (accessed January 2011) Another so-called 'paper company' by the name Grandwell Holdings, which is also based in Mauritius, is a subsidiary of a South African company, New Reclamation Group. Grandwell runs Mbada Diamonds which is involved in diamond extraction in the Marange area in eastern Zimbabwe.

## The Minerals Security Framework and regional integration

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The development and implementation of the SADC minerals security framework is part of the process of policy harmonization within the overall process of strengthening regional integration in Africa. Strengthened regional integration enhances trade among countries and facilitates exchange of information relevant to trade and socio-economic development. As SADC makes progress towards a Customs Union through deepening integration beyond the free trade area launched in 2009, the minerals tracking and certification framework will indeed be a potent development strategy.

However, as most of the mineral output targeted for regulation within the proposed framework does not currently have a viable market within SADC, the framework needs to be expanded further. It has to be inter-linked and be in tandem with other regional and international initiatives. The destination countries for copper, cobalt, gold, tanzanite and coltan are unlikely, in the short term, to become localized simply because of regional integration. The markets for these commodities in SADC are not significant enough. Regional integration should prioritize the expansion of intra-regional trade and related beneficiation of mineral products that emanate from SADC. This could be done by:

- » Identifying the priority minerals to be traded within the region or beneficiated within;
- » Lowering the quota of priority minerals that can be exported unprocessed from each country in the region;
- » Raising the export duty on unprocessed mineral exports;
- » Creating incentives for investors to establish research and development (R&D) for the beneficiation of priority minerals within the region; and
- » Developing an mining industrialization strategy focused on further processing and use of minerals and mineral products (this would require a strong R&D strategy). China, which produces over 95 per cent of the world's supply of the rare, sought after minerals, dysprosium and terbium, essential in the manufacture of hybrid cars, cell phones, large wind turbines, missiles, and computer monitors used similar policies to cut the volume of their export in ore form from 65,000 tons in 2005 to about 35,000 tons by 2009 (Mehta, 2009).

The major threat to the effectiveness of the mineral tracking system would be the failure of member States to undertake the necessary legal and regulatory reforms to introduce 'extra-territoriality' in minerals trade and thus allow for a subregional body to monitor minerals trade. This is perhaps at the heart of the wider regional integration debate, and certainly affects the effectiveness of the tracking system. As argued elsewhere, the IA mechanism is at the core of the tracking process and requires unhindered function and thus deeper integration.

## 7. Conclusion and the way forward

Natural resources are an important source of State revenues. By monitoring production and documenting mineral exports, Governments are able to effectively collect revenue from the mining sector. A tracking and certification system can improve governance in the SADC mineral sector. In fact, other comparable jurisdictions such as the United States of America, in an effort to stem trade in illicit minerals, require companies to disclose what they are doing to ensure that their products do not contain 'conflict minerals'.<sup>67</sup> The Wall Street Reform and Consumer Protection Act<sup>68</sup> requires energy and mining firms registered with the US Securities and Exchange Commission to reveal their tax and revenue payments to foreign Governments. In order to ensure that SADC member States protect and conform to international mineral certification and securities standards, reference could be made to such legislation when adopting similar laws.

The implementation of the SADC Harmonization of Mining Policies, Standards, Legislation and Regulatory Framework in Southern Africa,<sup>69</sup> which seeks to align mining legislation in order to facilitate investment and ensure common standards in the region's mining sector, must incorporate the mineral tracking process as an integral part. This will strengthen integration and ensure that the benefits of mineral exploitation are captured in the formal national channels and ensure that the minerals sector contributes to sustainable socio-economic development.

Once the proposed framework has been adopted, SADC needs to nominate a Champion with a mandate to ensure implementation, especially the adaptation of national mechanisms and legal processes to accommodate the framework. The Champion of the initiative should work within an agreed time-frame and in a management framework that allows for periodic evaluation of progress. Furthermore, monitoring of international developments in minerals trade should also be part of the intelligence framework under the minerals tracking system. Amendments that need to be made to the Mining Protocol to accommodate the tracking system also need to be fast-tracked so as to simplify the monitoring process.

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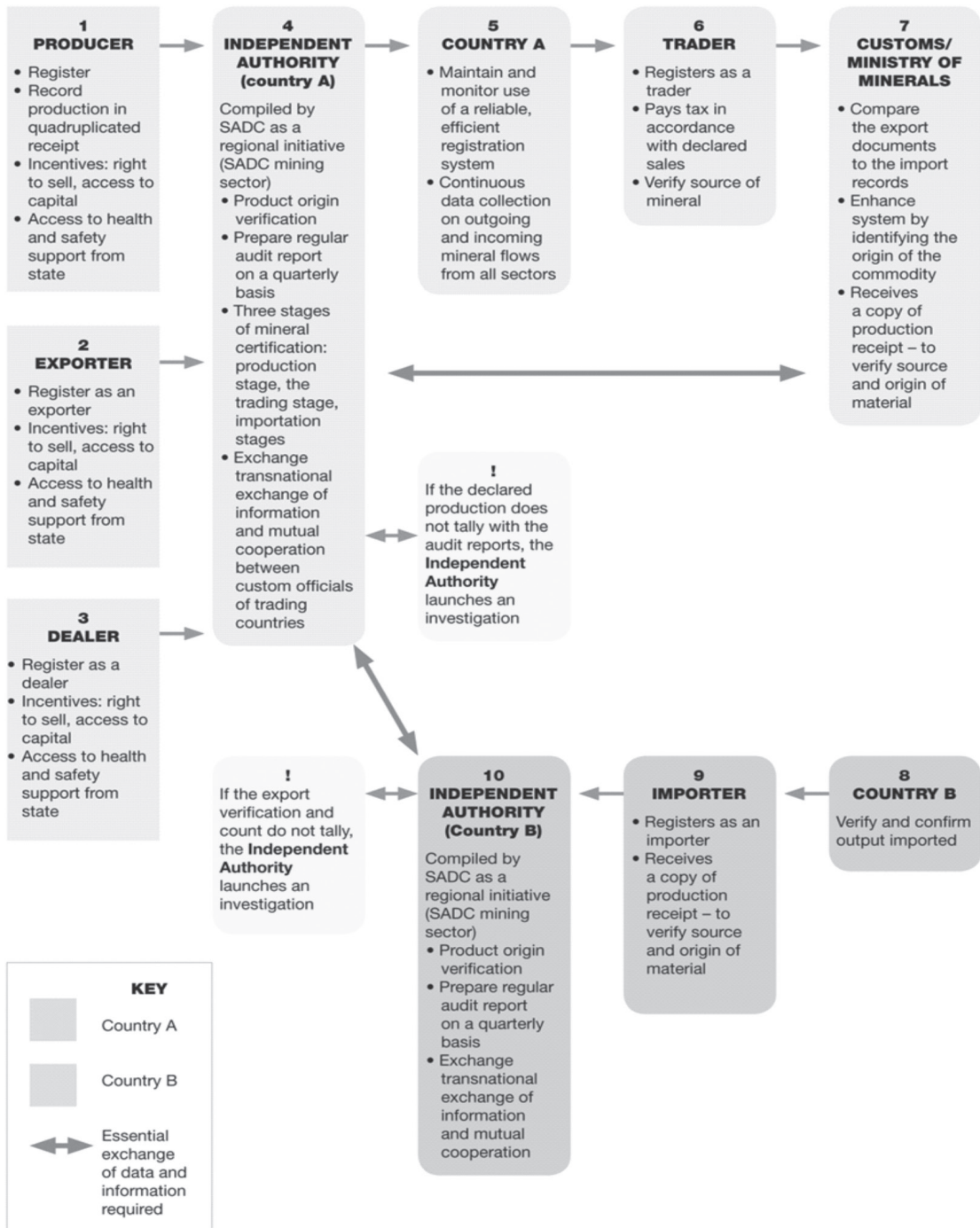
67 Mugabe, Makusha "Play Clean or We Don't Play" New US Minerals Law" [[http://changezimbabwe.com/index.php?option=com\\_content&task=view&id=3016&Itemid=2](http://changezimbabwe.com/index.php?option=com_content&task=view&id=3016&Itemid=2) >]. Sourced 26 July 2010. See also Reuters 'White House urges others to reveal mining payments' [<http://www.miningweekly.com/article/white-house-urges-others-to-reveal-mining-payments-2010-07-26> >] Sourced 26 July 2010.

68 Wall Street Reform and Consumer Protection Act of 2009.

69 UNECA-SADC Harmonisation of Mining Policies, Standards, Legislative and Regulatory Framework in Southern Africa, 2006.

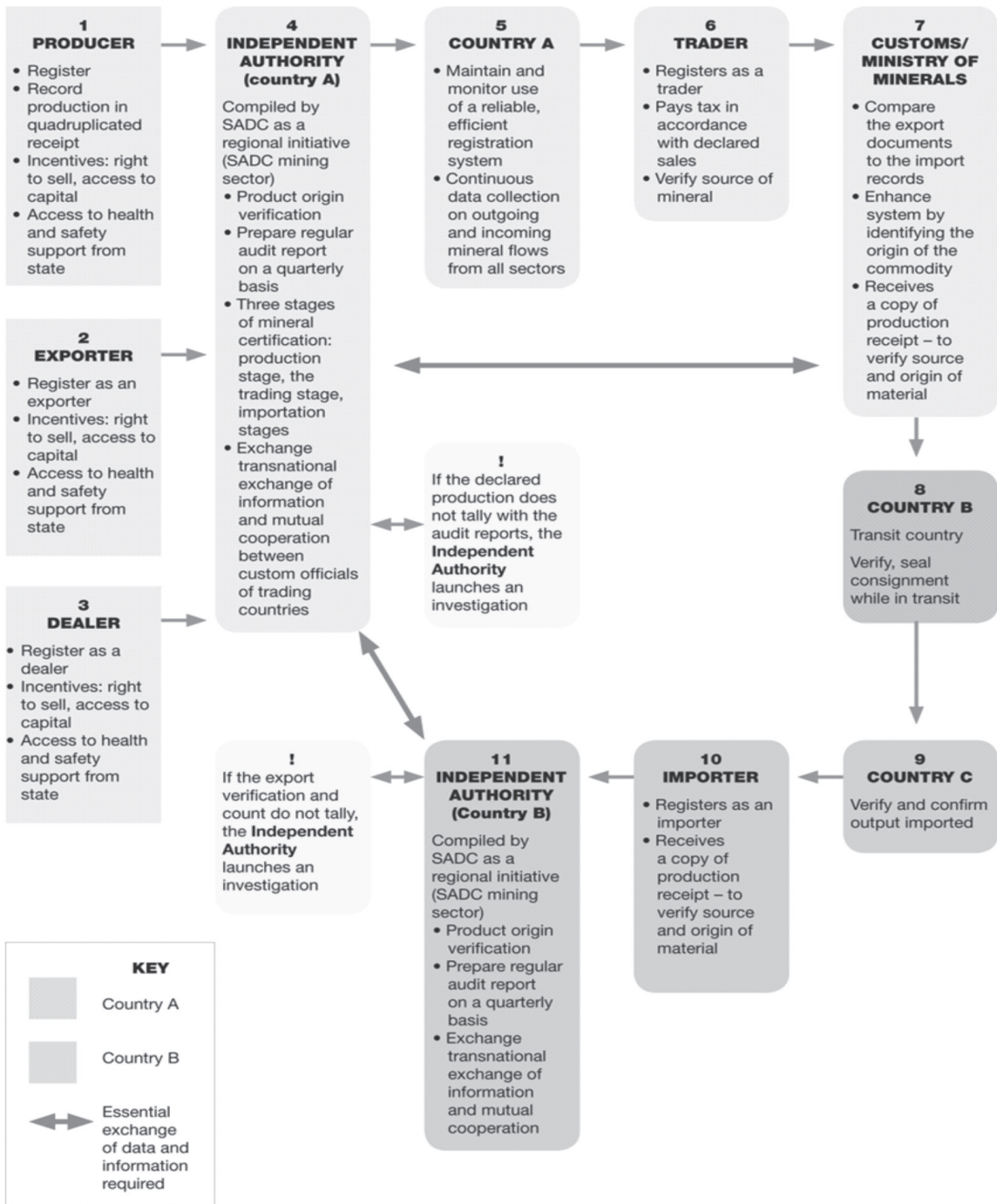
The tracking system increases revenues to the State and thus, directly helps to strengthen the role of the developmental State in socio-economic development. Larger revenue flows allows a Government to provide for its citizens, including the vulnerable.

**FIGURE 2a Proposed SADC mineral tracking and certification system**





**FIGURE 2b: Proposed SADC mineral tracking and certification system (transit country reflected)**



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## Annex A: Minerals and main export destinations of SADC minerals

Main Mineral Resources	Source of minerals SADC country	Form of transport	Main Export destinations
Coal	Botswana , South Africa, Zimbabwe, Swaziland	Railway , ship	Namibia, India
Copper	Botswana, Namibia, South Africa, Zambia	Road, ship	Canada, Switzerland, United Kingdom, Netherlands, China
Cobalt	Zambia, South Africa, Democratic Republic of the Congo (DRC)	Road, rail, ship	India, United States
Diamonds	Angola, Botswana, South Africa, Namibia, Zimbabwe, Lesotho	Road, Air	India, Israel, United States, Switzerland, Belgium, United Kingdom, United Arab Emirates
Emeralds	Zambia, Tanzania	Road, Air	
Tin	DRC		United States
Iron	Botswana, South Africa, Zimbabwe	Road, Ship	China
Magnesium	South Africa		
Gold	Botswana, Namibia, Mozambique, South Africa, Tanzania, Zambia, Zimbabwe	Road	India, Thailand, Malaysia, Japan, China, Canada, United States, United Kingdom, Turkey, Italy, Germany ,
Platinum	South Africa, Zimbabwe	Road, Ship	China, United States
Lead & Zinc	Zambia		
Uranium	Namibia, South Africa		India, China, Russia, United States, Iran
Silver	South Africa		
Tanzanite	Tanzania		South Africa, India

