



Communities and
Small-Scale Mining

Walikale

Nicholas Garrett
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Artisanal Cassiterite Mining and Trade in North Kivu
Implications for Poverty Reduction and Security





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Front cover photo: Artisanal cassiterite mining in Bisie, North Kivu/DRC © Nicholas Garrett

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List of Acronyms

AM	Artisanal Mining	IDP	Internally Displaced Person
ASM	Artisanal and Small-Scale Mining	LSM	Large-Scale Industrial Mining
BGR	German Federal Institute for Geo-Science and Natural Resources	MMSD	Mining, Minerals and Sustainable Development Project
CAMI	Cadastre Minier	MPA	Metal Processing Association
CASM	Communities and Small-Scale Mining Secretariat (World Bank)	MPC	Mining Processing Congo
CEEC	Centre d’Evaluation, d’Expertise et Certification des Substances Minérales Précieuses et Semi-Précieuses	NGO	Non-Governmental Organization
COMESA	Common Market for Eastern and Southern Africa	OCC	Office Congolais de Contrôle
COMIMPA	Coopérative Minière Mpama Bisiye	OFIDA	L’Office des Douanes et Accises
CSO	Civil Society Organization	PPA	Partnership Programme Agreement (e.g. between donor and company)
CTC	Certified Trading Chain	PPP	Purchasing Power Parity
DFID	UK Department for International Development	ROHS	Restrictions of Hazardous Substances Directive
DRC	Democratic Republic of the Congo	SAKIMA	Société Aurifère du Kivu et du Maniema
EITI	Extractive Industries Transparency Initiative	SAESSCAM	Service d’Assistance et d’Encadrement du Small-Scale Mining
FARDC	Forces Armées de la République Démocratique du Congo (Congolese National Army)	SOMINKI	Société Minière et Industrielle du Kivu
FDLR	Forces Démocratiques de Libération du Rwanda	SME	Small and Medium sized Enterprise
GECAMINES	Générale des Carrières et des Mines (Parastatal Company)	USAID	United States Agency for International Development
GMB	Bangandula Mining Group	WEEE	Waste Electrical and Electronics Directive
GMC	Global Mining Company	WWF	World Wildlife Fund
GPS	Global Positioning System		

Preface and Methodology

The Multi Donor's Communities and Small-Scale Mining Secretariat (CASM) has commissioned Nicholas Garrett to produce this comprehensive report on artisanal mining (AM) and trade of cassiterite in the Democratic Republic of the Congo's North Kivu province. Research for this report was conducted in North Kivu's principal cassiterite mine, Bisie , located in Walikale territory, which is under military control of the FARDC's non-integrated 85th Brigade. Additional research was conducted in North Kivu's trading capital, Goma, as well as in Lubumbashi and Kinshasa. For data gathering, a series of interviews were undertaken with artisanal miners and representatives of civil society, Congolese military, government agencies, as well as mining experts, mining companies and multilateral organizations. The majority of interviewees agreed to discuss the sector only under condition of anonymity, which has been respected throughout this report. Statistical data presented on the artisanal mining population in the Bisie mine is based on extrapolated data from a representative random sample of 50 interviewees. The accuracy of presented trade statistics from the Provincial Division of Mines cannot be guaranteed. Like many other state agencies that collect data on the trade in natural resources, the Provincial Division of Mines in Goma suffers from capacity problems, which translates into data weakness. This is the principal reason why trade data is predominantly used for illustrative purposes, and is supplemented with the author's calculations following interviews with a wide range of stakeholders. North Kivu's AM sector is very dynamic, with frequent reconfigurations of actors and power relations. It is therefore important to note that this report summarizes specific data gathered between April and July 2007 and November to December 2007. Where possible the political economy dynamics have been updated in April 2008.

¹ The mine is also known as Mpama/Bisiye. Compare N. Garrett (2007), *The EITI and Artisanal and Small-Scale Mining*, EITI

Synopsis

1. This report holistically observes and analyzes the structural issues, opportunities and challenges currently affecting the potential of artisanal cassiterite production and trade in North Kivu, to contribute to poverty reduction and security. In 2007 cassiterite traded through Goma had an estimated value of around US\$ 115 million on the world market. However, research inside the province's principal cassiterite mine, Bisie, which is under control of the FARDC's non-integrated 85th brigade, suggests that workers' incomes do not exceed US\$ 5 on a productive day and that communities around the mine subsist in absolute poverty. The author investigates this discrepancy, drawing on the following aspects of the province's artisanal mining sector, which are summarized in the next paragraphs.

- Legal Framework
- Governance
- Geography, Physical Access, Infrastructure and Transport
- Structure of Production
- Economics of Production
- Economics of Trade
- Payments to Authorities
- Demography and Poverty
- External Stakeholders and Development Assistance

² Please also refer to paragraph 30.

³ For a discussion of the term 'non-integrated', please refer to paragraph 100.

- 2. Legal Framework – A complex mix of martial, statutory and customary law rules North Kivu’s AM sector. Current provisions in the DRC’s statutory law (The Mining Code) render AM as practised in North Kivu an illegal activity . Illegality translates into liability issues arising for any institutional or private actor proactively working with AM. Illegality also marginalizes the sector and minimises its developmental potential, as it facilitates the involvement of predatory actors and makes the miners vulnerable to exploitation and human rights abuses. This exacerbates North Kivu’s fragile security situation, as the sector provides an easy source of revenue to the FARDC’s non-integrated 85th Brigade , which is currently not under the control of the ‘état-major’, as well as other armed groups. Creating a legal space for AM to operate in is the basis for the sector’s effective formalization, regulation and upgrading through investment, and therefore the basis for the sector to contribute to sector-specific and wider poverty reduction. A higher degree of formalization would provide an entry route for the multiple AM stakeholders to engage one another, which would have positive implications for sectoral reform initiatives. Planning reliability, as provided by applicable and adequate statutory law that provides security of tenure, is important to investment decisions. Investment into AM can aid the upgrading to small-and medium-scale mining and the adherence to statutory law. The Mining Code should be reformed, and once reformed it should be promulgated and enforced, to allow AM communities to join the formal economy, and benefit more from their activity. As part of the reform it should be researched, how customary forms of organization could be adopted into statutory law in order to facilitate the new Mining Code’s application and enforcement.

- 3. Governance – In the current sectoral governance system, non-state and state actors collude for profit to the detriment of both the AM communities and the central government. In its current form, the sectoral governance system does therefore not provide a suitable framework for the province’s AM sector to fulfil its poverty reducing potential. At the same time, informal and sometimes illegal practices, such as illegal taxation of the sector, remains ubiquitous. This provides operational and economic space for unsavoury elements, which has adverse consequences for the province’s security situation. The governance system thus requires reform. While the proliferation of stakeholders means that trust building - one of the central pillars of AM governance reform – is a challenge, it is essential to identify champions on the local, provincial, national and international level, with the aim of building ‘multi-stakeholder coalitions for change’. For a reform process to stand a chance of success, the state institutions’ capacities need to increase, so as to effectively regulate and provide assistance to AM. Civil society organisations require external assistance and more operational freedom to fulfil their monitoring role. The private sector has to accept its responsibility and support a governance reform process, which includes putting pressure on so-called ‘spoilers’ within in its own ranks, who have vested interests in the status quo and thus provide the industry with a bad reputation. With increasing foreign investment and increased pressure on tin end-users, particularly the international private sector should not only conduct proper due diligence, but actively encourage their business partners in the DRC to support governance reform.

- 4. Geography, Physical Access, Infrastructure and Transport – Cassiterite mines are scattered across the province, with the most productive mines located in Walikale territory. The infrastruc-

ture used for the cassiterite trade is in a dire state, which complicates access and transportation. A lack of reliable and affordable electricity is the other main infrastructure obstacle to higher AM productivity. Transport costs are further increased as a result of illegal taxes being charged on the main transport routes, which accrue to the FDLR-FOCA (Walikale), the FARDC's non-integrated 85th Brigade (Walikale) and General Nkunda's troops (Bunagana border crossing). Generally speaking, an extensive infrastructure development program is required, that has to be carefully sequenced with security sector reform in order not to involuntarily facilitate the illegal exploitation of natural resources by unsavoury elements.

- 5. Structure of Production – The production of cassiterite is structured to the detriment of the artisanal mineworkers. Contrary to common perceptions, individual earnings are low. Very basic production methods mean AM is labour-intensive, however, it is increasingly inefficient when mines mature, translating into a smaller return for higher effort. Improvement of infrastructure and the introduction of better equipment and training in basic mining engineering and planning would greatly improve mining productivity. The creation of alternative viable livelihood opportunities for mining families would build household resiliency and stimulate economic diversification and development. However, the attractiveness of alternative livelihoods will largely depend on whether AM continues to be perceived as the best income generating strategy locally and on the development of the security situation in the province. Sustainable domestic supply chains both for artisanal, small-scale and semi-industrial mining with a view to building formal secondary economies around artisanal mining zones could be another option, but largely depends on improvements in the province's security situation and basic infrastructure development.
- 6. Economics of Production – The general mining sector reform debate has moved on from previous patterns of illegal exploitation of minerals by armed groups towards emphasising the developmental potential of natural resource endowments. In North Kivu, circumstances reminiscent of previous rebellions within eastern Congo remain today, with the FARDC's non-integrated 85th Brigade, and other armed groups funding themselves through the sale and control of cassiterite and/or the taxation of the transport of cassiterite. In other words, the natural resource sector in North Kivu remains highly militarized, which jeopardises its developmental potential. To accelerate the sector's demilitarization, the DRC's security sector requires reform. Important aspects are to train the national army to police natural resources in outlying areas; to pay ordinary soldiers adequate wages; and to strengthen and apply accountability mechanism, which enable the civilian government to take action against commanders, who engage in corrupt and abusive activities. An influx of demobilized ex-combatants into North Kivu's cassiterite mines currently further exacerbates the volatile security situation in the sector. This phenomenon will have to be recognized in the design of future demobilization strategies. In terms of poverty reduction, it is essential to give voice to the artisanal miners (who are thus far not democratically represented), to break the patterns of barter economies and their adverse terms of trade around mines, and to establish more competitive local mineral markets for the miners, to allow them to properly benefit from their work.

- 7. Economics of Trade – North Kivu’s cassiterite trade is vibrant, and the trading chain is very well organized. Given the high cost of exporting, comprising both disproportionate export charges and bribes, comptoirs currently export around 43% (see Box 6) of cassiterite from North Kivu unrecorded. This happens primarily by under-declaring or wrongly declaring the shipments (either the amount or type of shipment can be falsely declared in order to ensure a profit is made). The Governor of North Kivu has introduced technical measures to curb smuggling, however they do not affect the under-declared or wrongly declared loads. It follows that if the costs of exports could be reduced, a significantly higher share of minerals could leave the province recorded, and taxed. North Kivu’s cassiterite trade is embedded in the global economy, with mostly Western middlemen financing the trade, and three Asian smelters taking delivery of the actual mineral, before it enters the world market. It is therefore important for the tin processing industry - including the electronics contract manufacturers, which use most of the cassiterite from North Kivu as tin solder in their products - to accept responsibility for their supply chains, and conduct proper due diligence when sourcing their mineral inputs. The tin processing industry could have a pivotal role in driving the sector’s reform process from abroad, by supporting the government in its reform attempts, whilst the comptoirs and junior mining companies in the province could have a pivotal role to play in driving the sector reform process domestically, particularly in light of increasing foreign investment into their operations, which is currently forthcoming.
- 8. Payments to Authorities – In the realms of payments, the single biggest obstacle to cassiterite production contributing more to the DR Congo’s GDP are the above average export taxations and other fees that the authorities continue to impose, despite clear evidence that they can neither enforce them, nor benefit from them; and which result in a prohibitive cost of regular business activity. The fees are a direct incentive for illegal or fraudulent exports. Payments could be simplified and the number of institutions involved in tax collection could be reduced, while the capacity and accountability of those that remain could be increased. In addition it will be imperative to generate the political support to push for transparent revenue flows in the AM sector. The EITI provides a suitable framework, however the viability of such a process will critically depend on the progress of the DRC’s general reform process, and it should be probably be piloted in another, more advanced country first.
- 9. Demography and Poverty – A large percentage of miners enter the artisanal cassiterite sector as it is perceived to be the best income generating activity locally. This notion is partly responsible for the dynamic migratory streams into mining areas, which are the root causes of a variety of localized social problems. Tackling the migratory streams, by raising awareness of the fact that artisanal mining under its current structure tends to often erode the miner’s assets instead of building them, would be an indirect intervention geared towards poverty reduction and security. Beyond these interventions, the sector requires urgent humanitarian and development assistance, as many artisanal mining communities in North Kivu subsist under appalling living conditions.

- 10. External Stakeholders and Development Assistance – A variety of initiatives have been undertaken to regularize the natural resource sector in the DRC, which have had varying degrees of success on cassiterite production and trade in North Kivu. These have included UN sanctions, international soft and hard law initiatives, as well as investment standards, but their overall effectiveness in actually changing the dynamics on the ground leaves room for improvement. On a positive note, there is currently a significant interest in the DRC’s minerals sector, even though ambitious research work that has been undertaken will not necessarily translate into the equivalent in donors’ financial commitments. The latter is of particular pertinence with respect to assistance geared towards the artisanal mining sector, as interviewees expressed doubts over the capacities of domestic partners and institutions to design and implement viable and affordable assistance programs . A particularly interesting idea in the context of North Kivu’s cassiterite trade is that of certified trading chains, based on regular independent audits of mining sites, which is championed by the German Federal Institute for Geosciences and Natural Resources (BGR) .

- 11. Conclusion and Recommendation – This report provides an overview of the political economy of and potential for poverty reduction and development through artisanal cassiterite production and trade in North Kivu. Buoyant cassiterite prices imply that the production and trade of the mineral generates significant revenues, but both the general population, as well as the artisanal mining communities do not benefit from the windfall. The continued involvement of armed groups, who often collude with petty officials in the local control of cassiterite deposits, such as the FARDC’s non-integrated 85th brigade in the Bisie mine, mean that the production and trade of the mineral continues to contribute to the insecurity in the province. A weak sectoral governance structure and the unavailability of markets, where the artisanal miners can get an adequate price for their produce and labour have the most adverse effect on the sector’s contribution to poverty reduction. Pages 66 to 74 present specific recommendations to the multiple stakeholders involved, to help reform the sector, for it to contribute to security and wider poverty reduction in the near future.

⁴ Various Interviews, Lubumbashi, November, 2007

⁵ Please compare Garrett, N. (2008), Certified Trading Chains and the EITI – Scope for Integration?, BGR and EITI, forthcoming.

Background and Context

- 12. The DRC is one of the richest countries of the world in natural mineral resources, with reserves in amethysts, bauxite, bismuth, cadmium, cassiterite (tin ore), coal, cobalt, columbite-tantalum (coltan), copper, diamonds, germanium, gold, iron ore, manganese, pyrochlore, silver, tourmaline, uranium, wolframite (tungsten), zinc as well as other minerals and precious stones. The true size of mineral reserves is largely unknown, due to a lack of modern geological surveying, but estimates suggest that the DRC possesses around one third of global cassiterite reserves .
- 13. Cassiterite was first discovered in the Kivus in 1910, and in the 1940s the DRC was the second largest global producer . Today cassiterite is only mined artisanally, in mines spread over the provinces of North Kivu, South Kivu, Maniema and northern Katanga. The dominance of artisanal mining (AM) here mirrors the general profile of mining in the DRC, where artisanal and small-scale mining (ASM) accounts for an estimated 80% to 100% of mineral production, depending on the mineral. Since ASM is almost exclusively informal, its contribution to formal economic accumulation is minimal. This is one factor, among many, that contributes to the DRC population's subsistence on an estimated GDP (PPP) of only US\$ 1,570 per month .
- 14. Large-scale industrial mining's (LSM) contribution to the DRC's GDP at an estimated 10% in 2006 was also low, compared with its buoyant contributions in the mid-seventies before the parastatal companies suffered from mismanagement. However, this is not only related to a production value reduction in large-scale mining, as a result of the decline of productivity of the parastatals. It is also due to a large tax collection gap. Revenues collected from LSM today are far lower than they should be, with the amounts of taxes actually received, differing significantly from the amounts that should have been received . The actual production value reduction is therefore less severe, but significant enough to have led to a transition from LSM to ASM over the past three decades.
- 15. North Kivu's cassiterite exploitation is a fitting example of LSM to ASM transition, as well as the tax gap. From 1976 to 1995 the partly state-owned company Société Minière du Kivu (SOMINKI) largely controlled mining activities in the Kivus, but a lack of investment, political interference, mismanagement and the economic crisis of 1980, coupled with a slump in global cassiterite prices, induced SOMINKI to close most of its industrial operations . At the same time, former President Mobutu Sese Seko was faced with general economic collapse and widespread social instability. His response was blunt: 'This is your home, so fend for yourselves', he advised the country's citizens in a famous speech. The legal framework for the mining sector adopted in 1982 , which allowed for minerals to be carried in public, provided the legal incentive that contributed further to the proliferation of informal AM throughout the country's mineral rich areas.

⁶ S. Cox (2006), *War, Murder, Rape... All for your Cellphone*, Alertnet

⁷ K. D'Souza (2007), *Artisanal Mining in the DRC*, CASM, p. 16

⁸ According to the International Monetary Fund this ranks the DRC 115th out of 179 countries. International Monetary Fund (2008), *World Economic Outlook Database*, April 2008

⁹ The World Bank (2007), *Growth with Governance*, The World Bank, p. 28

¹⁰ Sominki was never entirely state owned. The state had a 28% state share holding, and it was controlled by the Belgian companies that had originally formed it (see Salter, G. (2008), *The Impact of Mining in Kalima*, ISS)

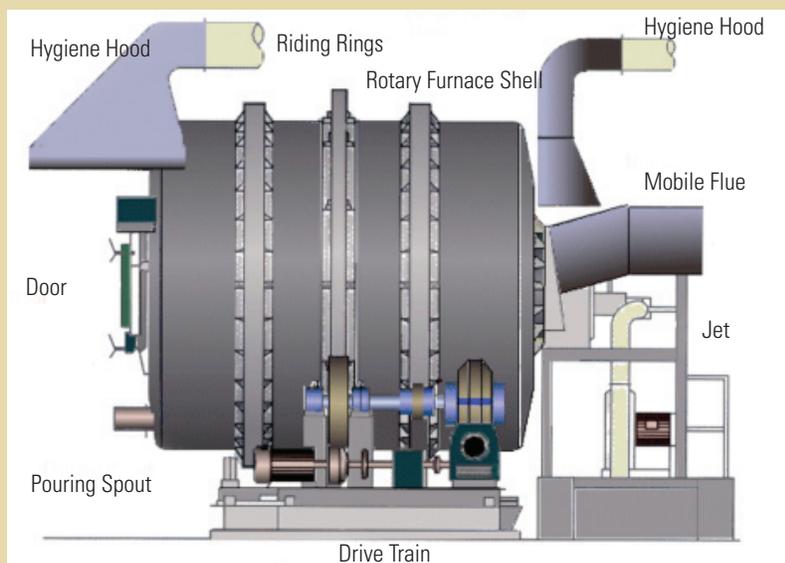
¹¹ Global Witness (2005), *Undermining Peace*, p. 15

¹² Edict-Law No. 82-039, November 5 1982

Box 1: What is cassiterite

Cassiterite (SnO_2) is the principal ore of tin, and forms the basis of one of the global commodity chains for electronic consumer goods. Cassiterite is translucent when pure, but brown or black when impurities are present. It is found either in primary or alluvial (placer) deposits. Primary deposits are formed by deep-seated geological processes, such as the intrusion of granite in which the cassiterite is embedded in hard rocks, such as pegmatite or quartz. Alluvial deposits are formed by the mechanical concentration of heavy cassiterite in riverbeds, in which the tin ore is contained in gravel and sand. Since cassiterite is resistant to weathering, it also often concentrates in alluvial deposits derived from cassiterite-bearing rocks. Tin is obtained by reducing the ore using bituminous coal in a reverberatory furnace .

Reverberatory Furnace



Tin is predominantly used as a coating metal and in solders, because it has a low melting point. It is also resistant to tarnishing in air at normal temperatures, and is resistant to corrosion and fatigue. As a result of the Waste Electrical and Electronic Equipment (WEEE) and the Restriction of Hazardous Substances (RoHS) directives, the European Union and also Japan strictly limit the amount of lead and other hazardous materials allowed within the circuitry of any electronic appliance sold, since July 1st 2006.

This has significantly increased the global demand for cassiterite, which is currently sold at record prices on the London Metal Exchange. At the time of research, tin fetched US\$ 13,900 per ton , as compared with US\$ 3,800 at the start of the new millennium. Export grade cassiterite from the DRC normally has a tin content of around 65%, which implies a world market price of around US\$ 9,035 per ton . Prices are known to fluctuate, but as a result of the high costs of doing business in the DRC, the Congolese cassiterite trade is critically dependent on high prices for its survival.

¹³ Picture Source: http://www.osha.gov/SLTC/etools/leadsmelter/popups/sideviewreverbfurnace_popup.html

¹⁴ The Price has since risen to over US\$ 18,000 per ton.

¹⁵ Various Interviews, Goma, April – July 2007

¹⁶ IRC (2008), Mortality in the Democratic Republic of the Congo, available at <http://www.theirc.org/special-report/congo-forgotten-crisis.html>.

¹⁷ Redmond (2001); Levin (2006)

¹⁸ E.g. UN Panel of Experts, 2002; Pole Institute, 2002; Alertnet, 2006; ...

¹⁹ The mandates of the Panel of Experts and the Group of Experts differ, with natural resources being a secondary issue for the Group of Experts, who are principally concerned with the arms embargo in DRC. Please refer to the section on *External Stakeholders and Development Assistance* for more information.

- 16. In 1995, what remained of SOMINKI was sold to the US company Cluff Mining and the Canadian Banro Corporation. The following year Banro bought Cluff Mining's shares and created the Congolese subsidiary Société Aurifère du Kivu et du Maniema (SAKIMA). In 1998, the president Laurent Kabila dissolved SAKIMA, but after several court battles it was agreed that SAKIMA's parent company Banro could keep the SAKIMA gold concessions, while the cassiterite concessions were transferred back to the state. SAKIMA was wound up in 2002 and today a number of companies vie for the former SAKIMA cassiterite concessions, backed up by foreign investors, some of whom have plans to mine industrially in the medium-term.

- 17. The ownership conflicts were accompanied by political turmoil, and the two successive wars (1996 -2003) that followed the Mobutu era rank among the world's deadliest, with up to 5.4 million deaths of conflict-related causes . The wars were fuelled by the sale of natural resources and particularly the easily exploitable AM sector moved into the international spotlight. In particular, coltan, ore of tantalum, which is an essential component in mobile phones, received negative publicity on a global scale, as its production and sale was linked to the financing of military activity and the calamitous decline of the eastern lowland gorilla in the Kahuzi-Biéga National Park . Numerous studies have since confirmed this interrelation of natural resource extraction and conflict in North Kivu .

- 18. In response to the war economy, the UN established the UN Panel of Experts on the Illegal Exploitation of Natural Resources and Other Forms of Wealth in the Democratic Republic of the Congo. The UN Panel of Experts' and subsequently the UN Group of Experts' work has been important in highlighting the cycle of conflict and resource exploitation in the DRC . The Group of Experts' reports have emphasised the pivotal role of foreign companies and their complicity in local armed conflict dynamics, for example by not conducting proper due diligence when purchasing or brokering minerals from the DRC and thereby providing armed groups with mineral marketing channels . The UN Group of Experts also has the mandate to recommend feasible and effective measures the Security Council might impose to prevent the illegal exploitation of natural resources financing armed groups with a specific view towards stopping the arms trade. While a number of people have been sanctioned and or 'named and shamed' in the UN Group of Experts' reports the success in implementing the UN Group of Experts' recommendations and their impact on the ground leave room for improvement . The Group of Experts' most important contribution is its research and recommendations for the establishment of a natural resource control system ('enhanced traceability' – as it was called initially) that seeks to regulate the control over natural resource exploitation and trade. The German government has now taken up this recommendation and envisages implementing certified trading chains in DRC starting in 2009 (see External Stakeholders and Development Assistance).

- 19. Despite the democratic elections of 2006 that saw Joseph Kabila become a democratically elected President, the peace process in North Kivu is incomplete. The fledgling democratic institutions and their newly elected representatives remain in a weak position vis-à-vis entrenched interest groups in modern and customary spheres. Significant parts of North Kivu's AM sector continue to be militarized, and sporadic fighting over deposits as well as human rights violations are a common phenomenon. The FARDC's (Forces Armées de la République Démocratique du Congo) non-integrated 85th brigade controls most of the cassiterite production in mineral rich Walikale territory, with northwards moving FDLR-FOCA units numbering 4,000 fighters increas-

¹⁰ Compare FinnWatch (2007) and Un Group of Experts (2008), S/2008/43, p. 24; also: www.ft.com/cms/s/105ba7f8-eb20-11dc-a5f4-0000779fd2ac.html

²¹ See sanctions list of November 1st 2005, for example

ing an already tense situation. In other words, in North Kivu, the link between natural resource exploitation and the financing of armed groups remains unbroken.

- 20. To date, the government has concluded a number of initiatives related to the mining sector, which are of relevance to the AM sector in North Kivu. In 2002 the government established the legal basis for the sector in the form of the Mining Code, written with the help of the World Bank. The Mining Regulations followed in 2003, and a Mining Plan in 2006. These initiatives underline the importance of the mining sector to the DRC's economy and development process, in which AM has a particularly important role, as a result of its employment-intensity.
- 21. It is difficult to accurately gauge the number of people working in the DRC's AM sector today, but of the 2 million estimated to be directly active in the DRC's AM sector, up to 200,000 are believed to mine artisanally in North Kivu (please also refer to demography and social background below). Allowing for five dependents per worker, this means up to 1 million people in North Kivu could be dependent on AM, for their livelihoods. This high number is a result of a variety of factors, such as those presented in the following non-exhaustive list:
 - AM is perceived as the best income generating opportunity locally
 - Rising global mineral demand and related higher mineral prices
 - A slowly progressing domestic economic recovery process, which entails limited income opportunities in the formal sector
 - Both domestic and external migration into a sector that provides an income opportunity of last resort
 - The end of the conflict in some areas, which has seen many marginal social groups, such as ex-combatants, war-related orphans and IDPs (Internally Displaced Persons) seek their luck in the mines;
 - The continued instability in other areas, which has led many to give up their traditional source of income, such as farming.
- 22. While secondary economies and supply chains in artisanal mining in the DRC remain underdeveloped in general, the numbers of people employed in AM increases exponentially when factoring in those involved in current supply, trade, control and policing. This makes AM the most significant sector of North Kivu's economy in terms of employment, but its economic importance and also its potential to contribute to wider poverty reduction is marred by tremendous challenges, which are briefly introduced in Box 2.
- 23. In light of these challenges, one might be tempted to describe the sector as "chaotic". In reality, however, AM is an economic sector that is often meticulously organized on the micro-level, governed by multiple rule systems transcending statutory and customary spheres. An analysis of the current structure has to see beyond the apparent chaos. Once the current structure of the sector is acknowledged and understood, opportunities for developmental engagement and reform of the sector will arise. It is the aim of this report to contribute to this process.

²² http://www.bloomberg.com/apps/news?pid=20601116&sid=a5_fHt_MHXNY&refer=africa

²³ Interview with UN representative, 1/4/2008 and 13/4/2008

²⁴ K. De Souza (2007), *Artisanal Mining in the DRC*, CASM, p. 13

Box 2: Key Features of ASM in North Kivu

1. Diversity – ASM in the DRC differs considerably by mineral and province in terms of how the sector is governed, how the economy and society are structured, and the form of the mining communities.

2. Dynamism – The sector is dynamic in its proliferation, with new ASM sites springing up regularly. It is also dynamic with respect to frequent power shifts and mineral-specific reconfigurations of actors and local informal governance regimes.

In spite of its diversity and dynamism, the sector shares a number of common attributes:

3. Employment – ASM is the option of last resort or preferred choice for the educated and unskilled, as well as marginal social groups, in an otherwise adverse economic environment.

4. Economic Informality – The ASM sector is largely informal and, while significant revenues pass through the sector, they often bypass the state's fiscal apparatus. The sector's contribution to formal GDP is negligible.

5. Inefficiency – Mineral recovery in ASM is comparatively small, but effective enough to deplete good deposits through high grading. This is partly due to a lack of knowledge, no access to finance and inappropriate mining technology.

6. Exploitation/Corruption – The sector sustains a corrupt system, transcending modern and customary structures. The miners are subject to illegal taxation, theft and other forms of rent-seeking by both traditional and military authorities.

7. Lack of Awareness, Application and Enforcement of Statutory Law – While the sector is meticulously organized on the micro level, its governance is informal- often based on customary rules. There is a lack of awareness and enforcement of statutory law. Provisions made for the sector in the DRC Mining Code, elaborated below, are unrealistic and a hindrance to developmental engagement.

8. Poverty – The majority of miners subsist on US\$ 1-5 per day, and are often locked in debt to local traders and strongmen. Some mines operate on a barter economy, which makes it risky or impossible for miners to save and invest. Nevertheless, in many parts of the DRC, ASM remains the sole income opportunity.

9. Limited Institutional Capacity – The Congolese institutions involved in the governance of the ASM sector are caught in a cycle of decline. They are under-resourced and salaries are often not paid or severely delayed. Their limited institutional capacity compromises their organizational efficiency and leaves them vulnerable to corruption, thus keeping institutional capacity weak.

10. No Accountable Representation – There is currently no accountable representative body that truly advocates and furthers the rights of miners at the local level. Existing bodies, such as cooperatives, are often part of exploitative structures and are generally not credible partners for developmental engagement.

11. Child Labour – Children are often employed in artisanal mines owing to the economic desperation of their families and their ability to navigate narrow tunnels, and cheaper operating costs for the bosses (e.g. lower food consumption than adults). Many arrive in the mines as orphans (often HIV/Aids or war-related), or as former child soldiers and/or owing to a lack of other opportunities. Their lack of a formal education means many will find alternative future income opportunities outside of the ASM sector hard to come by.

12. Social Problems - ASM is associated with a multitude of social problems, many rooted in the migratory characteristics of ASM populations in the DRC. They include conflicts with local populations, localized inflation, increased demand on infrastructure and public services (if these exist), and the prices and availability of food. Others include gender discrimination and violence.

13. Safety Hazards – The working conditions in most mines are often in breach of commonly acceptable labour standards. Injuries and accidents, sometimes fatal, are regular occurrences.

14. Health Hazards – Health hazards result from occupational hazards, poor sanitation and a lack of access to measures for protection and treatment. Examples are a high HIV/Aids prevalence, TB, malaria, cholera, verminosis, dysentery, diarrhoea et cetera.

15. Environmental degradation – For the ASM sector, subsistence takes precedence over environmental protection. Environmental degradation includes pollution, erosion, deforestation, poaching et cetera.

Legal Framework

- 24. The DRC's Mining Code, adopted in July 2002 and its accompanying Mining Regulations, including the Code de Conduite de l'Exploitant Artisanal adopted in 2003, provide today's domestic statutory legal basis for both AM and LSM. Written with the help of the World Bank by the then DRC Ministry of Mines and Hydrocarbons, the Mining Code aims to ensure the development of the DRC's mineral resources largely through the private sector, by providing a stable investment climate, including security of title and certainty of process.



- 25. Dating back to the Land Act of 1973 and under today's statutory law, soil and subsoil in the DRC – and therefore any mineralization – is property of the state. This is contrasted by customary law, which grants first right of occupation and includes user rights for customary chiefs. These conflicting definitions of rights to mineralization are the most pertinent and conflictual subject area in the DRC's mineral sector today, which is made more politically complicated by being, in many respects, a reflection of the deep-rooted and historical dichotomy in Congolese society between a centralized Kinshasa-based national identity and a provincial one claiming local and often community and customary-based rights and ownerships . This dichotomy manifests itself in open conflicts between LSM and AM operators across the country, for example, but to a lesser degree in North Kivu, principally because there has not been substantial LSM activity on the ground. However, with increasing investment this will become an ever more pertinent and pressing issue, and the following paragraphs look at the root causes of the problem.
- 26. The Mining Code provides a liberal legal basis of industry standard for a concessions system that predominantly seeks to provide a level playing field for industrial mining. The role of the state in the Mining Code is thereby reduced to the promotion and regulation of private mineral exploitation. In simple terms, a concession is granted on the basis of an application that tests eligibility, financial capacities and concepts. The concession system thus advantages investors with significant monetary resources over small- and medium-sized operators. A currently absent parallel claims system could provide a vigorous market place in mineral rights that would be characterized by low barriers to entry, and serve as a direct access to the formal economy for domestic mining companies.
- 27. Under a claims system, a claim would be attributed to the one who first lays claim to a mineral bearing area in case it is unoccupied, with no eligibility check on financial and institutional capacity. This would directly empower artisanal mining communities. However, if artisanal miners discover a gold vein in the forest today, for example, they are currently unable to claim it and to capitalize on their claim. This closes a direct route to economic formalization and inhibits the economic development of the country, because, in combination with comparatively little investment into AM, the absence of a claims system also impedes the upgrading of artisanal mining activities to small-scale and medium-scale mining, as a result of the concession system's bias towards existing capital endowment . This inability to claim undermines security of tenure and hence is the reason why industrial mining companies are known to use artisanal miners as "free geologists", registering newly discovered mineralization by artisanal mining communities as mining concessions, which subsequently often leads to conflicts over the mineralized areas . In reality, both a concession and a claims system should be in place; as for known mineralization, it is clear that the state wants to tender it. In its current format the DRC's Mining Code therefore impedes a macro-economically more balanced and productive continuum of mining activities from artisanal to industrial mining. As conveyed below, where the Mining Code does make provisions for AM, they do not signify an intentional departure from previous Congolese legislation, which largely ignored artisanal mining, and they are ignorant of today's realities of the AM sector .

²⁶ H. Sunman and N. Bates (2007), *Trading for Peace*, DFID, p. 41

²⁷ Interview, Markus Wagner, BGR, 20/9/2007

²⁸ MMSD, *Report of the Workshop on Artisanal and Small-Scale Mining*, MMSD, 2002

- 28. The Mining Code distinguishes between artisanal mining and small-scale mining, which are also subject to separate fiscal regimes (see Payments section). However these definitions are not sufficiently clear to allow for a practicable distinction between artisanal and small-scale mining and subsequent separate developmental engagement:

Small-scale Mining is defined as: “Any activity by means of which a person carries out permanent small-scale exploitation, requiring a minimum amount of fixed installations, by using semi-industrial or industrial processes, after a deposit has been found.”

Artisanal Mining is defined as: “Any activity by means of which a person of Congolese nationality carries out extraction and concentration of mineral substances using artisanal tools, methods and processes, within an artisanal exploitation area limited in terms of surface area and depth up to a maximum of thirty meters.”

- 29. The Mining Code makes provisions for artisanal mining zones in which artisanal mining is permitted, and in which industrial or semi-industrial mining is not feasible. Artisanal miners have the right to exploit these specially designated areas on a renewable one-year basis, if they are listed in their Artisanal Exploitation Card (see below). The creation, authorization and closure of artisanal mining zones are subject to an order from the Ministry of Mines, based on the recommendation of the Directorate of Mines and the Governor of the province. Upon the creation of an artisanal mining zone, no commercial mining title can be issued legally over the enclosure. If recommended by the Direction de Géologie, artisanal exploitation zones can be closed, so long as the factors upon which their creation was originally based have ceased to exist. The artisanal miners are then obliged to vacate the zone within sixty days of notification. In case artisanal miners intend to upgrade to small-scale mining, priority in title allocation is granted to resident mining communities. They are given a thirty-day period to apply for a title after the closure of the artisanal mining zone.

- 30. In North Kivu cassiterite is only artisanally mined, but designated artisanal mining zones do not exist, which means artisanal mining is an illegal activity. This criminalises the sector and puts the artisanal miners at a distinct disadvantage in their dealings with authorities. It also makes them vulnerable to extortion and human rights abuses. Even if artisanal mining zones existed, the simple mechanism to close the zones illustrated above, and the license duration restriction to one year means legal basis for security of tenure is inadequate, which undermines investment into AM. Importantly, the Mining Code further confounds the empowerment of mining communities by erecting insurmountable barriers to entry into the formal economy. Expecting an artisanal mining community to apply for a mining title within 30 days of closure of an artisanal mining zone, for example, is nonsensical bearing in mind that applications would need to include, amongst other things, proof of financial capacities, a feasibility study and an environmental impact assessment. The logistics of actually getting to the relevant government office is a further challenge.

²⁹ M. Eklund (2007), *The impact of the Mining Code on artisanal mining in the DRC*, INICA, p. 34

³⁰ Artisanal mining areas within the mining concession of the Bisie mine have been negotiated with the traditional authorities, however, this does not apply to the rest of the province and is an inefficient model, when compared with a change in legislation or the establishment of separate legislation for AM.

- 31. The Mining Code has not been promulgated sufficiently, therefore many AM communities and operators have no conception of the Mining Code as statutory law, and it is rarely enforced. An example is the mandatory Carte d'exploitant artisanal. In the Bisie mine, four of fifty interviewed creuseurs had a card, valid for their mining area. The cards are issued for an annual fee (see Payments) by the provincial Division of Mines, which undermines their proliferation, as the costs are perceived as high. The widespread adoption of the card is further impeded by the remoteness of many mining areas, and the requirements for compliance with health and safety regulations and environmental provisions, which are hugely unrealistic under the prevalent conditions in the sector. Only Congolese nationals of age may obtain artisanal miners' cards, which renders illegal the significant immigrant and youth populations active in artisanal mining. In other words many provisions made in the Mining Code are also direct barriers to its promulgation and enforcement.

- 32. The Mining Code has provided stability where statutory law is enforced, which affects predominantly the comptoirs, who straddle the formal economy and statutory law on the one side, and the informal AM production and customary law on the other. Some of these operators comply with the majority of requirements of the Mining Code and have recently acquired concessions with the help of foreign investors. The Mining Code, however, predominantly creates obligations for the weakest component in the trading chain, which is the artisanal miners, instead of imposing the heavier burden of compliance upon the most powerful components in the trading chain, which are, in the case of North Kivu's cassiterite production :
 - The international tin-processing industry
 - The international tin purchasers
 - The middlemen that supply the international tin purchasers
 - The processors of the ore
 - The middlemen that supply the processors
 - The transport companies
 - The comptoirs
 - The négociants
 - The petit négociants

- 33. In summary, the Mining Code is not conducive to the realities of the artisanal mining sector. Instead it is a parallel rule system, largely ignored by the majority of the AM sector, and used by the more powerful to exploit artisanal miners through manipulation, harassment and extortion. The 'legal basis' for most artisanal mining communities and operators in North Kivu remains

³¹ Numerous Interviews, Bisie Mine, June 2007.

³² Eklund, M. (2007), *The Impact of the Mining Code on Artisanal Mining in the DRC*, INICA, p. 36

customary law, of which Western experts do not yet have sufficient knowledge and/or understanding. This has generated the notion of a 'chaotic' sector; a label, which unhelpfully promotes disregard for the customary organizational and institutional structures that govern the sector in many parts of the DRC, and in particular in the Kivus. It also confounds a deeper understanding of how customary entities interact with elements of modern organizational and institutional structures of the formal economy. Importantly this interaction may hold the key to a better understanding of - and therefore more constructive engagement with - the sector.

34. Some people argue that artisanal mining should be stopped completely, rather than legalised and regulated, because of the unacceptably bad labour conditions and high level of human rights abuses. In the face of the proliferation of the activity and the centrality to the livelihood of millions of people in the DRC, this is currently not a realistic option. In order to make AM work for development, there are thus two legal tasks the government has to tackle. Firstly, artisanal mining has to be made lawful when carried out on government land, within the boundaries set forth by the Ministry of Mines. For this to happen, the process of establishing artisanal mining zones has to commence, with adequately mineralized and otherwise suitable land (access, availability of water et cetera) made available to artisanal mining communities. This implies that the government will either have to draw on early geological prospecting data undertaken by the former parastatal companies, declare current artisanal mines as artisanal mining zones, and/or allocate concessions that industrial operators regard as unsuitable for industrial mining, following their own geological work. The latter could potentially be done with a view to mining companies taking on some role in the preparation of the artisanal mining zone, in return for a share of the initial production. Secondly, artisanal mining has to be formalized, which means regulation of the activity. This is the difficult part, which will largely depend on a reform of SAESSCAM (see Box 3) and an increase in the capacities of civil society and the Congolese institutions to contribute to regulatory reform and oversight. This will require significant financial commitment and technical assistance from multilateral organizations and donor countries (see External Stakeholders and Development Assistance).

Box 3: SAESSCAM

SAESSCAM (Service d'assistance et d'encadrement du small-scale mining) is the Congolese state's technical service to assist the AM sector, which also serves as an extension service provider to the sector. As SAESSCAM is the only state service provider supposed to operate in artisanal mines, it could become an important partnering institution for local AM reform programs. However, the GoDRC still has to prove its willingness to improve the service's capacity, and to increase its accountability and transparency. Currently there is a clear conflict of interest in SAESSCAM's mandate between AM tax collection and service provision, and it is not clear whether SAESSCAM always operates in the best interests of the miners. With the help of the NGO PACT, SAESSCAM has developed an ambitious strategy for AM regulation, strengthening and transition. However with its current capacity constraints and chronic under-funding, it remains to be evaluated whether this program stands any chance to succeed. According to SAESSCAM's Pierre Umbe, the service presently has a budget of US\$ 100,000 per year, a number clearly not sufficient to achieve countrywide operational efficiency. The institution is overwhelmed by the sheer magnitude of its elaborate mandate. SAESSCAM therefore requires expert support and managerial training to sensitize its staff to the realities, constraints and challenges of AM. Capacity building and payment of its staff may also have a positive effect on the widespread accusations of corruption, levelled against the institution by artisanal mining communities.

Governance

- 35. It is widely recognized globally that poor governance at the national, provincial and local levels is a major factor in the dysfunction of government political systems and those that govern trade and economic activity . In recent years and in particular during the two recent civil wars, the 'resource curse' hypothesis has almost automatically become synonymous with the country's natural resource sector. The links between natural resource exploitation and corruption, extortion, plundering and looting, criminal cartels, racketeering, insecurity, violence, and human rights abuses were too visible to go unnoticed. Importantly, in North Kivu's cassiterite economy these links continue today, albeit not as overtly as during the recent wars.
- 36. During the second Congo war, foreign armies and private actors operated exploitative systems of natural resource exploitation and trafficking in the DRC, often with the help of the private sector. The prominent role of the country's neighbours in these operations on the ground resulted in many Western experts settling under the theory that the DRC's 'neighbours' are stealing its resources. This over-simplified theory disregards the fact that Western and Eastern companies were, and continue today to be, purchasing and/or brokering artisanally-produced minerals directly from the DRC and/or from its neighbouring countries without conducting proper due diligence in the process. The cassiterite trading chain will be discussed in detail under the Economics of Trade section; however it is important to note that in short-term contract sales and in mineral trading chains more generally, production is largely sustained by finance being passed down the trading chain first, with minerals being passed up the trading chain in return. This highlights the important role the private sector fulfils in the financing of who is in control of natural resource production on the ground.
- 37. The progress the central government has made to date in its sporadic attempts to reform the AM sector is slowed by significant technical, financial, social, structural and policy-based challenges. This not only illustrates that AM reform and formalization is a difficult task, but also that the government's capacities are over-stretched given the many other issues it has to deal with, such as humanitarian crises, military integration and continued fighting, as well as issues related to the LSM sector.

³³ Eklund, M. (2007), *The impact of the Mining Code on artisanal mining in the DRC*, INICA, p. 40

³⁴ Ibid.

³⁵ H. Sunman and N. Bates (2007), *Trading for Peace*, DFID, p. 40

- 38. The current institutional infrastructure responsible for the governance of the AM sector comprises of a number of agencies and departments, such as those introduced below:
- The Ministry of Mines (Ministère des Mines) is the principal central government institution. Minister of Mines, Martin Kabwelulu LABILO and Vice-Minister of Mines, Victor Kasongo SHOMARY currently head it. On the provincial level the Ministry of Mines is represented by the Directorate of Mines (Division de Mines), which works in cooperation with the Geology Directorate.
 - The Mining Cadastre (Cadastre Minier / CAMI) provides administrative and technical support to the mining sector. It deals with matters such as the record of prospecting certificates, miners' rights, and concession requests.
 - The CEEC (Centre d'Évaluation, d'Expertise et de Certification) operates as an autonomous body in charge of implementing the Kimberley Process. It therefore principally evaluates and appraises precious/semi-precious minerals prior to export; however it also records information on other minerals, such as cassiterite in North Kivu.
 - The OCC (Office Congolais de Contrôle) controls the quality and quantity of products imported to and exported from the DRC.
- 39. As shown in the example of the Bisie mine below, the capacities of these state institutions to fulfil their tasks of assisting, monitoring and regulating the natural resource sector remain low. This results in erratic reform attempts that open up avenues for entrenched interests and elites, such as mining companies, politicians, or military personnel to hijack the processes for personal advantage. It is not uncommon for these individuals and/or organizations to deliberately spread misinformation, double-cross, or co-opt the authorities with the aim of attaining a profitable position during and after the formalization process. It is evident that institutional capacities will have to be increased on all levels for North Kivu's cassiterite production and trade to contribute to security and poverty reduction.
- 40. In North Kivu SAESSCAM is a key driving force behind the ongoing formalization attempt of mining activities in the Bisie mine, which entails coordination between SAESSCAM, the Ministry of Mines, companies and AM communities. This is a positive trend that demands international recognition, and it shows that the government can act when incentivized. However, there are significant drawbacks to the formalization attempt in its current guise, which are explored in the following paragraphs.

³⁶ Various Interviews, Goma, Bisie, Walikale, April to July 2007

³⁷ See <http://www.kivuresources.com/c/structure.asp>

³⁸ The document is not publicly available.

³⁹ The statutes are in the possession of the author.

⁴⁰ Moke Mabisi and Ramazani Kokoli are mentioned as shareholders in the statutes, however they do not appear to have signed the statutes.

⁴¹ The contract is in the possession of the author.

⁴² Interview with Alexis Makabuza Rusenga, Goma, 21/4/2007.

⁴³ Interview with Brian Christophers, Goma, 10/5/2007

⁴⁴ The police report is in the possession of the author.

41. The Bisie mine has been artisanally exploited since 2002, and since 2006 has been a terrain contested by the Goma based *comptoir* Mining and Processing Congo (M.P.C) and rival company Bangandula Mining Group (G.M.B.) . M.P.C is a wholly owned subsidiary of Kivu Resources based in Mauritius. Kivu Resources in turn counts Jonah Capital (35%), Coronation Capital (28%), as well as JSE listed Metmar Limited (7%) amongst its shareholders . The statutes of G.M.B show that it was formed as a joint venture by 16 shareholders with a total starting capital of US\$ 30,000 . Alexis Makabuza Rusenga owns 50% of G.M.B's shares through his company Saphir Society. The founders of the company Bangandula Company SPRL, Ramazani Kokoli, Moke Mabisi, Fikiri Mayani, Nuhombo Shemihiyo and Ntabo Taberi Sheka own 20% of G.M.B's share, with the rest divided between nine individual investors.
42. In October 2005, G.M.B. signed a *contrat d'amodiation* over seven cassiterite concessions (PE 55, 58, 59, 60, 62, 64 and 65) with SAKIMA, the successor of the former parastatal company SOMINKI . At the time of signing the contract, G.M.B was under the impression that Bisie formed part of SAKIMA's Biruwe concession, to which it holds exploration rights . In another contract with SAKIMA, Kivu Resources, through its wholly owned subsidiary Central African Resources, negotiated a Partnership and Management Agreement, including an option to purchase an 80% equity interest in SAKIMA . Both G.M.B.'s and Central African Resources' contracts have been placed in 'category C: to be revoked' as a result of the mining contract review process.
43. After signing the agreement with SAKIMA, G.M.B. took charge of the Bisie mine, collaborating with the FARDC's non-integrated 85th brigade stationed in Walikale territory in charging the population and the miners in and around Bisie illegal taxes that, according to a police intelligence report, amounted to US\$ 315,000 per month (see also Physical Access, Geography and Transport) . In a letter to President Kabila, Kidege Ramazani, customary chief of the Bisie mine, complains about G.M.B's activities, albeit without results . In a contract that was signed on 28 August 2006, Dieudonne Tshishiku MUTOKA, Administrator of the Walikale territory, commits to supporting and ensuring the security of G.M.B. in the Bisie mine . In exchange for the security services provided by the Administrator, the company guaranteed Mr. Mutoka 10 per cent of the weekly production of the Bisie mine, US\$ 0.05 per kilogram of all cassiterite extracted by the company in the mine, and 50% of the receipts generated at the intermediary cassiterite selling stations in the territory. The UN Group of Experts concludes that the only possible provider of security in the area allied with the Administrator is the FARDC's non-integrated 85th Brigade .
44. In spring 2006 G.M.B's rival company M.P.C. used G.P.S. data to establish that the Bisie mine is in fact situated outside of G.M.B's Biruwe concession. With this knowledge M.P.C registered the Bisie mine as a separate concession with CAMI, and on September 29th 2006 *Permis de Recherche* PRS5266, signed by the Minister of Mines, was awarded to M.P.C. The UN recog-

⁴⁵ The letter is in the possession of the author.

⁴⁶ The contract is in the possession of the author.

⁴⁷ Compare also Group of Experts Report, S/2007/40, 31/1/2007

⁴⁸ Compare also Group of Experts, S/2007/40, 31/1/2007, p. 7

⁴⁹ Interview with Brian Christophers, MPC, Goma, 10/5/2007

⁵⁰ Interview with Brian Christophers, MPC, Goma, 10/5/2007

⁵¹ Interview with Brian Christophers, MPC, Goma, 10/5/2007 – Photo evidence is in possession of the author.

⁵² Ibid. also cross-checked in various interviews in Goma in April 2007.

⁵³ The statutes are in the possession of the author.

nizes M.P.C. as Bisie's legitimate concessionaire . In an interview M.P.C. vowed to industrialize parts of Bisie, pending satisfactory results of a geological survey, a stabilized political situation, and a reliable electricity source in the mine and territory . M.P.C. has since made an approach to SAESSCAM to fund a social investment plan through SAESSCAM for the resident artisanal mining population . However, the latter has yet to materialize on the ground, and the fact that the Bisie mine was officially awarded to M.P.C. did not end the struggle over the mine. To the contrary, M.P.C. subsequently found itself embroiled in conflict with G.M.B over the concession, culminating in an assassination attempt on M.P.C staff on their first visit to the Bisie mine on October 29th 2006. One employee was wounded . Two members of the FARDC's non-integrated 85th brigade were arrested for carrying out the attack .

- 45. With no resort to statutory legal means to win the Bisie concession, G.M.B proceeded with the establishment of the cooperative COMIMPA in the mine, which is supposed to represent the resident artisanal miners. The COMIMPA statutes show that of the 22 names listed as founders of COMIMPA, 11 are also shareholders of G.M.B . Importantly, Alexis Makabuza Rusenga, Director of G.M.B. has signed the statutes as a founding member. G.M.B.'s dominance extends further as 10 G.M.B shareholders signed the statutes of COMIMPA compared to only 5 non-shareholders . The latter implies that COMIMPA is in effect G.M.B. The resident artisanal mining community was vigorously opposed to COMIMPA, as it was aware of the fact that COMIMPA in effect represented G.M.B, and that G.M.B. was cooperating with the FARDC's non-integrated 85th brigade . M.P.C. took advantage of the situation and encouraged the miners to found a rival cooperative, COCABI (Coopérative des Creuseurs Artisans de Bisie) . This development shows that the miners were manipulated to support either of the two companies' political ends.
- 46. Under pressure from the Ministry of Mines and the Provincial Division of Mines to progress with the formalities to obtain an exploitation permit, M.P.C subsequently gave in to a compromise that allowed for the establishment of COMIMPA in Bisie, for the duration of M.P.C.'s Permis de Recherche . The author witnessed the installation ceremony that took place under supervision of the Territorial Administrator in June 2007. SAESSCAM was part of the negotiations, as well as the installation ceremony. The mine is also in breach of the Mining Regulations' safety provisions, with open pits up to 15 meters deep and tunnels stretching up to a maximum length of 150 meters . Furthermore, in February 2007 Walikale Territorial Administrator, Mr. Tshishiku, and the Director of North Kivu's Division of Mines, Mr. Ndimubaze, had declared 10 tunnels in the mine unsuitable for AM . The Bisie mine is not an artisanal mining zone, which means AM in Bisie is illegal. This in turn brings into question SAESSCAM's involvement in the installation process of the cooperative.
- 47. Immediately after the ceremony COMIMPA began trying to enlist the resident artisanal miners, who had loudly voiced their discontent with COMIMPA at the installation ceremony. COMIMPA also started talks with COCABI to seek an agreement between the two cooperatives, as it now had a license to operate in Bisie, while COCABI did not. The result of the installation process is that the legitimate concessionaire has been undermined, while the owners and financial backers of COMIMPA, who had exploited the miners of Bisie for months in the run-up to COMIMPA's official installation, have attained a legal revenue stream.

⁵⁴ Compare also Group of Experts Report, S/2007/423, 18/7/2007, p. 19

⁵⁵ Various interviews, Bisie, 15/6/2007

⁵⁶ Various interviews, Bisie, 15/6/2007

⁵⁷ The author is in possession of the official letter from the Provincial Division of Mines.

- 48. M.P.C agreed to COMIMPA's installation on the mine, because COMIMPA in turn agreed to a purchasing agreement with M.P.C. Under the agreement, COMIMPA has committed to selling at least 50% of their production to M.P.C., with the option to sell 100% of their production to M.P.C. In addition, COMIMPA has stated that it has ceased business relations with Alexis Makabuza Rusenga; something which was initially suggested by Mr. Makabuza Rusenga in an earlier interview on 12/5/2007 . However, an invoice dated 27/09/2007 suggests that Mr. Makabuza Rusenga and COMIMPA remain in business together. In the invoice, Mr. Makabuza Rusenga, now trading under the company name Global Mining Company (G.M.C.) requests COMIMPA to come good on the agreed delivery of 10 tons of cassiterite, or to pay US\$ 43,640 in compensation .
- 49. Follow-up research in December 2007 has uncovered that the FARDC's non-integrated 85th brigade has retaken physical control of the mine, with COMIMPA at least temporarily retreating, and M.P.C continuing to battle for its ownership rights. This is also the reason for COMIMPA's problems in meeting the aforementioned agreement with Mr. Makabuza Rusenga's new company G.M.C. Questioned on the subject by the author, in December 2007, the DRC's Vice-Minister of Mines, Viktor Kasongo, stated that the 85th brigade "is currently not under the control of the 'état-major', which implies that the 85th brigade is in fact an independent armed group . The previous paragraphs confirm the notion that those with power hold on to their control of economic activity; those who want power, fight to gain control . In essence therefore, irrespective of the manoeuvres by companies and cooperatives vying to control the mine, cassiterite exploitation in Bisie remains under the de facto control of the armed group, thus providing a direct revenue stream to them.
- 50. The customary realm is a further complicating factor in the reform of the mining activities in Bisie. Four families - Bangandula, Bassa, Bakwame and Bayangane - claim a stake. Of the four families, the Bangandula family, represented by its head Babuni Mtokotoko, and the Bassa family, represented by its head Kidege Ramazani, are dominant . The Bangandulas were the first to occupy Bisie and therefore hold the 'right of first occupation'. Today their head, Babuni Mtokotoko is the Chef de Colline of Bisie. Since Bisie is situated within the larger territory governed by the Bassa family, within the Groupement Wassa the two families have struck an arrangement to peacefully coexist, after two difficult years of open hostilities, when they vied for control over the customary rights to the mine, whilst M.P.C. and G.M.B. competed for the statutory rights to the mine. The majority of the Bassa family was thereby aligned with M.P.C. and the majority of the Bangandula family with G.M.B. . The Bangandula family and the Bassa family reside in the village of Logu, 82km northwest of Walikale town, on the Walikale-Kisangani road.
- 51. The Mining Code stipulates that underground mineral deposits are the property of the state, which works to the detriment of the Chef de Colline, as the mere occupation of the Bisie mine therefore does not entitle him to the mine's mineral riches. Nevertheless, the Chef de Colline is able to claim rents owing to his status, while his immediate responsibilities do not seem to reach beyond conflict mediation within the local community. M.P.C has included the customary authorities in their proposed production agreement under which the Chef de Colline will receive 2% of gross revenue, which is for the family in its role as an authority . This agreement has been signed by the Chef de Colline .

⁵⁸ The Mining Regulations allow for a tunnel length of 30 metres.

⁵⁹ www.radiokapi.net/article.php?id=6840

⁶⁰ Interview with Pasteur Raymond, COMIMPA, Goma, 20/6/2007

⁶¹ Interview with Pasteur Raymond, COMIMPA, Bisie, 19/6/2007 and Interview with Alexis Makabuza, Goma, 12/5/2007

- 52. The example of the Bisie mine illustrates that a complicating factor to AM formalization is that mining sites can be governed by complex authority structures, combining statutory and customary spheres. It is by no means always clear which representative bodies are relevant and legitimate, while the lack of a democratic body representing the artisanal workers prevents a crucial participatory element in the formalization process. The result is a proliferation of actors in political, legal, security and administrative realms claiming legitimacy to a stake in the overall governance structure, which is often directly linked to a share in the cassiterite trade. Importantly, alliances and power relationships are frequently shifting, and these realities evolve quite independently of formal legality and at least partly outside the horizon of possible action by the Kinshasa administration. All players in the modern realm are recognized in one way or another by the government, or at least by members of the government, but whether they will ultimately be able to coexist on the ground remains to be seen .
- 53. These paragraphs show that without detailed knowledge of the local dynamics, formalization attempts can easily do more harm than good. In the Bisie case, the authorities in North Kivu are adopting the rhetoric of the international community, but positive results on the ground will be difficult to achieve. Most of the different actors or groups are deeply suspicious of each other, which renders trust building - a pivotal task for successful reform - a particularly challenging assignment. A shortage of expertise among the government institutions and a lack of resources, both human and financial, as well as a lack of knowledge of the local micro-dynamics, both in the mines and the provincial capital, Goma, further exacerbates the problem.
- 54. The situation is further complicated by the ongoing conflict in the province and the militarization of the province's AM sector. Other mines are under control of either the FARDC, different rebel groups (e.g. FDLR in Walikale and in the Kahuzi-Biéga National Park in neighbouring South Kivu province), or marauding ex-combatants, which means that security sector reform is still the number one issue that needs to be addressed for any AM reform to stand a chance of success. The Ministry of Mines officially stopped all ore exports from Walikale territory in February 2008 for safety reasons . However, follow-up research has confirmed that this has merely led to a temporary redirection of cassiterite shipments via South Kivu, with the mining in Bisie and other mines in Walikale still ongoing. Normal operations have since resumed, with the suspension lifted.

⁶² The invoice is the possession of the author.

⁶³ Interview, 15/12/2007

⁶⁴ H. Sunman and N. Bates, *Trading for Peace*, DFID, p. 11

⁶⁵ Various Interviews, Bisie, June 2007

⁶⁶ Various Interviews, Bisie, June 2007

- 55. The DRC's provinces differ by quality of governance, structure of their AM sectors and institutional capacities. Many of the issues introduced above merely apply to North Kivu, or occur in a less severe format in other provinces. Independent research exclusively focused on the nature and quality of local governance of AM would improve understanding and open up opportunities for better organized local reform attempts. Results of these studies would be particularly pertinent in light of proposed decentralization. The DRC's new constitution stipulates a federal structure, as opposed to the prior system of centralised government. Since the democratic elections in 2006, democratically elected provincial parliaments have elected provincial Governors. However, the provincial level institutions generally face worse capacity constraints than the central government's institutions whilst facing increasing responsibilities, particularly with respect to the mining sector, as decentralisation moves forward. If decentralization is not accompanied by significant institutional capacity building on the provincial level, it may open up further opportunities for profiteering as were introduced in the example of the Bisie mine.
- 56. The frequently shifting alliances on the ground highlight the need for accurate information for those working towards AM reform, a task only national civil society can credibly undertake. Presently, however, there is not a lack of interest, but a lack of knowledge, freedom, capacity and information for civil society to participate meaningfully in natural resource governance. Organisations based in Goma, like the Pole Institute and CREDDHO, have done very good work, but there are also reports of CSOs that have themselves become vehicles to further personal interests. It is therefore important to support, but also scrutinize this very active third sector, which could be well positioned to contribute even more meaningfully to the governance of the mining sector, than it already does (see also External Stakeholders and Development Assistance).

⁶⁷ Interview, Brian Christophers, MPC, Goma, 03/06/2007

⁶⁸ The author is in possession of the agreement.

⁶⁹ Compare also A. Tegera and D. Johnson, *Digging Deeper*, Pole Institute, p. 38

⁷⁰ <http://www.mineweb.com/mineweb/view/mineweb/en/page504?oid=48038&sn=Detail>

Geography, Physical Access, Infrastructure and Transport

- 57. Cassiterite deposits are widely distributed across the DRC's eastern provinces, particularly in North and South Kivu, as well as Maniema and northern Katanga. The DRC's most abundant cassiterite deposits are located in Walikale territory in the westernmost part of North Kivu, near Kasese and Kalima in Maniema, and near Kamituga in South Kivu. Physical access to cassiterite mining areas is very difficult, as a result of both a volatile security situation in and around many mines, as well as limited road access to most mining locations.



- 58. Cassiterite mines can be found across North Kivu. The company G.M.B. currently holds seven ex-SAKIMA cassiterite concessions, which are situated at Biruwe, Kabmgula-Utu, Utu-kumba, Busangi, Obaye Sue Imgisi, Kalolenge, Kyassa and Bimakwa . A recent Pole Institute report has identified further mines at Matamba, Idambo, Ibondo, Bukombe, Terrain de Mines Bakondjo, Loba, Lisusu, Bolindo and Lichacha, which lie near the border between North and South Kivu and near the border of the Kahuzi-Biéga National Park .

- 59. The cassiterite deposits in Walikale, North Kivu, contribute an estimated 70% of cassiterite exported through Goma, the DRC's principal cassiterite export hub . The DRC's principal cassiterite mine, Bisie, is situated around 90km northwest of the town of Walikale in the groupement Wassa in Walikale territory. The coordinates of the mine are: E027°40'00" and E27°50'00", S01°10'05" and S01°00'00". Bisie is not part of a former SAKIMA cassiterite concession; in fact, the distance between Bisie and the nearest SAKIMA concession, Biruwe, is 10.7km at the closest distance (see illustration at the end of this section) . Artisanal cassiterite mining in Bisie commenced in 2002, and today artisanal prospecting for gold and diamonds takes place near, but not inside the mine.

- 60. Bisie comprises four mining sites, which are locally known as 'Chantier 5', 'Chantier 15', 'Gécamines' and 'Restaurant'. The mining sites are situated 5, 15, 35 and 45 minutes from Bisie's principal support village Manoiré. While the names 'Chantier 5' and 'Chantier 15' refer to the distance in minutes' walk to Manoiré, 'Gécamines' and 'Restaurant' refer to the productivity of the mining sites. 'Gécamines' is a reference to the parastatal company Générale des Carrières et des Mines, a former power-house of the Zairian economy in Katanga province and it is the largest and most productive mining site in Bisie.

- 61. Cassiterite is traded on the 'Gécamines' mining site, in Manoiré and in the mine's other support village, Marojé. Given that there is no road access, porters, varying in age between 12 and 55 years, use 50 - 100 litre plastic flour bags to each transport 50 kilograms of cassiterite from Manoiré to the village of Ndjingala. The 45 km long trail that connects Manoiré and Ndjingala is the sole access to the mine, and takes around 16 hours to navigate, depending on the weather conditions . The terrain is difficult, and temperatures can rise to 40°C with humidity in excess of 95%; torrential rainfall is common, causing deep mud and flooding, but only 20% of the porters have Wellington boots appropriate for the conditions, with some undertaking their work barefoot.

⁷¹ Interview with Alexis Makabuza Rusenga, Goma, 25/4/2007

⁷² A. Tergera and D. Johnson (2007), *Rules for Sale*, Pole Institute, p. 54

⁷³ N. Garrett (2007), *The EITI and Artisanal and Small-Scale Mining*, EITI, p. 24

- 62. For transport, porters make rudimentary backpacks from sticks, which they use to stabilize the cassiterite filled bags on their backs. Those porters who do not have self-made backpacks use cloth as a sling for the cassiterite bags, supported on their backs and held in place by a rope around their foreheads. To reduce chafing, the porters use disused flip-flops as a buffer between the cloth and their foreheads. This practice underlines the centrality of human muscle power to transport in North Kivu's cassiterite production.

- 63. Bisie's concessionaire, the mining company M.P.C. intends to stop the porters in favour of transportation of cassiterite by helicopter to the Kilambo airstrip (see footnote 76 for an update), once it gains control over the mine at the expense of the FARDC's non-integrated 85th brigade . M.P.C. believes the porters' task is in breach of commonly accepted labour standards, and asserts that transport by helicopter is more productive and cost efficient . As an alternative income opportunity, M.P.C. intends to provide the porters with employment on the mining sites . At the time of research, the porters and the community in Ndjingala seemed discontent with this proposal. The porters feared they would not all find alternative employment, and some indicated their reluctance to work the tunnels . In addition, the community in Ndjingala was opposed to the plan, as they would be cut off from the cassiterite economy, since the helicopter would bypass their village. As alternatives, they suggested the amount carried per person be reduced, and to provide the porters with adequate backpacks and Wellington boots. Another alternative is to provide transport animals, such as donkeys or buffalos, though these would be vulnerable to disease in the tropical climate.

- 64. The FARDC's non-integrated 85th brigade's control of the Bisie mine affects access to the mine. There are checkpoints at the entrance and the exit of the trail connecting the villages of Ndjingala and Manoiré, respectively. There are two more checkpoints, one between the mining sites and the village of Manoiré and one between the mining sites and the village of Marojé. Territorial police, the ANR, the FARDC's non-integrated 85th brigade, as well as representatives of traditional authorities and the Department of Health man the checkpoints. At the time of research, fixed taxes were levied on goods brought in and out of the mine, as well as a per person tax. The amounts quoted at the barriers at the time of research were between 2,000 CFR (about US\$ 4) and 10% of minerals carried by the porters directly accruing to the authorities present at the barriers (see Economics of Production). The collection of illegal taxes at roadblocks and barriers is a ubiquitous phenomenon in North Kivu - and indeed in eastern DRC - and it transcends the realms of the mineral economy. In fact, as highlighted further below, illegal tax collection is one of the main sources of revenue for the different armed groups and FARDC brigades.

- 65. Cassiterite from Bisie is traded in Ndjingala and Mubi, two villages located 42km and 31km northwest of the town of Walikale on the Walikale - Kisangani road. A 300 meters long, curved part of the Kisangani-Walikale road in the village of Kilambo, 22km north of the town of Walikale, serves as an airstrip, from which 80% of the mineral is flown to Goma . A further 15% of production is reported to leave for Goma by truck on the Goma-Walikale road and another 5%

⁷⁴ Mining and Processing Congo, GPS data

⁷⁵ Various Interviews, Bisie, 19/6/2007

⁷⁶ Interview with Brian Christophers, MPC, Goma 17/5/2007

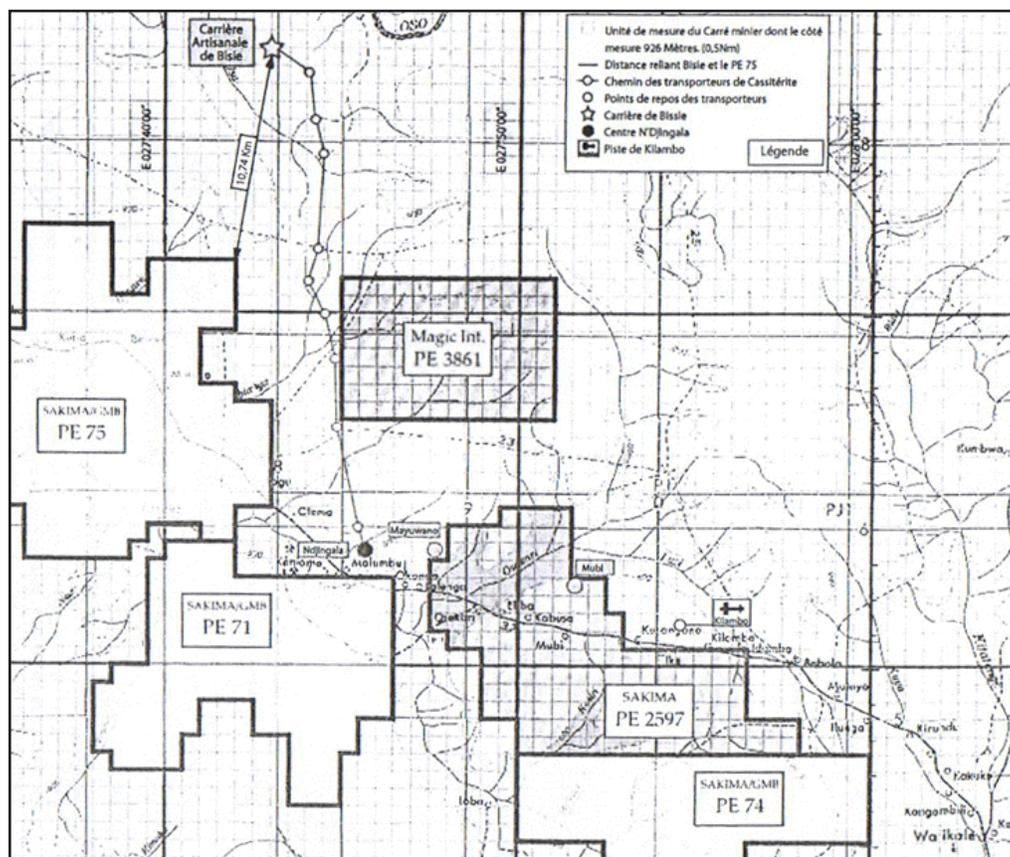
⁷⁷ Ibid.

⁷⁸ Ibid.

⁷⁹ Various Interviews, Ndjingala, 10/6/2007

is transported to Kisangani on the Walikale – Kisangani road . In Ndjingala négociants store a proportion of the minerals, the remainder is transported to Mubi with small trucks, where further négociants store the rest of the minerals. As soon as a critical mass of two tons is reached, the cassiterite leaves Ndjingala and/or Mubi in small trucks for Kilambo. The landing strip at Kilambo breaches international aviation safety regulations, as it runs through a populated area and has not even rudimentary facilities one would expect of an airport, except for perfect tarmac, but both transport and passenger aviation companies departing from Goma, including the NGO carrier Air Serv, use the landing strip. The Kilambo landing strip is a prime example for the reluctance of those who profit from the cassiterite trade to reinvest even the most insignificant share into infrastructure that would bring greater benefits to the local economy, e.g. through facilitating local trade of agricultural products.

Map 1: The area of Walikale and the Bisie mine:



Source: *Mining and Processing Congo*

⁸⁰ Following a ban on flights from Walikale in March 2008 (see below), the Bisie mine's production was temporarily flown out from the 'Amisi' airstrip, 80 kilometres west of Walikale in Maniema province. Normal transport via Kilambo has since resumed.

⁸¹ Various Interviews, Kilambo, 10/6/2007

⁸² Various Interviews, Goma and Kilambo, 10/6/2007

⁸³ Various Interviews, Kilambo, 22/4/2007

66. In Kilambo the minerals are loaded onto six Let-410 transport planes, which transport on average two tons of cassiterite each to Goma, plus a maximum of three passengers. Charges from Walikale are US\$ 0.3 per kg of Cassiterite and between US\$ 50 and US\$ 100 for passengers, the latter depending on skin colour and socio-political status. Soldiers and state officials tend to demand to be transported for free. In other words, the aviation companies can earn US\$ 600 to US\$ 840 per flight. The six planes do on average 4 rotations per day, with a 35 minutes flying time per leg. A fall in air cargo prices, in combination with high fuel prices and a number of accidents, has reduced the number of competing airlines to two. At the time of research, only Safe Air and Doreen Airlines flew cassiterite on the Kilambo – Goma route that is commonly known as the Walikale Express. Follow-up research undertaken in December 2007 suggests that the company Goma Express has chartered a plane from Doreen Airlines and is once again doing the run to Walikale. The wreckage of one of its previous planes can still be found next to the Kilambo airstrip. To offset per-flight costs, the transport planes normally haul between one and two tons of cargo, ranging from food supply to motorcycles to Walikale when departing from Goma. Take-off coordination is thereby facilitated with satellite phones, or mobile phones, if there is coverage. Following that the majority of cassiterite is transported by plane, and the number of landing strips is very limited, it should be relatively easy to control the trade; however, as will be introduced further below, this is not the case.
67. Land access to Walikale is difficult. The Bukavu – Walikale road from South Kivu is passable by vehicle only to the village of Hombo, from where it reportedly takes three days to walk to Walikale. These reports are conflicting though, as other sources speak of minerals having been transported on the route to Bukavu in March 2008. The Kisangani – Walikale road is in good condition, except for a 30km stretch at the halfway mark. The Mubi – Walikale part of the Kisangani – Walikale road that includes the Kilambo airstrip was recently reconstructed, and is in perfect condition. Up to 20% of cassiterite production leaves Walikale for Goma and Kisangani by mini-truck on the Goma – Walikale - Kisangani road, which the German NGO Deutsche Welthungerhilfe is currently reconstructing between Goma and Walikale. Depending on the vehicle, the current reported journey time varies between 6 and 48 hours. The reconstruction of the road opens up an important trade corridor, but since it runs through FDLR held territory, as well as territory controlled by troops loyal to General Laurent Nkunda, it is particularly prone to insecurity. The FARDC, the FDLR and troops loyal to General Nkunda man barriers along the road, where fluctuating “taxes” are being charged for safe passage. At the time of research there was a barrier manned by the FARDC at Mushake, just before the town of Sake, where US\$ 25 is charged per truck. This barrier seems to in April 2008 be controlled by General Nkunda’s men. There were further FARDC barriers in Kashubere and Mubi, while the FDLR operated a barrier at Nyabyondo. However, the barriers can be dismantled just as easily as they can be erected, which means their locations frequently change. Likewise the amount of taxes is far from fixed, and can normally be informally negotiated.
68. The volatile security situation along the road prohibits the full realization of its developmental potential. Security improvement along the road would help to increase the productivity of the cassiterite trade, as load-bearing lorries could be employed to transport much larger quantities

⁶⁴ Various Interviews, Walikale, 15/5/2007

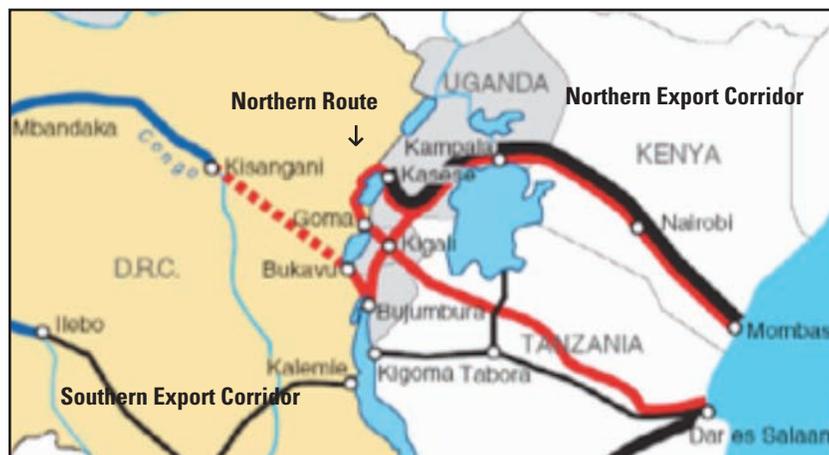
⁶⁵ Interview with three UN representatives, 21/3/2008; 22/3/2008; 26/3/2008

⁶⁶ Interview with two UN representatives, 10/4/2008; 15/4/2008

⁶⁷ Interview, MONUC – Representative, 20/4/2007

of the mineral to Goma. Instead, transport synergies are presently limited, given that planes undertake the majority of the transport. Their high cost makes them more suited to elite usage, or transport of goods for elite usage. This increase in costs also limits the potential for passing down to the miners a greater portion of the cassiterite trade value.

- 69. Goma is North Kivu's cassiterite trading centre, where comptoirs buy cassiterite arriving from North Kivu, Maniema, South Kivu and northern Katanga. At Goma airport the cassiterite is offloaded and transported by small trucks to the different comptoirs for processing. Upon processing, the mineral is placed in bags and/or drums. As explained further below, exports via Uganda are sometimes undertaken in drums, which take up to 900 kilograms, while exports via Rwanda are mainly undertaken in bags, which take up to 100 kilograms. The latter are repacked into drums in Rwanda, which creates opportunities for fraudulent practices (see Economics of Trade). Once the comptoirs obtain a critical mass of between 20 and 25 tons, the material is exported in containers to Mombasa. The principal trucking company doing the Goma – Mombasa run is TMK, which has substantial logistical capacity. The trucking companies charge between US\$ 180 and US\$ 220 per ton of cassiterite for the run to Mombasa, depending on the comptoir. Excepting Sodexmines, who sell directly on the London Metal Exchange (see Box 7), the comptoirs officially export the mineral with the help of foreign middlemen in Belgium, Hong Kong, Malaysia, Rwanda, South Africa and the UK (see Economics of Trade).
- 70. Cassiterite shipments from Goma use the so-called Northern Export Corridor via Mombasa/Kenya, which has a functioning transport infrastructure. The Northern Export Corridor can in turn be subdivided into the Northern Route via Uganda, and the Southern Route via Rwanda. Official transports mainly use the Northern Route through Uganda, via the Bunagana or Ishasa border crossings. This reduces border crossings to two, which limits administrative hassle, but fluctuating taxes have to be paid to the armed groups along the Goma – Bunagana/Ishasa road, depending on who is in charge. The Bunagana border crossing is controlled by General Nkunda's troops and informal taxes levied at the border help to support his cause financially.



Map Source: INICA

⁸⁸ Interview with El-Ali Bassem, Sodexmines, Goma, 20/4/2007

⁸⁹ Ibid.

⁹⁰ Ibid.

⁹¹ Interview, Division de Mines, Goma, 02/05/2007

- 71. Only a minority of official exports use the Southern Route, via the Goma – Gisenyi border crossing, or the Kibumba border crossing, from where the trucks proceed to Kigali and further on through Uganda to Mombasa. Trucks using the Southern Route must stop at MAGERWA (Rwandan warehouse) in Kigali, where they are inspected and pay transit taxes as well as parking fees . The Northern Export Corridor utilizes East African Community (EAC) infrastructure; however, the DRC has not harmonized its road safety rules with EAC regulations for international road transport, which apply to the Northern Export Corridor. Weight per axle, a norm first applied in Kenya and extended to Uganda and Tanzania, is limited to 7 tons, thus reducing road deterioration. Containers must comply with this limitation, and inspections are frequent at weighting stations along the way . In the DRC there is no such regulation, and transporters often load trucks beyond capacity, to maximize earnings.
- 72. From Mombasa the minerals are shipped to the large Asian smelter companies, from where, after further processing and smelting, the cassiterite enters the world market as tin (see Economics of Trade section). North Kivu’s cassiterite industry can therefore be firmly placed in the context of a globalized economy.

⁹² Various Interviews, Goma, April – July 2007

⁹³ Interview with UN representative, 27/4/2008

⁹⁴ Pourtier, R. (2004), *The Mining Economy in the Kivu and its Regional Implications*, INICA, p. 22

⁹⁵ Pourtier, R. (2004), *The Mining Economy in the Kivu and its Regional Implications*, INICA, p. 24

⁹⁶ Pourtier, R. (2004), *The Mining Economy in the Kivu and its Regional Implications*, INICA, p. 14

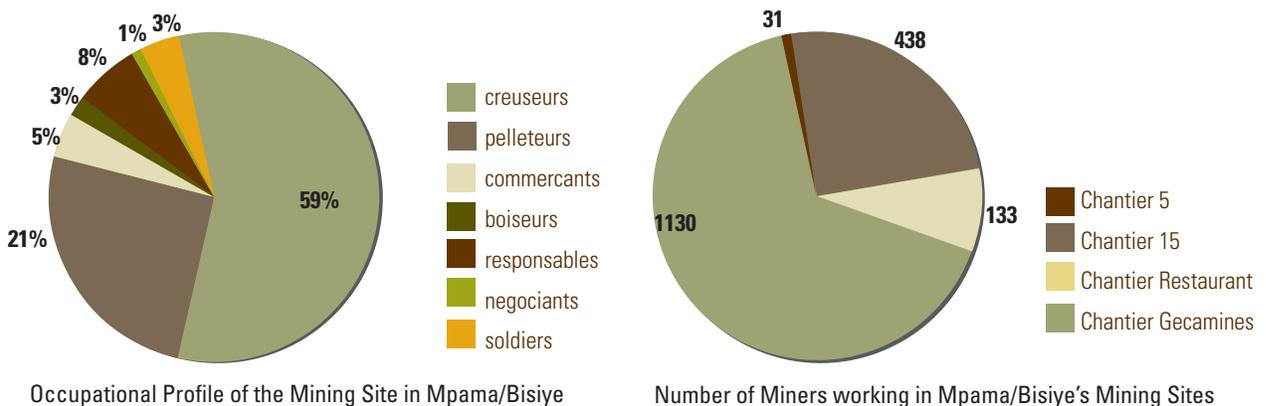
Structure of Production

73. The structure of production can differ by mining site. The section provides an overview of the actors in production, the process of production, and the tools used for production. Before production can start, prospecting is undertaken. Hunters, farmers, or former employees of industrial cassiterite mining companies, such as SOMINKI in the case of the Kivus, often take this first step in artisanal cassiterite production. In Bisie the initial surface deposit was so rich that, when a hunter discovered the mining site in 2002, a rush-mining situation occurred, where people flocked to the site to literally pick cassiterite up off the ground. This is, however, not the standard scenario. More generally speaking, it takes some expertise and experience to choose a site. If initial test digs are promising, the digger-pro prospector puts together a team of around ten persons and seeks permission to prospect from the landowner and the 'local chief', who has customary rights to the land. Prospecting can then commence in a defined perimeter, in exchange for an agreed share .

74. Bisie is a highly productive and organized mine, with a complex occupational profile:

- Creuseurs are miners
- Responsables are representatives of the owners of the tunnels, pits, etc. overseeing the mining
- Pelleteurs clear the mining sites of rocks, soil and other overburden, depending on the mining method
- Petits négociants trade the mineral at the Gécamines mining site, and in the village of Manoiré. They also organize transport to the village of Ndjingala.
- Boiseurs construct the woodwork supports in the tunnels.
- Commerçants sell anything from food to torches

75. In figures, the occupational profile of the Bisie mine at the time of research was as follows:



■ 76. The mining is subdivided into alluvial, open pit and hard rock mining in 167 different pits, tunnels and alluvial sites. Alluvial and open pit mining is undertaken on the surface; hard-rock mining is undertaken underground. The number of mining sites is roughly equally divided between the three mining methods; however, hard-rock mining accounts for the large majority of production volume, with a crosschecked estimate of 75%, suggesting a far higher yield in the tunnels. This extra productivity is an incentive for the tunnel owners to drive the tunnels ever further into the mountain; some up to 150 meters deep, which is far beyond the 30 meters stipulated as 'safe' in the DRC's mining regulations. The tunnels are named after their respective owner or head miner. 'Papson', 'Makarios' and 'Safina' are the longest tunnels, all converging into a large cave called the 'Grand Salon' after about 150 meters.

■ 77. The occupational profile is intertwined with the social structure prevalent in the mine. The four mining sites, 'Chantier 5', 'Chantier 15', 'Gécamines' and 'Restaurant' are associated with different mining techniques and differing social status. 'Chantier 5' and 'Chantier 15' are alluvial and open-pit mining sites, 'Gécamines' and 'Restaurant' are alluvial, open-pit and hard rock mining sites. The 'Gécamines' tunnels are the most productive and most dangerous production sites in Bisie, and therefore have the highest social status. Socially unconnected new arrivals have to 'work their way up' to be allowed to work in the tunnels. This process includes bribing, proving one's skill, becoming friends with the right people, doing the political bidding of others, and proving one's manliness. In 'Gécamines' the mining is again sub-divided, as only socially well-connected and skilled miners work in the tunnels. Teams undertake the mining, which in alluvial mining consist of between three and ten persons, of which the ratio of creuseurs to pelleteurs is normally 1:2. In open pit mining, teams consist of between three and twenty persons, of which the ratio of creuseurs to pelleteurs is normally 1:1. In hard-rock mining, teams are organized per tunnel and vary in number between five and fifty persons, of which the ratio of creuseurs to pelleteurs is 2:1. The tunnel owners and their representatives chose evidently skilled and physically suitable miners for the work. The creuseurs use the following tools and equipment for the different mining methods:

■ 78. Underground hard rock mining:

- Hammers
- Chisels
- Torches
- Batteries
- Shovels
- Plastic flour bags
- Long saws

⁹⁷ Letter from the Provincial Division of Mines, dated 29/12/2006

⁹⁸ Various Interviews, Bisie, 19/6/2007

⁹⁹ Various Interviews, Bisie, 19/6/2007

The miners use hammers and chisels to chip away at the mountain, in narrow underground cassiterite galleries. Hammers are also used to crush the rock into smaller pieces, for transport. The battery-run torches are the sole sources of light, each with a pair of cheap batteries lasting up to three hours. The pelleteurs fulfil a supporting role as they clear the mining galleries of waste rock and other overburden, and transport the ore to the tunnel exits. The Boiseurs are responsible for the lining of the tunnel walls with woodwork, which they undertake either as a solitary task, or in teams of up to 10 people. They use long-saws and hammers for their work, and they use slings made from lianas to transport suitable straight wood to the mine, from up to 10 kilometres away.

■ 79. Open pit mining:

- Shovels
- Pickaxes
- Crowbars
- Plastic flour bags

In the open pits, the creuseurs employ shovels, pickaxes and crowbars to break off soft-rock deposits. Pelleteurs fulfil the same function as in underground hard rock mining described above.

■ 80. Alluvial mining and ore washing:

- Shovels
- Strainers
- Jerry cans
- Karais
- Sieve
- Watertub

Water is essential for alluvial cassiterite mining and for washing the cassiterite ore. In case of insufficient rainfall, jerry cans are used to transport water to the mine from two nearby rivers, which is filled in a dugout pool. One team member washes the material in the pool and uses a bucket for a separation process. The heavier ore sediments at the bottom of the bucket; a rotating motion accelerates this settlement process. Waste soil is then discarded and the ore collected separately. If it has rained sufficiently, a stream of water can be divided into several pools, where the same operation is undertaken. The ore bearing sediment is subsequently further refined by panning, using a plate or 'karai'. These 'karais' are made from the bottom of a metal barrel. The final separating process involves plunging a box or gig, with a bottom made of a fine sieve, in a tub filled with water. The gig is vibrated in the water causing sand and other small impurities to rise to the surface, while the heavy elements concentrate at the bottom. This last process produces a cleaner product called 'fine', which is sold at a higher price (US\$ 4, instead of US\$ 3).

¹⁰⁰ Various Interviews, Bisie, 18/6/2007

¹⁰¹ Various Interviews, Bisie, 18/6/2007

¹⁰² Various Interviews, Bisie, 18/6/2007

81. Irrespective of the mining method, Tupperware, buckets and plastic flour bags are used to collect the cassiterite, which is then brought to the petit négociants who have helpers who fill the minerals into bags weighing 50 kilograms each. These are then transported to Ndjingala, as described under the Transport section. In Bisie, all tools and items used in the mining process are cheap imports from Asian countries, such as China and India, sold by commerçants at prices up to 10 times higher than in the territorial capital, Walikale. The prospect of a successful imminent substitution of locally manufactured tools for imports is limited, as the miners reported a lack of know-how to manufacture goods on the Congolese side. This is an opportunity for developmental engagement within the sector.
82. The mining activities come with serious safety hazards, such as mudslides, naturally occurring CO₂ in the tunnels, or collapses in the mine. While the impact of seasonality could not be established during the research, there is exponentially more rainfall during the rainy season (September-February and March-May), when the physical risk associated with mudslides is higher than during the dry season. The miners reported that rain has an adverse effect on open-pit mining productivity, as it floods the pits, while it has a positive effect on alluvial mining productivity, as it alleviates the water shortages occurring during the dry season. Given relatively rigid occupational and ownership structures, the interviewees reported no movement from one mining method to the other with the seasons .
83. The observed occupational structure signifies a complex organizational system operational in the mine that could be utilized to achieve safety and productivity improvements. Basic safety improvements could be brought about through extensive health and safety training and workers wearing helmets in the tunnels and open pits, as well as solid Wellington boots with protective toecaps. To achieve increased productivity, higher quality tools should be supplied across the board, along with sturdy Wellington boots, better torches and better batteries. The alluvial miners specifically require water pumps to have sufficient water at their disposal, and this is tied to electricity provision and the struggle to get generators and fuel to the site. However, the latter stands in stark contrast to one of the principal reasons for AM proliferation, which is that it is undertaken with basic tools and not in need of much technology. Any use of technology would critically depend on a power source, but power supply in North Kivu is non-existent, or erratic where it does occur. In Goma, power supply is irregular and the comptoirs report high electricity prices, which prohibit profitable industrial processing, for example. There is currently no power in Bisie, except for the occasional generator owned by a commercant, and there is only power in Walikale town during the early evening hours .
84. It is clear from this short passage on the mining process that electricity provision would support cassiterite mining and would have a beneficial economic impact beyond the sector, but the prospect is unlikely in the short-term. In Bisie, the company M.P.C. is contemplating erecting a hydroelectric power plant to power industrial cassiterite mining. This, however, is dependent upon it gaining control over the mine and should the remaining cassiterite deposits merit industrial mining . Depending on output, the power plant could have a pivotal impact on Walikale territory's economy. In the meantime, human muscle power will continue to substitute machinery in all aspects of the mining, making it very employment intensive.

¹⁰³ Various Interviews, Bisie, 18/6/2007

¹⁰⁴ The energy problem persists despite a 55bn m³ methane gas deposit beneath Lake Kivu, which could be exploited for energy generation.

¹⁰⁵ Interview with Brian Christophers, MPC, Goma, 21/5/2007

Economics of Production

- 85. The economics of cassiterite production differ significantly from the economics of cassiterite trade. At the time of research, artisanal cassiterite production in North Kivu had a world market production value of around US\$ 115 million in world market prices (see Box 6). However, reinvestment of cassiterite rents in the mining communities is negligible, and part of the revenue from cassiterite production directly accrues to the FARDC's non-integrated 85th brigade and other armed groups. It is therefore pivotal to take a micro-perspective of the economics on the production level, not only in order to understand the economic realities of the miners, but also to grasp the basis on which the cassiterite trade is built.
- 86. Many small high-risk-taking companies have recently acquired mining concessions, most of which presently harbour artisanal mining communities. This is possible because there are presently no earmarked artisanal mining zones, as stipulated in the Mining Code. The government would be unable to grant these designated zones to commercial operators, unless the provincial Division of Mines closed the zone d'exploitation artisanale beforehand, pending approval from the provincial Governor. There are two types of high-risk players, the *comptoirs* and smaller international mining companies. Both types are influential political players, as they are the financially most potent economic operators in the region.
- 87. Most of the *comptoirs*, who have acquired concessions, have done so with foreign financial backing, predominantly from European, Canadian, Chinese, Rwandan, and South African-based companies or individuals. An example is the Austrian Kappa GmbH, a subsidiary of Krall Metals that has invested in the *comptoir* Starfield, which deals predominantly in Wolframite. The Blattner Group is the parent company of Sodexmines. Jonah Capital, Metmar and Coronation Capital have invested in Kivu Resources, the parent company of M.P.C. Likewise, documents in the possession of the author suggest that Alexis Makabuza Rusenga has sought international investment for his company G.M.B. from the Ichikovitz Group of Companies, amongst others. Shamika Resources is a Canadian mining company that was established in 2006; by August 2007, Shamika had applied for its 18th exploration permit, and has been granted nearly 1,200 mining blocks to date, covering an area of almost 1,000 km². It is still acquiring more tin concessions. In Walikale, North Kivu, Shamika's property includes 249 mining blocks under one exploration permit, for 216 km². Shamika says it is going to develop a community development program, drawing on a variety of corporate standards, such as the UN Global Compact.
- 88. The need for foreign investment is partly a symptom of the concession system, as stipulated in the Mining Code, which advantages investors with significant monetary resources over small- and medium-sized companies (see also Legal Aspects). Another reason are current buoyant mineral prices. Some of these companies state their aim is scaling up to small- or medium-scale mining in the medium term, pending satisfactory geological surveys, stabilization of the political situation, and improvements in physical infrastructure, such as the erratic electricity grid. With increasing foreign financial backing and general foreign interest in the sector, some small-scale mining companies and *comptoirs* have expressed an interest in engaging with the idea of improving corporate governance, which – if they are serious about it – could open up significant possibilities for developmental engagement, with respect to public-private partnership programme agreements.

¹⁰⁶ Please also refer to the separate section on Economics of Trade below, and the section on Payments further below.

¹⁰⁷ If mineral rents are reinvested in Goma, then it is either for local elite and expatriate community uses, i.e. the construction of restaurants and hotels, or for personal use in the form of houses.

¹⁰⁸ Interview with Starfield representative, 17/4/2007

¹⁰⁹ Interview with Shamika Resources CEO Robert Vivian, Goma, 02/05/2007

Box 4: Workers' Incomes in the Bisie Mine

Creuseurs : The creuseurs estimate they can earn up to \$100 on a productive day, which equates to 33 kilograms of cassiterite in Bisie prices. Correcting the US\$ 100 figure for the fact that they rarely find this much cassiterite ("travaux lourds"), as well as for hyperinflation (prices were at the time of research about 10 times higher than in the territorial capital, Walikale), their income evens out at the US\$ equivalent of 1 to 5 per day. The price level reflects high transport costs, but also the monopoly of the commerçants in the mine.

Pelleteurs : The pelleteurs earn real daily wages of US\$ 0.5 to US\$ 3. They are paid less in cassiterite, but the same conditions apply to them as for the creuseurs, discussed above.

Boiseurs : The boiseurs receive 50 kilograms of cassiterite for lining one carré, which equates to 1.5m³, of tunnel ceilings and walls with woodwork. Given the vast tunnel construction over the past years, suitable trees in the immediate vicinity of the mine have long been cut down. Today, the boiseurs fetch wood from as far as 10 kilometres away. This means it can take them between three days and one week to complete one quarré. Work and payment are irregular, but their status in the mine is high. The creuseurs refer to the boiseurs as 'engineers' and they are also employed to maintain older woodwork. It seems that everyone working in the tunnel realizes that their safety also depends on good work done by the boiseurs.

Porters : The porters transport the cassiterite, which is owned by the petit négociants, and they receive US\$ 25 per journey from Manoiré to Ndjingala in cash or cassiterite; they also receive US\$ 10 per journey from Ndjingala to Manoiré, when they take food and consumer goods to the mine. The porters are in a privileged position vis-à-vis those with mere access to the barter economy in Bisie, as they have access to the cash economy in Ndjingala. If they get paid in cassiterite, they can exchange their mineral at the regular rate in Ndjingala.

¹¹⁰ Various Interviews, Goma, April – July, 2007

¹¹¹ Please refer to Salter, G. (2008) Mining Impacts in Kalima for an alternative view on incomes in non-militarised mines in Kalima/Maniema Province.

¹¹² Various Interviews, Bisie and Walikale, June 2007

¹¹³ Ibid.

89. In theory, the potential macro-economic contribution of these small-scale mining companies could be substantial. They would help to establish an economically healthy continuum of company sizes from AM to medium-scale mining, with a higher employment rate and more tangible benefits arising from secondary economies, which are limited in the case of LSM as a result of the capital intensity of operations. LSM operations also mainly contribute to foreign exchange earnings, while its proceeds transferred abroad are lost to domestic development efforts. In light of forthcoming investment into LSM and some foreign investment into AM, mineral production levels are set to increase in the future. With an increase in LSM production levels, the percentage share of AM in overall production value will decrease, but artisanal production volumes will remain stable, or increase. In other words, AM is here to stay. Whether it will contribute to a sustainable development process, however, will largely depend on investment, as well as improved and more effective sectoral governance structures, and fairer economies at the production level.
90. Under the governance section, it was established that many mines feature an elaborate governance system. This governance system is matched by an equally elaborate ownership structure on the production level. Many mines, or parts of the mines such as tunnels, are partly privately owned. This means proceeds of production from certain tunnels or pits directly accrue to private owners, who can be distinct from the concessionaire, or, for example, the chef de colline. In the Bisie mine there are said to be 29 pits controlled exclusively by the military, or other security organs remotely controlled by known senior commanders. While the exact number of pits could not be confirmed, a wide range of interviewees confirmed the general pattern, but added that the direct involvement of the military in the mining activities stretches far beyond mere ownership of the pits, as will be discussed further below.
91. The ownership structure has specific implications for the miners. 5 to 10% of the miners in alluvial and open-pit mining work independently in groups of up to 5 people. Since Bisie is a barter economy (see below) these independent miners share their production amongst themselves as currency, if they cannot produce sufficient to sell. All other workers on the mining sites (pits/tunnels), i.e. creuseurs, boiseurs and pelleteurs are not employed, but are paid for their labour in cassiterite by the owner of the respective pit or tunnel, through his resident representative, the responsable. Please refer to Box 4 for more detail on workers' income.
92. While independent workers tend to split their proceeds equally across professional groups (i.e. creuseurs, pelleteurs et cetera), dependent workers tend not to. A pattern frequently observed in alluvial mining is that a fixed percentage of production per day is set aside for the workers, of which the owner's representative receives 2/7, the creuseurs receive 3/7 and the pelleteurs receive 2/7. The production over and above the fixed percentage set aside goes to the mining site owner. The size of the fixed percentage set aside for the workers differs by mining site and within their respective professional groups (i.e. creuseurs, pelleteurs...) the workers tend to split their proceeds equally.

¹¹⁴ Ibid.

¹¹⁵ Various Interviews, Bisie, Ndjingala and Walikale, June 2007

¹¹⁶ N. Garrett (2007), *The EITI and Artisanal and Small-Scale Mining*, EITI

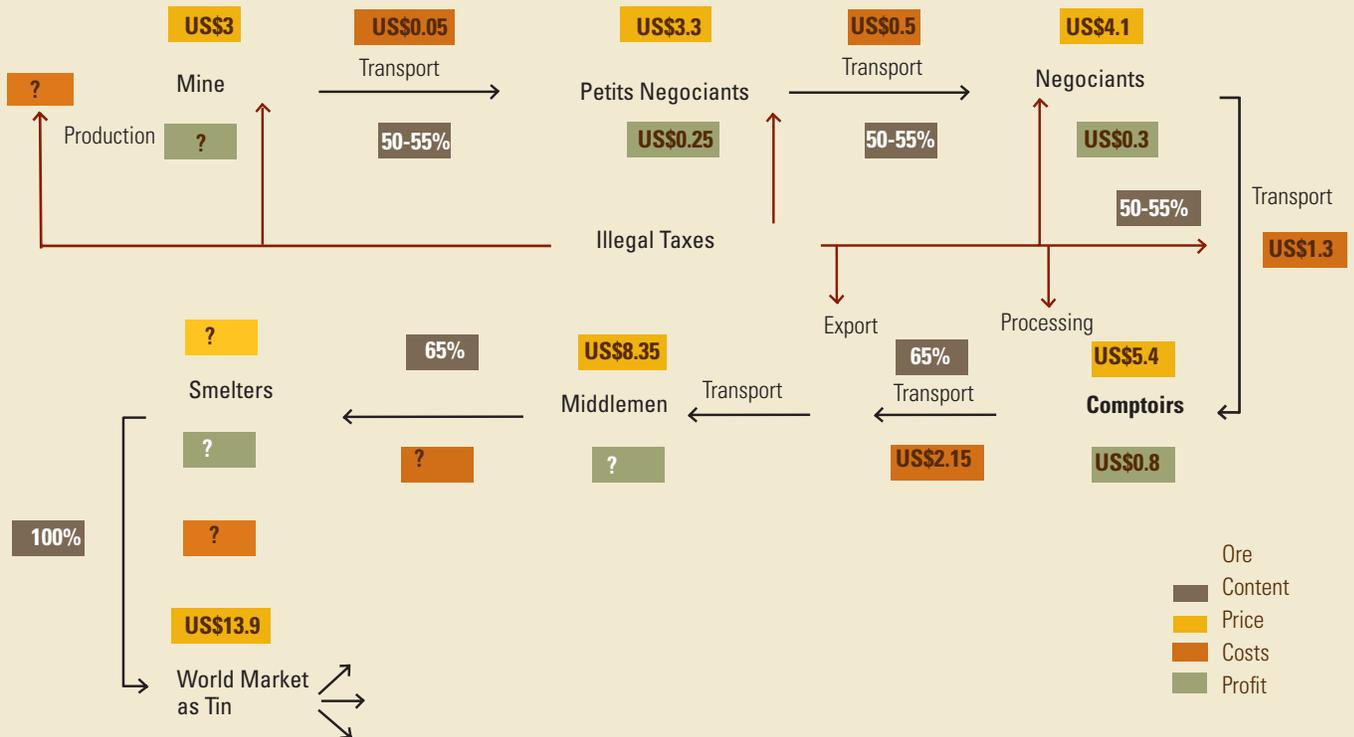
¹¹⁷ A. Tergera and D. Johnson (2007), *Rules for Sale*, Pole Institute, p. 46

¹¹⁸ Various Interviews, Bisie, 18/6/2007

Box 5: Cassiterite Value Chain in North Kivu (June 2007):

The following diagram illustrates a sample calculation of the domestic value chain for 53% tin content 'main rouge' cassiterite, extracted at the Bisie mine in North Kivu.

Cassiterite Trading Chain North Kivu (i kg in June 2007 prices)



Profit margins are relatively evenly spread across the trading chain. Factoring volumes, significant profits are made at the export stage and internationally. Those people high in the trading chain, who control the people (often military) in charge of the mining activities, also reap high individual profits.

¹¹⁹ Various Interviews, Bisie, 18/6/2007

¹²⁰ Various Interviews, Bisie, 18/6/2007

¹²¹ Various Interviews, Bisie, 18/6/2007

¹²² Various Interviews, Bisie, 18/6/2007

¹²³ Interview, Sodexmines, Goma, 12/5/2007

- 93. In Bisie, the workers trade the cassiterite for food and other necessities; it is also regular practice for some proportion to be spent on prostitutes, which worsens the spread of STDs in the community (see Box 12) . In barter transactions with the commerçants, cassiterite is weighed arbitrarily by hand, principally to the detriment of the miner, which means that for the miners, mechanical scales would be a helpful addition to the transactions. Given the barter economy, the commerçants and prostitutes are effectively *petits négociants* with the commerçants operating on profit margins of up to 1,000%. The commerçants are frequently aligned with, or pre-financed by, the mining site owners, which means the latter are not only in control of the direct mineral exploitation, but also of the local economy at large . The mining site owners have selling agreements with *négociants* in Ndjingala, who are in turn pre-financed by *comptoirs* in Goma (see Economics of Trade) .
- 94. All those stakeholders with access to the cash economy outside Bisie earn an income. A porter, for example, can in theory earn US\$ 210 per month, provided he concludes 6 return journeys on the Manoiré – Ndjingala trail (90 km return), which is a large sum in the context of North Kivu’s economy. A fluctuating, but very high number of around 90% of the population with mere access to this barter economy inside Bisie are indebted to the commerçants, which means they are indirectly locked into dependency with the mining site owners. In other words, the miners are economically clearly disadvantaged (see Demography and Poverty section) *vis-à-vis* those who have access to the external cash economy. Within their limited scope to manoeuvre, the workers have developed a ‘roving savings system’ to build assets, whereby within their groups, everybody donates the maximum possible share of their monthly income to a fund. The fund goes to a different team member each month, helping them to, for example, buy more expensive gear, such as Wellington boots. In this context it is important to explore further whether, since the concept of savings exists, microfinance could be an option in mining communities. Cash could be used to buy gear to aid mining or to buy food and cassiterite could be sold to the microfinance bank as repayment .
- 95. The miners’ current predicament is further perpetuated by the irregularity of cassiterite findings. While the miners must consume at inflated prices, they are not guaranteed to find sufficient cassiterite to pay for their spiralling debt, which implies their labour is, in effect, debt-bonded. The high debt level is one reason why many interviewed miners concluded that their activity actually erodes their physical assets . A proof of this aspect is up to 10 pawnshops in the support village of Manoiré - the so-called ‘Banque Lambert’ - where miners pawn anything from radios to their Wellington boots. The remoteness of many locations and the barter economies controlled by the site owners, who also act as external financiers, translate into an uncompetitive local mineral market, which further reduce the miners’ bargaining power when it comes to selling or exchanging their product. The miners’ vulnerability to exploitation is further increased by their mostly illegal status, as discussed under Legal Aspects. In other words, the miners are the weakest link in the production process.
- 96. There are two types of cassiterite sold in Bisie. The relatively rare and hard to extract “black” cassiterite, or ‘fine’, has a higher tin content than ‘red’ cassiterite. ‘Black’ cassiterite is found in alluvial mining, whereas ‘red’ cassiterite is found in open-pit and hard rock mining. In Bisie mostly independent alluvial miners produce very small amounts of ‘black’ cassiterite, which they sold at the time of research at a rate of US\$ 4 / kg, to *petits négociants* in the mining sites and

¹²⁴ E. Levin (2007), A Sustainable Livelihoods Assessment of Operators in the Natural Resource Sectors, INICA, p. 73

¹²⁵ Various Interviews, Bisie, 18/6/2007

¹²⁶ Various Interviews, Bisie, 18/6/2007; confirmed by a provincial level police intelligence report in the possession of the author.

¹²⁷ Various Interviews, Bisie, 18/6/2007

in Manoiré. Box 5 shows the example of the 'red' cassiterite value chain from the Bisie mine. The base price per kilogram of 'red' cassiterite in Bisie was US\$ 3/kg at the time of research. As the value chain demonstrates, over 30% of total export value is added in the mine. This information, when juxtaposed with that in Box 4 that the majority of cassiterite miners in North Kivu subsist on US\$ 1-5 per day, is clarifying. There is a minimal return for the miners' labour, and an exploitative pattern of an extreme form of rent seeking, prior to the mineral entering the official trading chain.

- 97. Factoring the significant sums involved in cassiterite production, exploitation patterns go beyond the mere standard pattern of, for example, local military ownership or extortion. In many mines it is improbable, but not yet provable, that the significant returns merely accrue to whomever is in charge on the ground, and their immediate marketing partners. The feedback from most actors and insiders interviewed both in Bisie, Goma and Kinshasa suggests that up to 70% of value added in the mine directly accrues to 'big men' in military, business and politics, remote controlling those who are in control on the ground. While it was not yet possible to produce documentary evidence to support this notion, the cross-checked insider perspective shows how intertwined many positions of power, be they in politics, military or business, remain with economic accumulation.
- 98. In Bisie, the FARDC's non-integrated 85th brigade preys on the miners, frequently employing its 'Salongo' system of forced labour to obtain the miners' production. Under 'Salongo', which the soldiers describe as 'tax collection', low ranking soldiers are exploited by their commander Colonel Samy Matumo to steal cassiterite on his behalf. While a small number of soldiers have a permanent presence at the mine, during 'Salongo', which can happen at any time, many more appear in groups, under orders to confiscate a portion of the mine's production for up to 72 hours. If the miners try to hide their production underground, they are often arbitrarily arrested and kept in primitive wooden cells, sometimes for days.
- 99. As introduced under the governance section and confirmed by a provincial level police report, in the possession of the author, the FARDC's non-integrated 85th brigade has until recently been cooperating in the taxing of cassiterite with the Bangandula Mining Group (G.M.B.). Illegal cash and mineral taxes, extorted from the population at impromptu checkpoints on the routes in and out of Bisiye, have supplemented any export sales. This particularly affected the porters, the number of whom is up to 250, who carry cassiterite on the 45-kilometer trail to the village of Ndjingala. According to the police report mentioned above, this 'tax collection' was worth US\$ 315,000 per month.
- 100. The FARDC's non-integrated 85th brigade remains the only Congolese Army brigade in North Kivu that has not yet joined the countrywide 'Brassage' process. The transitional government, which ruled the country from 2003 to 2006, initiated 'Brassage', after former rebel groups joined

¹²⁸ Interview, MONUC, Goma, 28/4/2007

¹²⁹ Interview, 14/12/2007

¹³⁰ E.g. Finnwatch, 2007

¹³¹ Interview with Altine Ibrahim, Milob, MONUC, Goma, 07/05/2007

the national army following the peace accords in 2002. It is a mixing, training and further integration of army units from different provinces, for deployment to new operational areas. It aims to dilute the persistent local influence of former militias and warlords, who had kept their command structures in place upon joining the national army. As previously mentioned, the DRC's Vice-Minister of Mines, Viktor Kasongo, confirmed that the FARDC's non-integrated 85th brigade is currently not under the control of the 'état major', thus acting as an independent armed group with immediate access to finance .

- 101. One aspect worth mentioning, which contradicts many other reports on the Walikale cassiterite trade, is that, if compared with other territories in North Kivu that are subject to extreme forms of 'violent peace', MONUC confirmed that Walikale territory is calmer in terms of reported violent incidences . Whether this phenomenon is linked to mineral rents, extracted by the FARDC's non-integrated 85th brigade, which are at least partly redistributed among the brigade's soldiers, is the subject of a forthcoming academic paper by the author that looks at new forms of 'warlordism' in post-election North Kivu. The paper suggests that new collaborative exploitative structures comprising armed actors, state and private sector officials have managed to establish themselves under the radar of the fledgling democratic institutions in North Kivu, which is a serious impediment to peace building initiatives.
- 102. In light of the exploitative patterns introduced above, a number of interviewees suggested the support of a formation of cooperatives in some mines . Cooperatives are a means to negotiate more favourable mineral marketing agreements and mine site issues, such as working conditions and security. If democratically structured, the cooperatives could be an opportunity for developmental engagement with the AM sector . However, many cooperatives throughout the DRC, which claim to represent artisanal miners, are instead known to be part of the exploitative structures of the AM sector and have been co-opted by either modern or traditional authorities. Some represent vested interests in the economic and/or political spheres, and many merely charge the miners illegal taxes without providing a service in return. The cooperative Coopérative Minière Mpama Bisiye (COMIMPA) is a new example from North Kivu that was introduced in the Governance section. The formation of cooperatives as a development assistance program has to recognize these exploitative patterns at the production stage. Likewise, any strategy purely focusing on trade will not ameliorate the economic situation of those employed in the AM sector, as long as the exploitative structures at the production stage are allowed to persist. However, the high degree of militarization at the production stage, coupled with the entrenched culture of fraud and personal enrichment, as well as the willingness of all individuals to act illegally and/or informally, mean it will be difficult to reform this pivotal stage in North Kivu's cassiterite trading chain. Please also refer to the sections on Economics of Trade as well as External Stakeholders and Development Assistance for a discussion of Certified Mineral Trading Chains (CTC), which could be a promising tool in this regard.

¹³² Various Interviews, Goma, April – July 2007 and Lubumbashi and Kinshasa, November 2007

¹³³ For lessons learned from attempts to organise diamond miners into democratic cooperatives in Sierra Leone, see Levin with Turay (forthcoming).

¹³⁴ Please also refer to the separate section on *Payments below*

Economics of Trade

- 103. Some mines are economically, politically and/or militarily controlled by people with vested interests and large profits are made before the cassiterite enters the official trading chain. This section introduces the cassiterite trading chain, which is diverse, with individual miners, co-opératives, petit négociants, négociants and petits comptoirs as well as comptoirs and small-scale mining companies all present in the sector. Depending on the mine, some attributes of the trading chain mirror the production structure, with some operators being debt-bonded and/or pre-financed by entities higher up in the trading chain.
- 104. The mine to market chain from the Bisie mine begins with production, as introduced in the previous two sections, and the petits négociants subsequently release stock for transport to the villages of Ndjingala and Mubi, where it is traded by négociants. At the time of research, eleven and twelve négociants could be identified in the villages of Ndjingala and Mubi respectively. Some of the petits négociants in Bisie and some of the négociants in Ndjingala and Mubi are directly pre-financed by comptoirs in Goma, which helps the latter to guarantee a reliable supply stream. In transactions between petits négociants in Bisie and some of the négociants the minerals are weighed with mechanical scales; however, comptoirs in Goma have alleged that négociants tend to dilute the cassiterite, with overburden to pocket 5kg per 50kg bag. As highlighted under the Transport section above, a crosschecked estimate of 80% of production leaves from Ndjingala and Mubi for Goma. As the Bisie mine is the most productive mine by far in the territory, small amounts of cassiterite from mines in the territory that are not under direct control of the FARDC's non-integrated 85th Brigade are mixed in with the larger quantity of cassiterite from the Bisie mine. This means that it is hard for any of the comptoirs purchasing from Walikale to prove that their shipment does not contain cassiterite from Bisie.
- 105. In Goma, North Kivu's cassiterite trading centre, comptoirs buy the cassiterite or take delivery of their pre-financed production. This means that liberalized and competitive mineral markets are underdeveloped outside the trading centres, which seriously inhibits the developmental potential of cassiterite mining on the local level. In Goma, there is some competition between the comptoirs, which largely depends on whether they work value or volume orientated. Volume orientated comptoirs can operate on smaller per ton profit margins and therefore purchase the good at a higher price. The larger comptoirs use electronic scales and analyzing equipment in the cassiterite purchasing process, and they buy from a variety of areas in North Kivu, Maniema, South Kivu and northern Katanga.

¹³⁵ Various Interviews, Goma, April – July 2007

¹³⁶ Various Interviews, Goma, April – July 2007

¹³⁷ Various Interviews, Goma, April – July 2007

¹³⁸ Source: Division de Mines, Goma

¹³⁹ Export statistic January to June 2007, Division de Mines, Goma

¹⁴⁰ Interview with Brian Christophers, M.P.C., 27/4/2008 and Salter, G. (2008) Mining Impact in Kalima, ISS.

Table 1: Cassiterite exports from Goma by comptoir (in tons) :

Company	2006	1st Half of 2007
Sodexmines	778	1,254
Amur	944	992
M.P.C.	429	428
Bakulikira Ng.	68	248
Ets Panju	74	221
Munsad	296	205
Avisam Trading	0	177
Metachem	10	110
Hill Side	25	87
Clepad	0	79
WMC	0	70
La Comète	98	48
Hua Ying	0	25
Starfield	0	24
Eurotrade	0	23
Gemico	156	20
Ets Gama	27	0
Total	2,904	4,019

- 106. Sodexmines, Amur and M.P.C. are the largest cassiterite comptoirs in Goma; however there are a number of smaller comptoirs, as shown in the following export statistic . Not all of the comptoirs buy from the Bisie mine. M.P.C., for example, buys higher value 'black' cassiterite from Kalima in Maniema province .

¹⁴¹ Interview with Brian Christophers, Goma, 15/5/2007

¹⁴² Various Interviews, Goma, April to July, 2007

¹⁴³ Interview with Vice-Governor of North Kivu, Goma, 02/05/2007

¹⁴⁴ Export Statistics for April 2007, Division de Mines, Goma

¹⁴⁵ Various Interviews, Goma, April to July 2007

¹⁴⁶ Interviews with Sodexmines, Goma, 26/4/2007 and Interview with Benjamin Moore, MPC, Goma, 28/4/2007

107. Until early 2007, the comptoirs had primarily exported cassiterite in unprocessed form, with little or no value being added on the territory of the DRC. This practice led to an export stop in April 2007 and a review of export practices by the Ministry of Mines (see below). Export licenses were subsequently issued to selected comptoirs, who could provide evidence of processing capacities. In May 2007 the comptoirs were Amur, Mining and Processing Congo (M.P.C.), Sodexmines, Starfield, Bakulikira, Ets Panju, M.H.I, Munsad, Clepad, Hill Side, Bulongo Gems, Avisam-Trad, W.M.C. and Metachem. While the author was unable to visit all of the comptoirs, Sodexmines and M.P.C. appeared to be in compliance with the Mining Code, and Alexis Makabuza Rusenga was extending the processing capacities of his new company G.M.C. One comptoir, M.P.C., has processing capacities both in Goma and, through its sister company M.P.A. (Metal Processing Association), in Gisenyi, Rwanda, where their representatives said they can refine cassiterite up to 80% tin content, however, this was not verified by the author. M.P.A. owns a furnace/foundry in Gisenyi, which has been disused since 2006 as a result of low productivity, high operating costs and excess capacities .
108. Some interviewed comptoirs allege that the government's review of export practices was politically motivated, to reduce competition, and to open up opportunities for bribes and access to the profits of the selected comptoirs . Yet, despite temporary detrimental economic and social effects arising, as the market was not given enough time to compensate, the export stop was a positive development. In response to the export stop, financially potent comptoirs have undertaken investment in their minimum processing facilities, and many smaller comptoirs have accelerated their search for foreign investment to upgrade their facilities . Those comptoirs not considered for an official export license have either closed down, continued to smuggle or, at times, struck arrangements with official comptoirs to sell their stocks through them. In the month following the export stop the comptoir Amur has exported four times as much cassiterite as it had in the month before .
109. At the time of research, the licensed comptoirs were processing cassiterite for export. Depending on the size of the comptoir and the size of the shipment, anything from 5 to 100 day labourers are employed in processing in shifts, earning up to 7\$ per day . Employees of the comptoirs oversee their work. The day labourers crush and wash the cassiterite, to rid it of impurities as far as possible. Afterwards, the mineral is further processed by machinery, such as a coarse crusher, a medium crusher and a two-wheel crusher. Sodexmines and M.P.C. also use a magnetic separator, and pneumatic / separating tables . The aim is to bring the cassiterite up to a tin content export grade of up to 65%, which can be obtained through processing and the mixing of different tin content grades. The cassiterite from Bisie is locally known as 'main rouge', as a result of its reddish colour. It has an average tin content of 50-55%, with an iron content of 25% . Contrary to common perception, the iron is not separated and sold separately for lack of profitability. Instead, iron is regarded as an impurity, along with granite and bismuth . If comptoirs choose to export with middlemen, who often cover the transport to the tin smelters in Asia, they are liable to treatment charges and transport fees of between US\$ 0.8/kg and US\$ 1/kg. The middlemen have impurity penalties with the end-user. If shipments contain more than 5% iron, they are charged US\$ 25/ton. The bismuth allowance is 0.05%/ton. Above 0.05%/ton, the penalty is US\$ 25/ton . These penalties can substantially dent the profits made at the export stage.

¹⁴⁷ Interview with Benjamin Moore, MPC, Goma, 28/4/2007

¹⁴⁸ Interview with Sodexmines, Goma, 26/4/2007

¹⁴⁹ Interview with Sodexmines, Goma, 26/4/2007

¹⁵⁰ Interview with Benjamin Moore, MPC, Goma, 28/4/2007

- 110. The previous paragraph begs the question why there is only limited processing undertaken on the territory of the DR Congo. The comptoirs acknowledged the erratic state-owned electricity grid and still unstable political situation as the main deterrents to investment into a furnace / foundry in North Kivu. M.P.C./M.P.A. are considering relocating the Gisenyi furnace/foundry to Walikale, or building a new furnace/foundry in Walikale, should they find sufficient cassiterite deposits in Bisie to merit industrial or semi-industrial mining . This would constitute a significant investment in the local economy, but given the constraints highlighted throughout this report, the idea appears theoretical, at least for the near future.

Box 6: Production, Export Volumes and Export Values for Cassiterite in North Kivu

The provincial Division of Mines has recorded 3.023 tons of cassiterite exported from Goma in the first five months of 2007 . Presuming official export quantities remain stable throughout the year, they will reach 7.250 tons at the end of the year.

The main cassiterite production area is Walikale, which is estimated to account for up to 70% of cassiterite exported from Goma. The most important contributor is the Bisie mine, where research for this report was undertaken. Minerals leave Walikale by plane and by truck for Goma (and some for Kisangani). The fluctuating amount transported by road is small, and is therefore excluded from the following calculation for the sake of simple estimation.

On a normal day, six planes, transporting two tons of around 50% tin-content grade cassiterite each, fly four rotations. This means 48 tons arrive in Goma per day from Walikale, which is 17,520 tons per year. Flights operate seven days a week, if the weather permits. Factoring fluctuations in output, it is prudent to deduct 20% of that sum, which leaves 14,016 tons per year with a world market value of US\$ 88.7 million, if factoring 30% weight loss to obtain a 65% tin export grade. The UN estimates the trade to be worth only US\$ 800,000 per year to the Walikale economy .

Factoring cassiterite arriving in Goma from other parts of Eastern DRC, it is prudent to add another 30% on top of the 14,106 arriving from Walikale, which leaves 18,221. Official comptoirs process the cassiterite up to an export grade of 65% tin content, with 30% of weight lost in the process . This leaves a net tonnage of 12,754.56 of export grade cassiterite going through Goma by plane only. The difference between officially recorded exports and this net tonnage of export grade cassiterite available is 5,504.56 tons, or 43%. This implies a world market value of export grade cassiterite going through Goma in June 2007 of US\$ 115.3 million.

¹⁵¹ Source: Export Statistics, Division de Mines, Goma

¹⁵² UN Group of Experts, Letter dated 25 January 2007, UN Security Council, p. 7

¹⁵³ Various Interviews, Goma, April – July, 2007

¹⁵⁴ Various Interviews, Goma, April – July 2007

- 111. Most licensed comptoirs and small-scale mining companies continue to engage in fraudulent practices, such as under-declaring (i.e. declaring 10 tons, but exporting 20 tons) or wrongly declaring (i.e. declaring for example wolframite as cassiterite) their exports . As explained further below, this is largely a response to the excessive costs of doing business in the DRC. In addition, a plethora of unofficial comptoirs and other smaller operators continue to smuggle cassiterite across North Kivu's porous borders, jeopardizing the operational capacity of the licensed comptoirs.
- 112. In the first quarter of 2007, the Governor of North Kivu, Julien PALUKU, of the RCD K-ML, introduced technical measures to curb overt smuggling, which include an earlier (6pm) border closure, road blocks and physical slip-road closures. For the purpose of illustration, total official cassiterite exports through Goma from January 2007 until May 2007 were 3.023 tons. This implies that within the first five months of 2007, the total officially recorded exports of 2006, 2.904 tons, have already been surpassed. The validity of these official export statistics cannot be guaranteed, but there seems to be a positive trend, and the measures seem to have had a positive effect on official export statistics. However, they do not affect the larger amounts that leave under- or wrongly declared.
- 113. In the realms of exports, the insufficient capacity of the customs authority OFIDA (L'Office des Douanes et Accises) to control export shipments is notable, and compromised further by the fact that it does not have storage facilities in Goma and a large share of cassiterite exports from North Kivu is bagged . Bags are harder to control than the internationally used drums. As cassiterite is shipped in drums from Mombasa to China, Thailand and Malaysia, some exports via the Northern Route are packed in drums, which take between 700 and 900 kilograms. Exports via the Southern Route are mainly in bags, which take up to 100 kilograms and which are then repacked into drums in Rwanda . As calculated in Box 6, the amount smuggled can be estimated at around 43% of total production.

Box 7: The London Metal Exchange (LME)

The LME is the world's premier non-ferrous metals market for aluminium, copper, nickel, tin, zinc and lead, which provides reference prices for the metals industry . The LME is a financial market place used mainly for limiting future price risk, supported by the option of a delivery of last resort. It does not replace the established channels for the buying and selling of ore; in fact, only one or two percent of contracts actually result in physical delivery. Companies wishing to buy the actual metal normally do so directly from producers or through merchants . The LME refrains from giving any information on the clients, buyers, sellers and sources of tin . Of the Goma-based comptoirs, Sodexmines sells part of its stock directly on the LME .

¹⁵⁵ Interview with Sodexmines, 23/5/2007

¹⁵⁶ Interview with Sodexmines, 23/5/2007

¹⁵⁷ Adapted from P. Poyhonen and E. Simola (2007), *Connecting Components, Dividing Communities*, FinnWatch, p. 18

¹⁵⁸ www.lme.com

¹⁵⁹ www.metabrick.com/clients/blade/metals/faq.html

¹⁶⁰ FinnWatch phone interview with LME representative, October, 2007, compare FinnWatch (2007)

¹⁶¹ Interview with Sodexmines, Goma, 25/4/2007

114. The comptoirs explain the fraudulent exports with unfavourable export charges in the DRC, which are at times more than 10 times higher than in, for example, neighbouring Rwanda (see also Payments section below). This highlights the positive potential a harmonization of export charges across borders could bring, which are currently a direct incentive for trading outside the law. Another reason cited is the significant amount in bribes that the different Congolese authorities demand, for official exports to pass the Congolese border points. As one comptoir put it, “even when all documents are in order, you still have to pay bribes for the shipment to pass”. The number and nature of regulations and regulatory bodies, as well as other opportunist state rent-seekers, add to transaction costs for traders and to confusion, causing increased opportunity for corruption along the trading chain. There is an unnecessary multiplicity of state-agencies, and there are often too many state agents at crossing points, displaying some level of organized collusion for profit. The general feedback both from the private sector and state officials that it is currently not possible to conduct an ‘honest’ business within the institutional framework of North Kivu’s mineral sector. It is a misapprehension, though, to conclude that the only way to combat unrecorded trade and import/export fraud is to tighten state controls, since it is often the state agents who break the law. Simplification might therefore make more sense than tighter regulation, however, a detailed discussion of this is beyond the scope of this report.

Box 8: OECD Guidelines for Multinational Enterprises

The OECD Guidelines for Multinational Enterprises provide a non-binding code of corporate conduct, with a view to increasing corporate accountability abroad. They suggest that companies ‘respect the human rights of those affected by their activities consistent with the host government’s obligations and commitments’. Many extractive industry companies in the DRC are now citing the OECD guidelines as reference points for their conduct. However, the DRC’s mineral sector, and in particular the AM sector, are predominantly under control of smaller and less accountable businesses, many of which may not be covered by the Guidelines. The OECD Guidelines have the potential to serve as an important tool for regulating corporate behaviour in conflict-sensitive areas, if adhering governments would show more willingness to ensure that the guidelines were applied. Unfortunately there is no prosecution mechanism arising from the Guidelines. Prosecution would only take place if a criminal offence were deemed to have been committed.

¹⁶² Interview with Brian Christophers, Bisie, 19/6/2007

¹⁶³ Compare H. Sunman and N. Bates (2007), Trading for Peace, DFID, p.37

¹⁶⁴ Interview with Brian Christophers, Bisie, 19/6/2007

¹⁶⁵ Compare H. Sunman and N. Bates (2007), Trading for Peace, DFID, p. 23

¹⁶⁶ Various Interviews, Goma, April – July 2007 and Lubumbashi/Kinshasa, October/November 2007

¹⁶⁷ Compare H. Sunman and N. Bates (2007), Trading for Peace, DFID, p. 36

¹⁶⁸ OECD Guidelines, General Policies 11.2

115. The current rent-seeking activities of state officials are related to irregular and inadequate pay, which implies that many rely on additional income from bribes to subsist. Many state interviewees acknowledged that their meagre or non-existent wages are a result of a lack of a fiscal base, owing to widespread economic informality, and/or corruption. It will be imperative to break this vicious circle, however, suggestions that ‘a paid and trained customs officer with clear rules to follow will derive his social status and respect from his salary and reputation rather than from the rent-seeking opportunities his job afforded him’ are thereby too simplistic, as they ignore the burden of patronage. Patronage networks continue to provide social cohesion and economic opportunity in North Kivu, but they also create difficulties for those in official employment, who have to take care of their extended circle of relatives. One OFIDA employee, said, “my income is high enough for myself, but because my relatives know that I have an income, they demand that I take care of them too. So I have to generate more” . One must also not forget the more generalised, entrenched phenomenon of corruption and impunity as a potential obstacle to the success of any initiative that seeks to solve rent-seeking activities through implementing regular payment structures.
116. Except for Sodexmines, which sells part of its production directly on the London Metal Exchange (see Box 7), most comptoirs officially export their cassiterite with the help of middlemen based in Belgium, Rwanda, the UK, the United States and South Africa. The most prominent middlemen are Traxys, Trademet, SDE, Afrimex and Metmar. It is thereby important to note that the middlemen merely facilitate the trade, while the cassiterite is shipped directly to the large Asian smelters. Thailand’s Thaisarco Smelting and Refining Corporation and Malaysia’s Malaysia Smelting Corporation Berhad have both indicated that they do buy cassiterite from the DRC . Another smelter buying cassiterite on the open market is China’s Yunnan Tin . The trading chain has been unearthed in an article for the Financial Times, co-authored by the author .
117. Traxys North America LLC
According to its website, Traxys was formed in 2003 through a merger of Sogem and Consider . With its roots dating back to 1919, Sogem was previously owned by Umicore, and was cited on the UN Panel of Experts’ list of companies importing minerals from the Democratic Republic of the Congo via Rwanda during the second Congolese war . It was suggested that this practise was in violation of the OECD Guidelines for Multinational Enterprises. It’s case was later found to be ‘resolved’ . As a division of Arcelor, Consider specialized in serving the global steel industry through the sourcing of ferro-alloys and other specialty metals. In 2006, both Arcelor and Umicore sold a majority stake in Traxys to the management of Traxys, in a buyout sponsored by two private equity firms: Pegasus Capital Advisors and Kelso & Company. Subsequent to the acquisition, the names of Sogem and Consider were formally replaced with that of Traxys. Goma’s largest comptoir, Sodexmines, which sells part of its production directly on the London Metal Exchange, also sells part of its production through Traxys, with the final destination being the Malaysia Smelter Company Berhad . In an interview, El-Ali Bassem, owner of Sodexmines, underlined that he is not buying cassiterite from the Bisie mine .

¹⁶⁹ H. Sunman and N. Bates (2007), *Trading for Peace*, DFID, p. 11

¹⁷⁰ Various Interviews at OFIDA, Goma, 27/4/2007

¹⁶⁷¹ E-mail and telephone contact in December 2007 and January 2008.

¹⁷² Various interviews, December 2007

¹⁷³ us.ft.com/ftgateway/superpage.ft?news_id=fto030420082233272004

¹⁷⁴ <http://www.traxys.com/Gui/Content.aspx?Page=OurHistory>

■ 118. Trademet

Belgian Trademet SA was established in 1989, and is a significant purchaser of cassiterite from the Goma-based comptoirs. In an informal meeting of the Goma comptoirs, attended by the author in April 2007, 10 comptoirs stated they were selling their product through Trademet. As was the case with Sogem mentioned above, Trademet was one of the businesses considered by the UN Panel of Experts to be in violation of the OECD Guidelines for Multinational Enterprises in 2001. However, as was the case with Sogem, its case was considered 'resolved' in the Panel's final report in 2003. Trademet sells its DRC-extracted cassiterite directly to big tin producers in Malaysia, Thailand and China. In China, Trademet sells to three or four big smelters. Trademet usually has one-year contracts with the tin smelters .

■ 119. SDE

SDE (Société pour le Développement et l'Expansion d'Entreprises) is part of the US-owned Blattner Group, and sells its cassiterite to a Belgian client and big cassiterite/tin trader, whose name SDE's Director Edwin Raes does not want to disclose .

■ 120. Afrimex

Afrimex is a trading company based in London. Afrimex trades some cassiterite from North Kivu, but more importantly in 2004–2005 it was the second largest cassiterite exporter from South Kivu. In February 2007, Global Witness placed a complaint about Afrimex with the British OECD National Contact Point. Afrimex's trading has reportedly perpetuated the conflict in the DRC, as it has directly contributed to funding the RCD-Goma rebel groups in eastern parts of the country, through a tax that was estimated at 8 percent of the value of all coltan traders' exports. On top of this, the company paid US\$ 15,000 as an annual license fee to RCD-Goma . Afrimex submitted to the International Development Committee of the United Kingdom Parliament, confirming that these taxes were paid to RCD-Goma officials . It is important to note that since the RCD-Goma had an administrative structure built up in North Kivu during the Second Congolese War, every company operating in their territory was at the time liable to pay taxes to the group.

■ 121. Metmar

Since 2004, South African stock listed company Metmar has been marketing cassiterite and tin ingots collected, upgraded and traded by the Goma based comptoir M.P.C, and processed by Gisenyi/Rwanda-based M.P.A. Both M.P.C. and M.P.A. are part of the consortium Kivu Resources in which Metmar owns a 7% stake (see Governance section). In an interview with the Finnish NGO FinnWatch, Metmar stated that it is exporting 'a couple of 20 ton containers' a month from North Kivu . The cassiterite is said to originate from a variety of ex-SAKIMA concessions, but not yet from the Bisie mine, since M.P.C. has yet to start exploitation of the concession (see Governance section).

¹⁷⁵ <http://www.reliefweb.int/rw/rwb.nsf/AllDocsByUNID/ab11819fbac78bf985256a3000655c44>

¹⁷⁶ Interview, Sodexmines, Goma, 28/4/2007

¹⁷⁷ Interview with Sodexmines, 17/12/2007

¹⁷⁸ Freddy Muylaert, Director, Trademet, phone interview on 13 November 2007 with Finnwatch, compare Finnwatch, 2007

¹⁷⁹ Edwin Raes, Director, SDE, phone interview on 14 November 2007 with Finnwatch, compare Finnwatch, 2007

122. Despite the negative image of the comptoirs, they are a necessary link in the trading chain. With their operations straddling both customary and statutory economic spheres, they are a feasible level for proactive engagement by the GoDRC and international development organisations with North Kivu's cassiterite economy, particularly with increasing international investment into their operations (see also External Stakeholders and Development Assistance). Here it is important to underline the fact that comptoirs in North Kivu and the DRC's neighbouring countries, to which a large quantity of minerals continues to be smuggled, predominantly count aforementioned Western middlemen and the large Asian smelters as their clients. It is the international purchasers and smelters that purchase and/or broker AM production from the DRC directly, and/or the minerals smuggled to the neighbouring countries. Only three smelters are known to purchase tin on the open market, where the majority of tin from Bisie is traded. These three smelters are a bottleneck, but currently provide the real link between the Bisie mine and the globalized economy. To date, neither Western nor Eastern governments have done enough to ensure their companies conduct proper due diligence on their supply chains prior to purchasing and/or brokering these minerals. It is therefore imperative that the tin-processing companies and end-users also acknowledge their responsibility; they need to start conducting proper due diligence on their supply chains, and proactively support the reform process in the DRC (see External Stakeholders and Development Assistance).

¹⁸⁰ Complaint to the UK National Contact Point under the Specific Instance Procedure of the OECD Guidelines for Multinational Enterprises, Afrimex (UK) Democratic Republic of Congo, 20 February 2007, Global Witness.

¹⁸¹ Ibid.

¹⁸² P. Poyhonen and E. Simola (2007), *Connecting Components, Dividing Communities*, FinnWatch, p. 38

¹⁸³ Compare for example, Global Witness, 2005

¹⁸⁴ Various Interviews in Walikale (June 2007) and Goma (April – July 2007)

¹⁸⁵ Various Interviews in Bisie and Walikale (June 2007)

¹⁸⁶ Various Interviews in Bisie and Walikale (June 2007)

Payments to Authorities

- 123. The AM sector is subject to a special fiscal regime, set out in the Mining Regulations, which defines what the AM sector is obliged to pay the government in license fees, tax payments and export charges. As introduced in the section on Legal Aspects, the fiscal regime distinguishes between artisanal mining and small-scale mining.



- 124. Small-scale mining is subject to a tax, at the flat rate of 10% of turnover. The flat rate exempts small-scale mining operations from the payment of mining royalties, taxes on movables, taxes on profits, the exceptional tax on expatriates' remuneration and domestic turnover tax. It is due at the first point of sale. However, since the definition of small-scale mining and particularly its distinction from artisanal mining is not sufficiently clear, it is currently hard to evaluate which economic operators in the context of North Kivu's cassiterite production should be taxed, under the small-scale mining fiscal regime.
- 125. Artisanal mining is subject to a separate fiscal and customs regime, separating payments by:
 - The creuseurs / miners (remuneration tax on the artisanal miner's card / entrance fees / import charges)
 - The négociants/ middlemen (remuneration tax on the middlemen's card)
 - The comptoirs / exporters (license payments / export charges / intermediary services / social benefit tax)

In a number of interviews, the creuseurs and the négociants in particular stated that they were currently unsure which taxes being paid were actually legal and which were not. This underlines their lack of awareness of the Mining Code's provisions.

- 126. For example, only a minority of miners carries an artisanal miner's card, charged at between US\$ 25 in Goma and US\$ 35 in Walikale . The main reason for this is the high individual cost of the cards, and the remote location of many mines, which makes it hard for the miners to obtain them . In addition, many miners neither know about the cards' existence nor do they see any sense in obtaining one, since there is no-one checking for cards at the mines. In any case, they indicated that if someone were checking cards, they would prefer to 'negotiate a settlement', rather than going the official way .
- 127. The previous paragraph begs the question whether it is feasible to tax individual artisanal miners under the present structure of the AM sector, or to, for example, threaten to legally impose fines of between US\$ 2,000 and US\$ 250,000 for the illegality of their activity, as stipulated in the Mining Regulations. The principal objections the miners voiced to tax payments is that they do not believe that revenue streams would flow back to their mining communities, or that any investment would be forthcoming into the upgrading of their activity or the dilapidated infrastructure used for cassiterite production and trade . Given the history of mineral exploitation of the DRC, their argumentation is indeed a plausible one, and it is therefore worthwhile to look at other taxation regimes, particularly at the export stage, until the mining sector reform process in the country advances tangibly.

¹⁸⁷ Various Interviews, Walikale and Bisie, June 2007

¹⁸⁸ Official export quote obtained in Goma in May 2007

¹⁸⁹ The World Bank (2007), *Growth with Governance in the Mining Sector*, The World Bank, p. 24

Box 9: Export Charges for Cassiterite in North Kivu

At the time of research North Kivu's authorities were working with a base price of US\$ 2.9 per kg of export grade cassiterite to calculate export charges. For a typical 20 tons shipment of 65% tin content grade, valued at US\$ 58,000, the following charges apply :

Tax to be paid to OFIDA: 5% = US\$ 2,900

Tax to be paid to OCC: 0.8% = US\$ 464 + US\$ 140 laboratory charges = US\$ 604

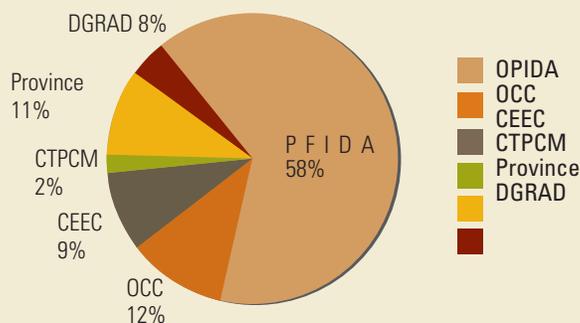
Tax to be paid to CEEC: US\$ 58,000 x 1% x 65% + US\$ 100 laboratory charges = US\$ 477

CTPCM Tax: 0.2% = US\$ 116

Provincial Tax: 1% = US\$ 580

DGRAD Tax: US\$ 58,000 x 7% x 10% = US\$ 406

Total: US\$ 5083, which implies a payment of US\$ 254 per ton of export grade cassiterite. Of the total of US\$ 5083, the following percentages accrue to the different institutions:



At a projected official export level of 7,250 tons for 2007 (see Box 6) and a constant base price of US\$ 2.9/kg, the yearly revenue in export charges amount to US\$ 1.843 million.

- 128. As outlined in Box 9, the comptoirs are liable to pay official export charges, which differ by mineral and province. North Kivu works on a per kilogram base price of US\$ 2.9 for export grade cassiterite to calculate export charges, which are collected at the provincial level. Several agencies are responsible for assessing and collecting some portion of these charges:

¹⁹⁰ The phrase in the Constitution is *entreprise à caractère national*, which is meant to apply to large state-owned enterprises and other industrial enterprises, including joint venture and partnership arrangements with various mining companies.

¹⁹¹ The World Bank (2007), *Growth with Governance in the Mining Sector*, The World Bank, p. 25

¹⁹² *Ibid.*

- Central Bank (BCC), is the central repository of all payments to the government treasury
 - OFIDA collects customs taxes, duties, export taxes, and service rendered fees on exports
 - DGRAD collects essentially the mining royalties, fees assessed by the Ministry of Mines for various licenses and authorizations, and the surface rents assessed by the Mining Cadastre (CAMI) for issuance and renewal of mineral rights
 - Direction Générale des Impôts (DGI), is responsible for assessment and administration of taxes on profits, dividends, value added, and other taxes
 - SAESSCAM is supposed to collect a percentage tax at the level of the artisanal mines, but this is not yet happening in an organized form, as SAESSCAM's capacities to actually get to the mining sites is limited (i.e. transport problems, low budget, et cetera).
- 129. In its Mining Sector Review, the World Bank states that the problems involved with tax payments, and the recording thereof, will become much more difficult as the Government implements the constitutionally mandated decentralization program . Under the terms of the Mining Code, 40 percent of collected mining royalties, as well as 10 percent of surface rents, should be retroceded to the provinces (25 percent for the provincial administration and 15 percent for the area where mining activities are conducted). In addition to the retrocession of royalties provided for in the Mine Law, the Constitution stipulates that 40 percent of all tax revenues coming from national enterprises, including mining-related tax revenues, be retroceded to provinces. However, the Constitution does not specify exactly how this is to occur, which criteria are to be used for the calculation, or the dispositions for accounting and monitoring of the revenues . To date, the retrocession is not yet taking place.
- 130. The retrocession of revenues to the provinces poses the obvious problem of reinforcing capacity at the provincial and municipal levels, to account for and use the funds appropriately . In North Kivu the capacities of the authorities stated in paragraph 129 are very low, which implies that a large percentage of taxes are not at all, or not correctly, collected; and opportunities for corruption are rife. Presently, therefore, the provincial institutions do not seem to have the capacities to accommodate additional revenue streams as envisioned by the retrocession process. To the contrary, an increase in revenue streams would exponentially increase the provincial institutions' vulnerability to corruption and embezzlement. Fiscal decentralization could also generate social fault lines if islands of prosperity and social investment were created, attracting more migrants from poorer provinces towards the wealth.

¹⁹³ Adapted from Nicholas Garrett (2008), 'Observations from the DRC', *African Analyst*, Issue 1/2008

¹⁹⁴ A.Chishugi (2007), *Natural Resources and Trade Flows in the Great Lakes Region – Phase I Report*, INICA, p. 18

¹⁹⁵ K. D'Souza (2007), *Artisanal Mining in the DRC*, CASM

¹⁹⁶ Compare K. D'Souza (2007), *Global Witness* (2005)

Box 10: Introducing Transparency

Improved natural resource governance will be a key element in consolidating the DRC's peace process, attracting investors and contributing to sustainable development, including economic growth, ecological protection and poverty reduction. The Extractive Industries Transparency Initiative (EITI), as an internationally recognized tool for good resource governance, could have a role to play in the state's interaction with AM on such matters as license fees, tax payments and export revenue. It is important not to assume that just because AM does not yet contribute much to formal economic accumulation, the EITI is not relevant. However, it is paramount to be realistic about potential EITI implementation in AM.

AM combines vested interests and complex interactions between artisanal miners, communities, middlemen, small and large-scale mining companies, traders, and foreign companies with their home governments' strategic interests, state and private security forces, rebel groups and the Congolese government, while it is governed by multiple rule systems, transcending statutory and customary spheres. The statutory governance system currently in place is largely under-capacitated, and has failed to regulate and assist the AM sector appropriately. In many instances it has become an exploitative revenue collection system, in which non-state and state officials collude for profit. In addition, OECD member country companies continue to disincentivize AM reform by disregarding the OECD Guidelines for Multinational Enterprises in their operations in, or dealings with, the DRC's AM sector.

It is these legal, economic and political challenges, as well as a very low level of formalization of ASM activities in the DRC, that shadow the many opportunities for EITI implementation. Nevertheless, and more generally speaking, the development of an implementable consistent EITI strategy towards ASM would not only be a significant contribution to welfare generation, but it would also lend the EITI credibility, as it would engage one of the economically most important sectors of mining dependent countries.

The development of a country-specific and/or mineral-specific implementation strategy could focus on different levels of the trading chain, depending on the level of formalization of trading activities. It could be limited to exporting comptoirs and small-scale mining companies, or follow a more in-depth approach, trying to capture revenue flows back to the level of the mine and/or artisanal mining zone.

The EITI Secretariat could establish an expert sub-group, comprising of key representatives of civil society, government, private sector and academia, to develop a country-specific and, if possible, mineral-specific strategy for pilot implementation. This process may be undertaken with the help of the World Bank's Communities and Small-Scale Mining Secretariat (CASM), given its wealth of expertise in ASM.

There are many overt challenges, but also many opportunities for EITI implementation in the DRC's ASM sector. The expert group will have to decide whether to gear a strategy development process and a possible pilot implementation of the EITI towards the ASM sector of the DRC, or towards another country with a more suitable enabling framework for the EITI implementation.

131. Directly linked to the issue of payments to authorities is the issue of a largely dysfunctional banking sector, which adds a further challenge for the reform of the AM sector. Many people keep cash in their homes, which encourages theft and ransoming. The restoration of confidence in a domestic banking sector will be a gradual process. Traders either rely on parallel and informal sector structures, or bank outside the country (sometimes just across the border), if they are big enough. Nonetheless the lack of access to credit to purchase minerals and other products means that neighbouring and foreign traders have a definite advantage, and are often sought as partners. There are some private banks, such as BANCOR, who provide their services to business from comptoirs and small-scale mining companies. However, investors are often reluctant to use the banking system, as the “Tiers Payant” legislation allows people who claim you owe money to seize funds, so long as they have the approval of an administrative official, with no court proceedings. This is a huge vulnerability, and a disincentive for using the banking system; it also means that banks are extremely cautious about who they choose as clients .
132. The trade in AM production generates large revenue streams, with cassiterite exploitation in North Kivu worth around US\$ 115 million on the world market. Yet the fiscal contribution of these revenue streams to GDP is negligible, which can be ascribed to economic informality, institutional incapacity, fraudulent exports, extortion and corruption. In addition, on the local level the largest part of taxes and licenses outlined in the Mining Code is not collected, because the Mining Code is currently not enforced. As previously mentioned, the majority of miners and many négociants are not aware of it, and the tax provisions of the Mining Code are not conducive to the realities of the AM sector. Instead, informal and sometimes illegal taxes and profits continue to be collected by customary and traditional authorities, such as landowners and traditional chiefs, as well as unsavoury, exploitative elements, such as mafia networks and armed groups - and those who control the mafia networks and armed groups. Box 10 below deliberates introducing revenue transparency with the aim to leverage AM revenues to contribute to the DRC’s GDP.
133. This section analyzes the demography and social background of artisanal miners and mine site communities. In North Kivu, AM is a chosen livelihood strategy, as it is perceived as the best available money generating activity. This is directly linked to the disproportionately unstable security situation in the province, which in most cases prevents more time-consuming income generating activities, such as agriculture, and also to today’s buoyant mineral prices. It is hard to quantify how many people are working on the different mining sites across North Kivu, as census data is unavailable, and access is limited. A report commissioned by CASM estimates that 200,000 people work in the AM of various minerals in North Kivu , while it has to be emphasized that the term ‘AM worker’ does not only mean miner, but includes a range of support activities, which are discussed under The Structure of Production.

¹⁹⁷ Various Interviews, Bisie, 18/6/2007

¹⁹⁸ K. D’Souza (2007), *Artisanal Mining in DRC*, CASM, p. 14

¹⁹⁹ *Ibid.*

Demography and Poverty

- 134. The AM sector is differentiated by occupation as well as other aspects of identity, such as level of education, former occupation, ethnicity, age, gender, origin, et cetera. The occupational diversity AM provides translates into a mix of artisanal mineworkers from different social backgrounds and geographical areas in the different mines. In the Bisie mine, an estimated 10.000 people live in two support villages, Manoiré and Marojé, including the workers from the mining sites. 30% are female, and 70% male. 20% are children under the age of 10, 20% are youths (10-18 years) and 10% are over the age of 45. Women, girls, men and boys undertake a variety of activities both alongside mining in their livelihoods area and as a support to the mining activity, including selling food and general merchandise, such as clothes and batteries. There were an estimated 200 trading stalls in the mine's support village Manoiré, each manned by 1 to 10 people.
- 135. Most literature defines AM as an activity largely reserved for marginal social groups, such as ex-combatants, orphans, or the rural and urban poor . Data from the Bisie mine, however, shows that 35% of interviewed artisanal miners had enjoyed some form of education (10% university / 25% more than six years at school), which adds a new dimension to the analysis. AM is partly poverty-driven, with one third of interviewees indicating they originally started the activity as a last resort income generator. However, just over half of all interviewed artisanal miners – and in particular those with some form of education – indicated that they originally started the activity because of the prospect of 'quick money' . The two notions are complimentary and highlight the need for a diversified engagement strategy. The 'quick money' reasoning is linked to the coltan boom of the years 2000 and 2001, when prices skyrocketed to US\$ 380 per pound and artisanal miners were earning considerable sums, but coltan prices have since collapsed, and the mineral has become an entirely peripheral element in North Kivu's mining economy. Today, even with high cassiterite prices, 'quick money' in the mines is an illusion (see The Economics of Production), yet the myth persists, particularly in urban areas. In North Kivu there is currently no institutional actor that addresses the issue through, for example, awareness campaigns in urban areas, from which many of the miners originate.

Child Labour

- 136. The DRC is signatory to a number of child protection directives, such as the UN "Convention on the Rights of the Child"; the International Labor Organization (ILO) "Worst Forms of Child Labor Convention"; and the Organization of African Unity (OAU)'s Charter on the Rights of Children . In addition, there is a special Ministry of Social Affairs that has mandate over children . According to the Congolese Labour Code, the legal age of employment is 18. Employment of children at the age of 15 or more is allowed only if the Inspector of Work and the child's parents give permission. The writings of the law are, however, of limited use, since most children in the mining sector are not formally employed . In essence therefore, child labour continues strongly despite these initiatives. In this context it is important to note that, like agriculture, AM can be a family based activity, which makes the involved children very vulnerable. They lose many of their basic rights; the vital stability and routine of village life that is critical in their infancy; contact with their extended family and friends; concepts of normal social conventions and moral stability; opportunities for an education; and even the opportunity to play safely . It is therefore important to

frame child labour in the context of a country where it is considered normal for children to help supplement the family's earnings, be it in agriculture, mining, or elsewhere. Any proposed solution or project should take this notion into consideration.

137. Significant youth populations subsist in most mines in North Kivu, which mirrors the general age profile of artisanal mining in the DRC. This ties in with previous paragraphs, as the high number of educated miners confirms claims that for example teachers and pupils have left schools to work on AM sites. Many children and/or youths favour, or are forced to choose, the mines over schooling. Box 11 highlights the principal reasons for this trend in the DRC; however, particularly in mines controlled by rebel groups, or the national army, the means of recruitment is unclear. In some mines, migration is 'voluntary'; in others it is forced, with the children working as debt-bonded labour. The Children's inability to attend school means they will find future income opportunities outside of AM hard to come by. The long-term societal and national consequences of these patterns are clearly not favourable for the DRC's domestic recovery process.

Box 11: Causes of Child Labour in AM

1. Deepening poverty in rural areas, increasing dependence on the income-earning potential of children
 2. The ease of opportunity to exploit children, the growing proportion of the Congolese population under the age of fifteen (46.8% - UNDP 2004) and the fact that child work is often considered part of the socialization process by many rural peoples
 3. The rising number of orphans owing to war, HIV/AIDS, and other disease
 4. Disintegration of the traditional extended family
 5. Illegality and informality of much of the AM sector
 6. Lack of empowering organizations, such as associations/AM unions, organized CBOs or sector-specific NGOs
 7. Remoteness and isolation of many AM areas
 8. Lack of opportunities or incentives to go to school or continue with education in mining areas
 9. Lack of post primary education, few job prospects, regular employment or livelihood choices in rural areas
- Mirroring the mining in 18th/19th century Europe, there are also very practical reasons for children continuing to be employed in AM:
10. Size – Particularly in tunnels, which often do not extend beyond a diameter of 60cm, children are able to navigate and work where adults are not
 11. Cost – Children are cheaper to maintain for the tunnel owners. They eat less than adults, or youths, for example
 12. Survival – Where families are poor, it's a case of all hands on deck. The children have no option but to work

- 138. In Bisie at the time of research, no children under the age of 10 were identified on the mining sites, but a minimum of 300 youths (estimated 10-18 years) were present. Children and/or youths are predominantly engaged in hard-rock mining in tunnels, in alluvial mining and ‘washing’ of minerals, and in transport. Their work is physically demanding, with some spending up to 48 hours in hazardous underground conditions, or in direct sunshine and dusty areas. Child and/or youth porters often carry the same 50kg bags of cassiterite as adult porters, for 45 kilometres per journey, which can take more than 16 hours to complete (see Transport section). Most are paid in cash or cassiterite, however there were reports at the time of research of some merely receiving basic sustenance as payment. Despite these austere predicaments, there is a continuous influx of children and/or youths.

Gender Issues in Mining

- 139. In many mines in North Kivu, women are involved in mining. In fact, CASM estimates 45-55% of artisanal mineworkers in Africa to be female, with women and girls mostly compelled to undertake poorly paid secondary operations, including manual transport, and ore sorting and crushing . On alluvial mining sites with erratic water supply, it is mostly women who transport water from nearby rivers and lakes both for household and mining purposes.
- 140. In the Bisie cassiterite mine and in other mining areas of DRC, traditional authorities do not allow women on the mining sites. After complaints by a number of male miners to the traditional authorities about miners having been bewitched by resident women miners, and on their subsequent inability to find cassiterite, the traditional authorities banned women from entering the mining sites . The women now undertake their traditional tasks, such as cooking and fetching firewood, as well as child rearing. Some engage in prostitution as highlighted in Box 12. Generally speaking, many women in AM communities find themselves faced with technical, traditional and religious obstacles, including illiteracy, insufficient technical knowledge, sexist/ chauvinist attitudes, patriarchal views, social taboos and family responsibilities, all contributing to the feminization of poverty in many rural areas .
- 141. In Bisie, 25% of interviewed artisanal mineworkers claimed they were married with their families living in one of the mine’s two support villages. This suggests a general difference between the demography of mining communities and the demography of the actual mining sites themselves. Given that some mining communities include elderly and sick members, as well as young children, this is to be expected. The significance of this is that many mining communities are separated into distinct social environments, with a different set of rules prevalent in each, which is of importance to any local assistance strategy.

²⁰⁰ Code du Travail (2002), Exposé des motifs and article 133 referred to in Global Witness (2006), *Digging in Corrtion*, p. 32; compare FinnWatch (2007), p. 31

²⁰¹ D’Souza, K. (2007), *Artisanal Mining in DRC*, CASM, p. 15

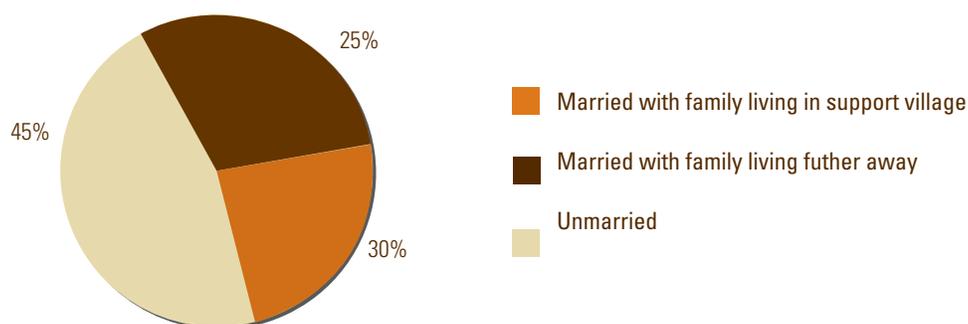
²⁰² Compare A. Tergera and D. Johnson (2005), *Digging Deeper*, Pole Institute

²⁰³ Various Interviews, Goma (April – July 2007) and Lubumbashi and Kinshasa (October and November 2007)

²⁰⁴ Source Point 1-9: K. D’Souza (2007), *Artisanal Mining in the DRC*, CASM, pp. 14

²⁰⁵ K. D’Souza (2007), *Artisanal Mining in the DRC*, CASM, p. 13

- 142. Almost half of the male population in Bisie is unmarried. In qualitative interviews, many of them suggested that they regard mining as the quickest and/or only option to generate sufficient income to be able to afford a dowry, necessary to facilitate a marriage. At the same time, many of the traders, who are financially better off than the miners, live in polygamous relationships with two or more wives.
- 143. There is a migratory element to AM, as discussed below, which has a direct and damaging effect on the traditional extended family structure. The extended family is a strong social security institution in the DRC, taking care of orphans, the elderly and widows. However, it is at risk of disintegration when male miners have to travel far from home and are away for indefinite periods of time. The remaining female-headed households have to cope without their husbands for long periods, and live in hope that they will send money, or even return themselves .



Marital Status of the Mining Population in Mpama / Bisiye

Migration

- 144. Artisanal mining communities in North Kivu seem to have a migratory background, which differs by region and gender. Regional differences are often related to ethnic background, which can sometimes lead to tensions. In Masisi territory in North Kivu, for example, which is largely controlled by the Rwandophone troops of General Laurent Nkunda (see Governance section), a dominant Tutsi migrant population can be found in the mines, originating both from Rwanda and DRC . This contrasts with parts of Walikale territory in North Kivu, and the mines inside the Kahuzi Biéga National Park in South Kivu in particular, which are partly controlled by the FDLR rebel group, and where a large Hutu migrant population from Rwanda can be found .

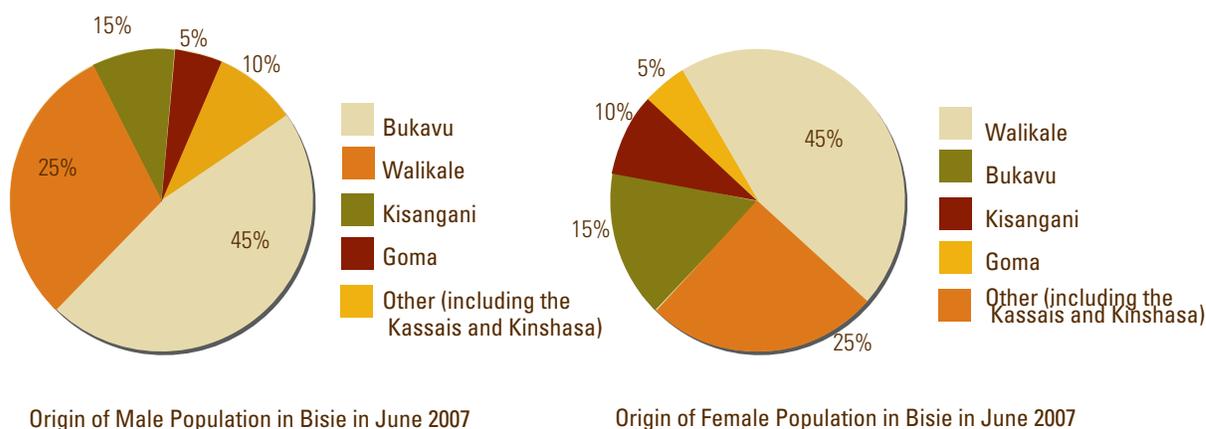
²⁰⁶ Various Interviews, Bisie, 18/6/2007

²⁰⁷ K. D'Souza (2007), *Artisanal Mining in the DRC*, CASM, p. 16

²⁰⁸ K. D'Souza (2007), *Artisanal Mining in the DRC*, CASM, p. 17

²⁰⁹ Various Interviews, Goma, April to July 2007

- 145. Interviewees in the Bisie mine exclusively claimed to be of Congolese origin. Whether this is in fact true, or whether this is deliberate misinformation, requires further research. The FARDC's non-integrated 85th brigade, in charge of the mine, includes former Mai-Mai fighters known to have nationalistic tendencies, which implies that some foreigners, particularly those of Rwandan origin, may pretend to be Congolese nationals for security reasons.
- 146. Despite having been operational for more than five years, the situation in Bisie can still be described as a rush-mining situation, attracting migrants from a number of provinces. It is important to note that only 10% of the overall population in Bisie considered itself to be internally displaced, which compares with around 25% of North Kivu's total population in December 2007. The migratory background of the population differs by gender, with the male and female populations in Bisie originating from the following areas:
- 147. What is notable in the above figures is the high percentage of women who originate from Walikale, compared with the majority of men, who originate from Bukavu. The interviewees provide different explanations for this. They suggest that women are less inclined to relocate far away from their families, unless forced by circumstance. Provided that 25% of women are married, this would explain the high number of women from Walikale. The predominant conclusion on why the majority of miners originated from Bukavu, was that the Bashi ethnic group, dominant in the Bukavu area, had a longer tradition of mining, and many had therefore resettled to this most productive of cassiterite mines. The mix of migrants from different geographical areas implies that new arrivals are integrated into the community relatively conflict free, and new arrivals did seem to be accommodated as long as they adhered to the present social structure, and announced their arrival with the traditional authorities. Many also claimed to have found immediate acceptance among those originating from the same geographical area.



²¹⁰ Various Interviews, Goma, April to July, 2007

²¹¹ Various Interviews, Bisie, June 2007

²¹² <http://www.reliefweb.int/rw/RWB.NSF/db900SID/LRON-7A4HU3?OpenDocument>

²¹³ Figures extrapolated from interviewed cross-section in Bisie, June, 2007

Social Challenges

- 148. More generally speaking, the migratory, transient character of mining communities is often the root cause for many social problems. Some experts have described AM in the many DRC provinces as fostering symptoms of “moral deprivation” . Competent public security within transient AM communities is often policed weakly or not at all, and theft, other criminal activity and unconventional social behaviour gradually become the norm. Sites and nearby towns rapidly become breeding grounds for crime (theft, assault, sexual violence, abuse, rape and murder), alcoholism, narcotics and substance abuse, prostitution, and other forms of moral depravity, particularly amongst the young male migrant workers and ex-combatants, who in turn influence the indigenous adolescents .

Box 12: AM and Prostitution

Prostitution in AM communities is rife. In the Bisie mine, prostitution is widely referred to as ‘Ndogongo’. Of the general population in the mine’s support village, 1,000 females are so-called ‘free women’, who are unmarried and not in a permanent relationship. Some resort to prostitution as part of their livelihood strategy, which has led to many contracting STDs, including HIV/AIDS, as well as an increase in teenage pregnancies. The prevalent macho culture in the male dominated mining community means contraception is seldom used, which accelerates the contraction of STDs. Alarmingly, the miners prefer young women or girls, whom they consider more attractive and less likely to have contracted a serious STD. The significant money particularly attractive women can make in prostitution - with some miners or merchants reportedly willing to pay up to 50kg of cassiterite for one night - draws in ever more young female migrants .

- 149. In Bisie these patterns could not be observed in a particularly dramatic fashion, but this is not to say they don’t exist, there or elsewhere. The mining community was very organized and disciplined despite its size. Given the hardship of their everyday life, the majority of residents admitted to finding creative ways to enjoy themselves. However, to speak of ‘moral depravity’ in this context is out of proportion, and it begs the question whether presenting the social dimensions of AM in a ‘moral depravity’ framework is helpful in light of already tepid enthusiasm from the development community for this most complex of economic sectors in the DRC. In Bisie, almost all interviewees suggested that after a 48-hour shift most were too tired to think of anything, other than food and sleep .

²¹⁴ Various Interviews, 18/6/2007

²¹⁵ Various Interviews, Bisie, June, 2007

²¹⁶ Compare K. D’Souza (2007), *Artisanal Mining in the DRC*, CASM, p. 11

²¹⁷ K. D’Souza (2007), *Artisanal Mining in the DRC*, CASM, p. 11

²¹⁸ Various Interviews, Bisie, June 2007

- 150. Artificially inflated prices for basic commodities are another root cause of social problems. High profit margins are often explained by the high costs of operating in a remote location, such as extortion and transport . High prices are a serious obstacle for those not involved in mining and/or trading, and can lead to malnourishment, which particularly affects the elderly, women and children. In Bisie, local food production is far from achieving subsistence levels, with subsistence agriculture limited to about ten very small fields for the entire population, where maize, bananas and pineapples are grown. Fishing is also very limited, despite two large rivers flowing in the vicinity of the mine. Instead, porters bring in 95 percent of food from Ndjingala . The potential to increase agricultural productivity is linked to a variety of factors. On the one hand, the general opinion from the population was that it is easier to subsist working in the mine, or in secondary activities, such as trading in goods or prostitution, than to attempt an agricultural venture. It is “easier to survive digging three meals a day, as opposed to growing your food”, as one interviewee put it. This implies not only that there is a constant need for food, but also that food production is related to the availability of land, the security of tenure, as well as the general security situation. In Bisie, just as well as in North Kivu more generally, farming land is often unavailable to subsistence farmers, and permanent insecurity means households keep food stocks at low levels.
- 151. Malnourishment can be linked to bad health, and even though detailed data on health is often unavailable, given the remoteness of many mines, most interviewees in Bisie complained of their bad state of health. Prevalent diseases were identified as STD's, measles, diarrhoea, malaria, tuberculosis, and verminosis; however, the sole medical support at the time of research were ten makeshift pharmacies, while the next health clinics are in Ndjingala and Walikale . It would therefore be worthwhile to investigate whether mobile health services could be introduced to tour the mining communities (e.g. education campaigns, vaccinations, distributions of contraceptives and sensitization of their use, a mobile pharmacy) . Generally speaking, in Bisie, as well as in other mining locations in North Kivu, the rudimentary basics are missing. There is no clean water, or sanitation. There is no access to healthcare, or adequate shelters. There is no power. There are no schools. Many interviewees stated that AM ‘eroded their dignity’, as a result of their daily hardship . Overall, one can say that the sector is faced with dramatic humanitarian and social problems, most of which require urgent attention. It is important to note here that M.P.C. ‘guarantees the State that it will immediately start to build smelter and plant housing, schools, hospitals etc., in Bisie and Walikale, once the military control of the mine has been broken and regularised production can start .

²¹⁹ Various Interviews, Bisie, June 2007

²²⁰ Various Interviews, Bisie, June, 2007

²²¹ Various Interviews, Bisie, June, 2007

²²² Various Interviews, Bisie, June, 2007

²²³ E. Levin (2007), A Sustainable Livelihoods Assessment of Operators in the Natural Resource Sector, INICA, p. 72

²²⁴ Various Interviews, Bisie, June, 2007

External Stakeholders and Development Assistance

- 152. In light of the challenges faced by the AM sector, the impact of previous assistance attempts has been suboptimal. Part of the reason is that many interventions have attempted to tackle the different challenges facing the sector in isolation of each other, not taking into account their interdependency and the sector's systemic nature. Instead of a holistic, multi-layered development approach, with an emphasis on local ownership, and based on solid, output-orientated research data, approaches have too often mirrored the interests of the executing body, not taking into account the reality of the sector on the micro-level, or the real needs of the miners . With any new policy attempt, the capacity constraints on the Congolese side have to be taken into consideration, but local ownership could be encouraged, incentivizing the thorough implementation and sustainability of any scheme.
- 153. A number of organizations have recently made concise recommendations for AM engagement that seek to both mitigate the sector's conflict potential, whilst harnessing its developmental potential . It is important to build on those recommendations, bearing in mind however that an enabling environment for efficient and effective AM engagement has first of all to be developed. Necessary international and domestic political support and financial commitment to support this process have to be galvanized.
- 154. The World Bank has commissioned a review of the DRC's mining sector that details its potential to contribute to economic growth with governance, with particular reform suggestions geared towards AM . Its suggestions, such as strengthening the mining law, lie at the heart of the problem areas identified by this report. However, in North Kivu, the mining sector reform will have to function within a conflictual governance culture, which dampens its chances of success . Likewise the multi-donor (DFID, USAID, COMESA) research project 'Natural Resources Exploitation and Trade Flows in the Great Lakes Region' has established a catalogue of proposed actions in the project report 'Trading for Peace' . These relate specifically to the realms of:
 - Livelihoods
 - Trade
 - Economics and Finance
 - Governance

The proposed actions could be translated into concrete policies and tools, with the aim to leverage the DRC's vibrant trading culture for developmental ends . Both initiatives tie in with a wider dialogue on how to advance a reform strategy for the sector, with interest from civil society, donors and multilateral agencies. Areas of discussion are the possible implementation of the EITI in ASM; technical support to the various government levels, including down to provincial levels; education and capacitating civil society; provision of technical support to civil society; assistance and reform of the security sector, customs and border control; Public Financial Management (PFM); encouraged responsible business behaviour in line with OECD guidelines, et cetera .

²²⁵ Interview with Brian Christophers, 27 April, 2008

²²⁶ Compare also K. D'Souza (2007), *Artisanal Mining in the DRC*, CASM

²²⁷ E.g. DFID, *Trading for Peace*; CASM; CommDev;

■ 155. The most notable DRC government initiative toward AM reform is an ambitious strategy for AM regulation, strengthening and transition, which has been drafted by SAESSCAM with the support of the NGO PACT. The strategy is currently under discussion. The strategy includes specific objectives and activities in the areas of:

- Government capacity, law enforcement and public revenues
- Encadrement and cooperative formation
- Health, safety and mine management
- Small scale mining and value addition
- AM – LSM Cohabitation
- Transition, livelihoods and vulnerable groups
- Conflict mitigation and resolution

Over and above the suggested reform suggestions introduced above, which are now being translated into actionable policies and projects, a number of initiatives are already being implemented, particularly on the international level . Some of these initiatives are of particular pertinence to North Kivu.

■ 156. UN Panel of Experts and UN Group of Experts and UN sanctions

The UN Panel of Experts' and the UN Group of Experts' work has been important in highlighting the cycle of conflict and resource exploitation in the DRC. One negative side effect of the early UN Panel of Experts work is that many foreign observers have settled under the incomplete view of the situation that the DRC's neighbours are stealing the resources of the Congo. This over-simplified or incomplete theory neglects the pivotal role of Western and Eastern companies and their complicity in local armed conflict dynamics, for example by not conducting proper due diligence when purchasing or brokering minerals from the DRC, and thereby providing armed groups with mineral marketing channels .

■ 157. The UN Group of Experts has the mandate to recommend further feasible and effective measures that the Security Council might impose, to prevent the financing of armed groups by the illegal exploitation of natural resources, with a specific view towards stopping breaches of the arms embargo. While a number of people have been sanctioned and/or named and shamed in the UN Group of Experts' reports, the success in implementing the UN Group of Experts' recommendations, and their impact on the ground, leave room for improvement. One of the UN Group of Experts' contributions are its research and its recommendations for the establishment of a natural resource control system, which was initially called 'enhanced traceability'. This concept was first introduced in report S2005/435 and it was developed further in subsequent reports and in oral presentations. This UN Group of Experts' initiative is a direct intervention against natural resources fuelling conflict, because it attempts to regulate the control over natural resources.

²²⁸ The World Bank (2007), *Growth with Governance in the Mining Sector*, The World Bank

²²⁹ Compare also Garrett, N.; Gille, F.; Newton, D. and Wattebot – O'Brien, J. (2008), *Strategic Conflict Assessment – The DRC's Mining Sector*, DFID, forthcoming

The straightforward theory is this: by strongly encouraging traders worldwide to require certification of proper ownership armed groups and other illegitimate trading groups will effectively be unable to sell their goods, and will thus find it harder to use natural resources for the financing of their operations. The German government is currently in the process of putting this recommendation into practice. In its latest report released in January 2008, the Group of Experts also supported the idea of due diligence in mineral sourcing, which is different to that of mineral certification, however, the idea seems to be facing political opposition in the UN.

158. International 'hard' law

There are a number of soft law initiatives of relevance to North Kivu's cassiterite exploitation, such as the OECD Guidelines for Multinational Enterprises (see Box 8); however, 'hard' law initiatives have also been advanced. The number of jurisdictions in which charges for international crimes, such as human rights abuses and 'complicity' in armed conflict, can be brought against corporations is increasing, as countries ratify the ICC statute and its definitions into domestic law. Where national legal systems already provide for criminal punishment of companies, the international standards for individuals may be extended, thereby, to encompass corporate entities. While the incorporation into a national legal framework in the DRC has not commenced, the development has had significant positive impacts on the prioritization of CSR strategies, which could be strengthened further. These are increasingly shaped through the interplay of the expansion and refinement of individual responsibility by criminal tribunals and the ICC; and the extension of responsibility for international crimes to corporations under domestic law. This implies that operators in the DRC and those purchasing from the DRC have to improve their conduct in light of increased civil society scrutiny, since their risk exposure is increasing. With expanding investment into North Kivu's cassiterite production, this will become of increasing relevance to the involved players, as time progresses.

159. Investment Standards

Investment standards, such as the new IFC Performance Standards and Disclosure Policy, provide clear guidelines for corporate conduct on a variety of issues. They link corporate conduct abroad back to the investor in the companies' home countries, and therefore provide the companies with a more democratic mandate to conduct themselves in a responsible manner. At the same time they provide the investor with the option to retreat from the investment and look elsewhere, if violations of the Standards come to light. Extractive industry companies are increasingly using the standards whether or not they have financing from IFC. One driver for this is the need to access financing from other commercial banks, which have developed their own investment standard in the Equator Principles. Since almost all large-scale mining projects are still in the exploratory stage and investment has yet to be completed, only time will tell whether investment standards will have an impact on the ground.

²³⁰ <http://www.dfid.gov.uk/pubs/files/tradeforpeace.pdf>

²³¹ Compare, H. Sunman and N. Bates (2007), *Trading for Peace*, DFID

²³² K. D'Souza (2007), *Artisanal Mining in the DRC*, CASM, p. 24

²³³ Compare also Garrett, N.; Gille, F.; Newton, D. and Wattebot – O'Brien, J. (2008), *Strategic Conflict Assessment – The DRC's Mining Sector*, DFID, forthcoming; For an overview of initiatives in the Natural Resources Sector, please refer to the DFID paper 'Extracting Equitable Benefits'

- 160. A significant challenge in North Kivu is that only a small number of domestic civil society organizations (CSOs) engage the province's AM sector. The most important NGO platform in this regard is the network RRN (Reseau Ressources Naturelles), which has member organizations in almost all provinces. These organizations are mainly involved in monitoring irresponsible business practice, promulgation of the mining code, and advocacy. Goma-based NGOs, such as CREDDHO or the Pole have been very active in this regard, and have also worked in partnership with donors and INGOs. An extension of this partnership across the province poses two challenges, particularly for donors: First, it is difficult to judge which partners to work with, since political affiliations and hidden agendas can often not be assessed beforehand; and secondly, many organizations have severe capacity problems. Capacity building of Congolese partner organizations has therefore to remain a priority for the foreseeable future.
- 161. In North Kivu, no large international NGO (INGO) could be identified that actively engages AM. The notable exception are international advocacy campaigns and INGOs' on the ground work on wildlife conservation. The large INGOs with a presence in the Kivus explained they were lacking the donor mandate to engage with the AM sector, and they were cautious about an engagement because of the conflict link, fearing a direct engagement will 'do more harm than good'. The conservation CSOs, such as the Gorilla Organization have shown that it is possible to engage with the AM sector despite the conflict link. A number of advocacy groups, such as the Make IT Fair campaign have recently focused on North Kivu's cassiterite trade, however, it is questionable what sustainable impact advocacy will have, if it is not followed up by constructive multi-stakeholder coalition building for action and change on the ground. Such multi-stakeholder constructs could include the stakeholders in the trade, i.e. the comptoirs, international purchasers, et cetera. In other provinces with different governance challenges and opportunities, such as Katanga and Ituri, some international CSOs, for example the NGO PACT, have begun to engage the sector proactively, albeit predominantly on a local level.
- 162. Although difficult to predict when and how this might occur, an end to military activity in North Kivu's mines could change considerably the prospects for success of a more intense developmental engagement with the province's AM sector. While this point is directly linked to wider security sector reform, carefully planned interventions are needed to ensure that mines currently under the control of military commanders do not remain under the de facto control of the same individuals, who given the chance would most likely continue to use coercion and the threat of violence to maintain control in peace time. Persuading the FARDC's non-integrated 85th Brigade to join the countrywide 'Brassage' process would be a starting point, in this regard. In addition, AM has often been a livelihood strategy for ex-combatants. The further demobilization of thousands of fighters, which would likely accompany a cessation of active hostilities, could see an influx into artisanal mining of a significant number of young men without alternative livelihoods, potentially further destabilizing the sector, if not accompanied by appropriate training in responsible mining. Skilled in combat, the ex-combatants are also potentially available for re-recruitment, should hostilities erupt again in the future. It is therefore important to create a sustainable and diverse range of employment for them.

²³⁴ Compare http://us.ft.com/ftgateway/superpage.ft?news_id=fto030420082233272004

²³⁵ See sanctions list of November 1st 2005, for example

²³⁶ http://www.bloomberg.com/apps/news?pid=20601116&sid=a5_fHt_MHXNY&refer=africa

²³⁷ Various interviews, March and April 2008

- 163. In light of the governance challenges that North Kivu is currently facing, and the economically important mineral deposits that the province harbours, some donors (most notably Germany, Belgium and, as previously mentioned, the UN) advocate Certified Trading Chains (CTCs), which would certify a number of production sites and directly link these sites to international purchasers. This scheme could be implemented comparatively cheaply. A different certification scheme is supported by different groups of scientists who are working on a method to ‘fingerprint’ industrial minerals. This ‘fingerprinting’ could serve to verify the origin of a given mineral sample at any stage of the value chain, however it may entail prohibitive costs. With either certification scheme, material that originates from (artisanal) mines linked to conflict, or where social, health and security standards are not applied, could be kept out of the value chain. Reputable international trading and processing companies could thus continue to buy material from the DRC without risking becoming the target of a ‘name and shame’ campaign. Germany is the first donor country to help implement such a scheme, after having signed a Memorandum of Understanding with Congolese government on April 14th 2008 . The exact implementation strategy is currently being developed.
- 164. The implementation of a CTC is thus driven both by industry and consumer demand, for materials and goods produced in an ethical manner. As a joint effort of industry, civil society and government, CTCs may compensate imperfect governance, resulting in increased state revenues as well as producer benefits, such as direct market access, fair returns and an enhanced environmental and social performance of the mining sector . In that way they can help to build up ‘islands of integrity’, with positive spillover effects in other regions. In the context of North Kivu, a CTC would foremost help to assess the true ownership of a natural resource consignment. It is currently always assumed that something being traded is legally owned by the seller, yet, as highlighted above, if one actually investigates the entire supply chain, one finds that ownership rights are frequently unclear, or disputed. In this respect, CTCs would provide an excellent addition to the portfolio of tools to be employed in an AM formalization attempt, but potential pitfalls of CTCs have to be taken into account. While CTCs can be comparatively cheap to implement, this is not the case with CTCs that entail a ‘scientific fingerprint’. The scientific method could adversely affect the necessary political support for the scheme, if it does entail high costs, while it will be easier to generate the necessary political support for the cheaper version based on regular, random and independent audits of production sites. There are other challenges, such as that CTCs do not tackle structural governance challenges; they are geared towards short-term benefits; they are prone to bottleneck problems; they could generate social fault lines in the larger context of the poor population of the country; they can lack local ownership, et cetera. However, the advantages seem to be great in the context of North Kivu. For most policy interventions to work, there will have to be a minimum enabling environment in place, transcending access, political commitments, integrity and domestic political will . Approaches like a CTC have the potential to attract reputable trading businesses back to DRC, and create a mining environment that can serve as a model also for other countries. However, the sections above have shown that the minimum enabling environment for them to work in North Kivu remains in need of wider, multi-stakeholder engagement.

²³⁸ UN SRSG, 2007: 9

²³⁹ UN SRSG, 2007: 8

²⁴⁰ www.ifc.org/ifcext/enviro.nsf/Content/EnvSocStandards

²⁴¹ Various Interviews, Goma, April – July 2007

²⁴² This happened largely through the Durban Process in South Kivu, which has lost a lot of its initial momentum with the departure of Estelle Levin (Interview, Durban Process, Bukavu, 3/5/2007)

165. In light of a proliferation of engagement strategies and an increasing interest in the DRC's mining sector, it is evident that coordination is required in order to effect change. The Communities and Small-Scale Mining Secretariat (CASM) is chaired by the UK's Department for International Development, and is housed at the World Bank. CASM is a partnership networking and coordination facility that engages with practicing miners, their associations and communities, governments and non-governmental organizations, and development assistance agencies. CASM is collecting and sharing lessons learned, developing good practice tools, and supporting learning activities. CASM's role in the DRC is important, as they are best equipped in terms of AM knowledge globally, whilst simultaneously they also serve as a communication platform for multi-stakeholders in the DRC's mineral sector on AM issues. This facilitates the search for solutions to AM reform challenges by bringing the different stakeholders together. As a coordination support body, CASM could also play an increasing role on the sub-national level, with a view to helping the Government move the agenda of AM reform forward in the provinces.
165. It is evident from this section that there is evidence of donor interest, coupled with domestic political will to 'do something about AM'. The main obstacles to implementation remain to find agreement on the most appropriate engagement strategy, to generate the necessary political will and financial commitment abroad, as well as the still significant capacity constraints the Congolese partners face. At the present moment, these obstacles reinforce each other: the international political will to engage financially is constrained as a result of the severe domestic capacity constraints, while the domestic capacity constraints persist as the political will to engage financially is constrained. This deadlock is exacerbated by the volatile security situation in North Kivu. A key stakeholder for positive change could be the 'reputable' private sector, which should have a vested interest in an improved governance structure in North Kivu's AM sector, both with respect to reputation management and future investment decisions. The private sector, beyond the extractive industries, could therefore lend its support more proactively to the mineral sector reform process in the DRC, for the reform process to stand a greater chance of success.

²⁴³ www.pactworld.org

²⁴⁴ Compare also Garrett, N.; Gille, F.; Newton, D. and Wattebot – O'Brien, J. (2008), *Strategic Conflict Assessment – The DRC's Mining Sector*, DFID, forthcoming.

²⁴⁵ <http://www.mineweb.com/mineweb/view/mineweb/en/page674?oid=50633&sn=Detail>

²⁴⁶ Wagner, M., Franken, G., Martin, N., Melcher, F. and Vasters, J. (2007), *Certified Trading Chains in Mineral Production*, German Federal Institute for Geosciences and Natural Resources (BGR), p. 5

²⁴⁷ Compare also Garrett, N. (2007), *The EITI and Artisanal and Small-Scale Mining*, EITI

Conclusion and Recommendations

- 166. This report provides an overview of the political economy of and potential for poverty reduction and development through artisanal cassiterite production and trade in North Kivu. Buoyant cassiterite prices imply that the production and trade of the mineral generates significant revenues, but both the general population, as well as the artisanal mining communities do not benefit from the windfall. The continued involvement of armed groups, who often collude with petty officials in the local control of cassiterite deposits, such as the FARDC's non-integrated 85th brigade in the Bisie mine, mean that the production and trade of the mineral continues to contribute to the insecurity in the province. A weak sectoral governance structure and the unavailability of markets, where the artisanal miners can get an adequate price for their produce and labour have the most adverse effect on the sector's contribution to poverty reduction. The following paragraphs summarize the author's preliminary conclusions on the different aspects of production and trade, which have been observed and analyzed in the report. Each section is followed by a number of recommendations for the multiple stakeholders involved.



167. Legal Aspects

- Under today's statutory law, soil and subsoil in the DRC – and therefore any mineralization – is property of the state. This is contrasted by customary law, which grants first right of occupation and includes user rights for customary chiefs. With the exception of the Goma-based comptoirs, the 'legal basis' for most artisanal mining communities and operators in North Kivu is customary law. The Mining Code is a parallel rule system, largely ignored by the majority of the AM sector, which enables those who are in positions of power to act with impunity.
- In North Kivu cassiterite is only artisanally mined; however AM friendly provisions in statutory law, such as designated artisanal mining zones, in which the activity can be lawfully undertaken, do not exist in practice. This makes AM an illegal activity, which translates into liability issues arising for any institutional or private actor proactively working with AM.
- Even if artisanal mining zones existed, a simple mechanism to close the zones implies that the Mining Code does not provide an adequate legal basis for security of tenure, which undermines investment into AM.
- Illegality marginalizes the sector and minimises its developmental potential, as it facilitates the involvement of predatory – and sometimes armed – actors and makes the miners vulnerable to extortion and human rights abuses.
- Creating a legal space for AM to operate in is the basis for the sector's effective formalization, regulation and upgrading. A higher degree of formalization would provide an entry route for the multiple-stakeholders to engage one another, which would have positive implications for conflict mitigation and prevention, as well as sectoral reform.
- Current statutory law provisions also prevent a direct route to the economic formalization of the AM sector. The absence of a parallel claims system for thus far undiscovered mineralization impedes the upgrading of AM to small-scale and medium-scale mining, as a result of the current concession system's bias towards existing capital endowment. These legal implications have a direct adverse effect on the sector's ability to contribute to poverty reduction and security in North Kivu.

²⁴⁸ <http://artisanalmining.org>

²⁴⁹ M. Eklund (2007), The impact of the Mining Code on artisanal mining in the DRC, INICA,

²⁵⁰ Interview, Markus Wagner, BGR, 20/9/2007

²⁵¹ A detailed discussion of capacity building measures is beyond the scope of this particular report.

Recommendations:

1. The Congolese government should strengthen the provisions made for AM in the Mining Code, thus providing AM with a secure legal basis to operate under. Donors could press for such a reform of the Mining Code in the framework of the World Bank's mining sector reform program. Any reforms of the law should thereby be undertaken with AM in major AM zones to understand how the law can be most suited to the local reality; there's no point changing the law to a law that remains too idealistic. The alternative is to implement separate legislation for the AM sector.
2. Once the Mining Code is reformed or separate legislation for the AM sector has been developed, donors should support the Congolese government in the promulgation and enforcement of the law through capacity-building initiatives, particularly at the provincial and local levels .
3. Further research should be undertaken into customary modes of organizing production and trade, with a view to formalizing these, rather than setting up a separate legal structure that these must somehow morph into, which will inevitably fail.
4. As opposed to a concessions system, a claims system would allow for a more direct route for artisanal miners into the formal economy and would leave scope for gradual development of mining activities from the artisanal to medium scale operations. Donors could discuss with the Congolese government the installation of a parallel claims system for thus far unknown mineralization to complement the present concession system.
5. Civil society should take on a watchdog role, and exert the necessary pressure and/or provide necessary assistance to help legal reform and application progressing.
6. Following a revision of the Mining Code and/or the development of separate legislation for the AM sector, any concession holding companies should ensure that post-reform provisions in the Mining Code are vigorously adhered to.

■ 168. Governance

- The progress the central government has made to date in its sporadic attempts to reform the AM sector is slowed by significant technical, financial, social, structural and policy-based challenges. State institutions' capacities to fulfil their tasks of reforming, assisting, monitoring and regulating the natural resource sector remain low, particularly on the provincial and local level.
- This leaves ample scope for exploitative practices, with state, non-state, military and private actors colluding for profit to the detriment of artisanal mining communities, which compounds the capacity problem with a lack of political will for reform .
- Artisanal mines can feature complex authority structures, combining modern and customary spheres and it is not always clear which representative bodies are relevant and legitimate. AM communities are seldom organised and democratically represented and thus lack the voice to articulate their demands and needs, which prevents them from participating meaningfully in effecting positive change .

²⁵² H. Sunman and N. Bates (2007), Trading for Peace, DFID

- The private sector has in other regions, such as Katanga, thus far sporadically proven its willingness to engage with AM (i.e. in partnership with PACT in Katanga, for example, however there area also increasing conflicts between AM communities and LSM companies. Of particular relevance to the case of North Kivu is that the domestic and international mineral purchasers and processors fulfil an important role in the financing of who is in control of natural resource production on the ground, by funding those in control through their purchases . Some companies continue to purchase and/or broker AM production on the open market without conducting proper due diligence of their supply chain, which continues to provide mineral marketing channels for such armed groups, as the FARDC's non-integrated 85th brigade.
- The proliferation of stakeholders involved in AM, many of whom have vested interests in the status quo renders trust-building - one of the central pillars of AM reform - very difficult. These governance challenges need to be overcome for a sector reform initiative to stand a chance of success and for the sector to contribute more widely to poverty reduction and security.

Recommendations:

1. The proliferation of stakeholders involved in AM renders trust-building - one of the central pillars of AM reform - very difficult. Donors could help to identify champions amongst the multiple stakeholders on the provincial, national and international levels and lend their support to 'multi-stakeholder coalitions for change' with the aim to pressure 'spoilers' with vested interests in the status quo and to assist the Congolese government with AM reform. It is important that this process looks beyond traditional partners and seeks to include actors like the international mineral processing industries and the comptoirs, as well as junior mining companies, for example.
2. Donors should help build the institutional capacity needed for the Congolese Government to reform the AM sector. The exact capacity building measures should be determined through a multi-stakeholder dialogue. Support to SAESSCAM is one option.
3. Civil society has an important role to play as part of the 'checks and balances' helping the Congolese government to steer the country on the path to prosperity. Donors should help to increase domestic civil society's capacities for it to be able to fulfil its role as a 'watchdog' and 'active stakeholder' in the AM sector reform process.
4. Since any intervention in the AM sector stands a higher chance of success if it is not designed 'for' artisanal miners, but by them, or with them, helping develop voice and representation for mining communities must be at the heart of a sustainable AM reform process. Donors could support the Congolese government in its attempts to enable and facilitate

²⁵³ N. Garrett (2008), Artisanal Cassiterite Mining in North Kivu – Implications for Poverty Reduction and Security, CASM, forthcoming

the organisation of miners into democratic units, such as associations, for example through SAESSCAM. These cannot be associations ruled by government and must not be embedded in the political system. They can partner and have relations with SAESSCAM, but must be independent and able to criticise the government and advocate for the miners' rights. This is not a tool for the government to control AM, but for AM to be empowered and speak to government effectively and collectively. Donors should simultaneously support multi-stakeholder oversight of the process in order to reduce the likelihood of formed miner representation to be co-opted by vested interests. The ongoing work of the Sustainable Minerals Management Programme in Uganda in organising and formalising AM is informative. The work of GAERN and CENADEP with diamond cooperatives in DRC is also informative and their domestic experience in this should be brought to bear in cassiterite mining.

5. The government proposes to let SAESSCAM organise the transformation of the AM sector. SAESSCAM has developed an ambitious strategy proposal for AM regulation, strengthening and transition that includes specific points with respect to conflict mitigation and resolution . To date SAESSCAM's capacities to lead this process are insufficient and its strategy proposal remains subject to debate. The strategy proposal is a top-down approach to reform, whereby the author favours a more participatory approach to reform that responds to local needs. In order to facilitate such an approach, SAESSCAM requires a responsive decentralised, but operationally capable organisation structure. Donors, civil society and the private sector should continue the dialogue of the reform strategy and seek avenues to include more stakeholders in the process to support the Congolese Government.

6. With increasing foreign investment and increased pressure on tin end-users to conduct proper due diligence of their supply chains, the comptoirs and junior mining companies in particular have a role to play; they should support a governance reform process, which would include putting pressure on so-called 'spoilers' amongst their peers, who have vested interests in the status quo. See also 'payments' below.

169. Geography, Physical Access, Infrastructure and Transport

Cassiterite mines are scattered across the province, but North Kivu's infrastructure is in a dire state, with selected rehabilitation programmes progressing slowly. This complicates access to mining areas, but also increases transport costs, as a significant proportion of cassiterite is internally transported by air. The dilapidated roads in the province facilitate extortion, which is a ubiquitous phenomenon along the province's transport axes, involving state and non-state military actors, as well as customary and statutory authorities. Likewise, unavailable and/or unreliable and expensive electricity currently prevents higher AM productivity and/or the upgrading of processing facilities.

²⁵⁴ http://us.ft.com/ftgateway/superpage.ft?news_id=fto030420082233272004

²⁵⁵ The priority areas identified are

- training in mediation and negotiation
- formation of dialogue structures
- economic opportunities for demobilised soldiers

Recommendations:

1. An extensive infrastructure development program is required to facilitate access, break geography-induced monopolistic/oligopolistic markets and reduce costs, as well as reduce opportunities for extortion. This should be a GoDRC priority. A coalition of donors, companies and NGOs can support the GoDRC in this endeavour as partners in road building projects. An infrastructure program should be carefully sequenced with security sector reform and wider engagement in the realm of trade. The latter point is of particular pertinence, as better roads also mean that it is harder to monitor the flow of natural resources; they can also facilitate access for armed groups

170. Structure of Production

The production of cassiterite is highly organised; however it is structured to the detriment of the artisanal miners, who currently reap little benefit from their activity, which means cassiterite production is currently not conducive to poverty reduction. Very basic production methods mean that AM is employment-intensive, yet it is also increasingly inefficient when mines mature, translating into a smaller return to higher effort. The provision of electricity and better equipment would have a beneficial impact.

Recommendations:

1. Buoyant cassiterite prices make it hard to persuade artisanal miners to undertake alternative livelihood strategies, even if provided through, for example, a donor programme. In light of this, the general focus could be on how to make production fairer and more efficient. In order to achieve a greater developmental impact, sustainable domestic supply chains, both for artisanal, small-scale and semi-industrial mining could be supported with a view to establishing formal secondary economies around artisanal mining zones.

171. Economics of Production

In circumstances reminiscent of previous rebellions in eastern Congo, the FARDC's non-integrated 85th Brigade is currently funding itself through the sale and control of the cassiterite trade at the DRC's principal cassiterite mine, Bisie. All entities buying from the mine are thereby indirectly supporting the Brigade, which is currently not under control of the 'état major' and acts illegally and abusively and with impunity. The general mining sector reform debate has moved on from the link between resource exploitation and the financing of armed groups, predominantly as a result of tangible progress in areas like Ituri. This is not to say that the issue as such remains a concern, as in many parts the national army seems to have taken over from the armed groups in terms of illegal exploitation of minerals and timber and associated human rights violations), however, the case of the FARDC's non-integrated 85th Brigade highlights the continued high degree of militarization of mineral production in North Kivu. The artisanal workers' incomes are low, also as a result of barter economies and uncompetitive mineral markets around the mines, yet at the time of research 30% of the minerals per ton export value was added in the mines, which hints at patterns of extortion at the production level. This is a political as well as an economic issue as most interviewees attributed significant direct benefits accruing to 'big men' in business, politics and the military. This structure at the production level in many cases prevents a more direct engagement with the AM sector, while it undermines the sector's potential to contribute to poverty reduction and exacerbates the province's security situation, as it allows armed groups direct access to finance.

Recommendations:

1. The international community could support the Congolese Government's attempts to reform the security sector with the aim to help demilitarize the AM sector. These efforts should interlink with efforts that are geared towards reform of the justice sector. Possible aspects could include training appropriate actors to police natural resources in outlying areas, paying ordinary soldiers adequate wages, and strengthen control mechanisms for accountability, which enable the civilian government to take action against commanders, who engage in corrupt activities, et cetera.
2. Many demobilised ex-combatants turn to AM as a livelihood and often exacerbate the already volatile security situation in the sector. In order to mitigate the effects of demobilization programs on the AM sector, this phenomenon could be taken into account in the planning of current and future demobilisation strategies. If buoyant mineral prices make ex-combatants chose to mine, instead of pursuing alternative livelihood strategies, they could be provided with training in responsible mining and guidance on how to mine legally.
3. To achieve a wider spread of the potential developmental benefit of AM it will be important to give voice to the artisanal miners, by supporting their democratic representation locally, be it through associations or cooperatives.
4. As discussed in the previous section on geography, access, infrastructure and transport, it will be important to advance in sequence the improvement of infrastructure. Better roads will mean better access, help to break barter economies around mines, and establish more competitive local mineral markets.
5. Domestically the UN could consider sanctioning comptoirs and small-scale mining companies, which are found to knowingly engage in business relationships with armed groups. If applied, this measure should be equally applicable to the state military and independent armed groups operating under the label of the state military, such as the FARDC's non-integrated 85th brigade, as well as other military units who may be formally part of the army but engaging in illegal exploitation, extortion and other abuses (see also Economics of Trade below).

172. Economics of Trade

North Kivu's cassiterite trade is very vibrant and thus harbours positive potential for wider poverty reduction. The trading chain is very well organized, which signifies a level of capacity, which could contribute to AM formalization attempts, if it is possible to harness it for such a developmental end. Presently, the principle challenges from the perspective of the artisanal miners are a lack of access to competitive mineral and labour markets, coupled with a lack of organization and funding. The trade being largely co-opted by vested interests and stifled by high export costs and bribes exacerbates these challenges. At the time of research, the comptoirs exported around 43% of cassiterite from North Kivu unrecorded. This happens primarily by under- or wrongly declaring their shipments. The Governor of North Kivu has introduced measures to curb overt smuggling, which was the predominant mode of exporting when North Kivu was under RCD-Goma rule, however these measures do not affect the under- or wrongly declared amounts. It follows that if the costs of exports could be reduced, a significantly higher share of minerals could leave the province recorded and taxed appropriately, thus providing a greater revenue stream. North Kivu's cassiterite trade is embedded in the global economy, with middlemen predominantly from Western countries financing the trade, and Asian smelters taking delivery of the actual mineral, before it enters onto the world market as tin. The cassiterite and tin processing industry - including the electronics contract manufacturers, which use cassiterite as tin solder in their products – therefore have a responsibility for their supply chains.

Recommendations:

1. One radical option would be for the Congolese government to introduce a state sponsored commercial body, which buys directly from the miners. This could also be undertaken in the form of a Partnership Programme Agreement. This commercial body would operate in competition with other entities at the level of production. The commercial body could organize the transport of AM production to Goma, where it would auction off the material to legitimate exporting comptoirs. The commercial body would not compete with the commercially run businesses at the export stage, but it would ensure adequate prices at the production level, whilst the auction process would ensure prices remain competitive when the material is sold to the comptoirs in Goma. At the same time one could introduce monitoring and significant penalties for companies caught buying from the military.
2. Donors should actively support the formation and implementation of clear standards for supply chain management and strengthen provisions made for companies operating under their jurisdictions, which make due diligence mandatory when sourcing minerals from the DRC.
3. Companies should conduct proper due diligence of their supply chains when sourcing their mineral inputs. This should be a standard procedure, both from a risk and reputation management and investment point of view.
4. The tin processing industry needs to stop buying cassiterite from sources that fund armed groups. They need to make their supply chains transparent and push controls over supply down the supply chain to make the source of cassiterite transparent. The private sector has a pivotal role to take on in supporting the AM sector's reform process from abroad, whilst the comptoirs and junior mining companies in the province could have a pivotal role to play in supporting the AM sector reform process domestically, particularly in light of increasing foreign investment into their operations.
5. 'Multi-stakholder coalitions for change' (see Governance recommendation 3).
6. For trade to become less conflictual, tax payments could be simplified, to reduce the number of institutions involved in tax collection and to increase the capacity of those that remain. This would provide a regulatory disincentive for fraudulent exports and smuggling, which will complement the Governors of North Kivu existing technical measures, which have thus far failed to affect under- or wrongly declared mineral exports. If the costs of exports could be reduced, a significantly higher share of minerals would leave the province recorded and taxed. Formalization could help to close the mineral marketing channels for actors directly implicated in armed conflict or give them a way to continue their business affairs legally and therefore without having to resort to violence to protect their assets. The primary entry point for this work would appear to be through the work that DFID, USAID and COMESA are pursuing on 'Trading for Peace'.
7. Find an efficient way to separate the high iron content out of the mineral bearing rock and find a market for this material, which is currently considered waste.

■ 173. Payments to Authorities

An obstacle to cassiterite production and trade contributing to poverty reduction and security in North Kivu are the above-average export taxations and other fees that the authorities continue to impose, despite clear evidence that they can neither enforce them, nor benefit from them, and which result in a prohibitive cost of regular business activity. The fees are a direct incentive for illegal or fraudulent exports. Tax payments could be simplified to reduce the number of institutions involved in tax collection, and to increase the capacity of those that will remain. The EITI provides a suitable framework for transparent revenue flows in the AM sector; however, the viability of such a process will critically depend on the progress of the DRC's general reform process, and it should probably be piloted in another, more advanced country first.

Recommendations:

1. The international community could lend their support to the development of a process for transparent revenue flows in the AM sector that would guarantee the accountable collection and also distribution of taxes. This could be implemented in parallel, or as part of a mineral certification project.
2. The Congolese government could revise its taxation structure to incentivize legal exportation. Simpler taxation leaves less room for bribe taking.

■ 174. Demography and Poverty

In North Kivu, AM is often a chosen livelihood strategy, as it is perceived as the best available money generating activity. This is directly linked to buoyant mineral prices and further incentivized by the disproportionately unstable security situation in the province, which often prevents more time-consuming income generating activities, such as agriculture. The mining communities in North Kivu have a migratory background, which differs by region and gender. They are further differentiated by occupation as well as other aspects of identity, such as level of education, former occupation, ethnicity, age, gender, origin, et cetera. AM is not exclusively reserved for marginal social groups, but a high percentage of miners have enjoyed some form of education. The latter group in particular started the activity because of the prospect of 'quick money', which hardly ever materializes. The significance of diversity within the communities is that they can be separated into distinct social environments, with a different set of rules prevalent in each, which is of importance to any local assistance strategy. The migratory, transient character of mining communities is often the root cause for social problems, particularly, including child labour, the feminization of poverty, and competition for basic commodities and food. Overall, one can say that the sector is faced with dramatic humanitarian and social problems, most of which require urgent attention.

Recommendations:

1. Since conflicts in the social realm are often directly related to migration into AM, tackling the structural reasons, which induce people to migrate into the sector, will help to alleviate conflicts in the social realm. This implies that the general structural issues of poverty and security in the region need to be addressed.
2. In the short-term, many mining communities require urgent humanitarian assistance, since they often live in unacceptable living conditions. Donors could help to build the capacities of the

DRC health service in concert with humanitarian INGOs and encourage the provision of mine site sanitation solutions, training in OSH, including sanitation and STDs.

3. Local food price inflation could in the short-term be counteracted through the provision of food aid and, in the long-term, managed through the encouragement of local agricultural markets through improved infrastructure, namely local roads, and the facilitation of local farming cooperatives or associations.

■ 175. External Stakeholders and Development Assistance

A variety of initiatives have been undertaken to regularize the natural resource sector in the DRC, which have had varying levels of success. While the progress of domestic AM formalization is progressing slowly, international initiatives, such as UN sanctions, international soft and hard law initiatives, as well as investment standards have, or could have a direct impact on cassiterite production and trade. Their overall effectiveness in actually changing the dynamics on the ground, however, thus far leaves room for improvement.

There is currently a significant interest in the DRC's minerals sector, though ambitious research work that has been undertaken it is not guaranteed that recommendations will necessarily translate into the equivalent into government and donors commitments. The latter is of particular pertinence with respect to assistance geared towards the AM sector. The still undercapacitated domestic partners and institutions complicate the implementation of viable and affordable assistance programs. The German government initiative to implement certified mineral trading chains in mineral production is a particularly promising idea for developing North Kivu's cassiterite trade (though politically it has its doubters). The initiative attempts to tackle the also by co-opting the end of the trading chain in the end-users, thus providing a financial incentive for change, also for the local operators.

Recommendations:

1. Donors should establish a coordination platform in order to avoid the duplication of effort and at the same time ensure that any AM reform is implemented country-wide and not just restricted to, for example, Katanga.

2. The German mineral certification initiative could be of particular relevance to the Bisie mine, if the FARDC's non-integrated 85th Brigade can be incentivized to join the Brassage process. The Bisie mine could become a model mine in the framework of the certification initiative. This should be discussed with the Congolese government and the concession holder Kivu Resources (through its subsidiary Mining and Processing Congo).

■ 176. This report has identified a number of opportunities and challenges the production and trade in artisanally mined cassiterite faces for it to contribute to poverty reduction and security in North Kivu. Basic enabling structures for development assistance strategies to work have still to be created, while the necessary international and domestic political will, and the ensuing financial commitment necessary for effective sector reform initiatives, have to be galvanized. This may sound like a daunting task, however, having witnessed the resilience of the trade in the face of adversity, it is imperative to leverage the current 'window of opportunity' that the overall mining sector reform in the DRC provides to also engage the AM sector. Only through concerted effort by the government, civil society, donors and the private sector will it be possible to harness the vibrant cassiterite trade for poverty reduction and security.

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FOR MORE INFORMATION CONTACT:

Gotthard Walser

E-Mail: gwalser@worldbank.org

Phone: +1 202 473 4234

Fax: +1 202 522 0396

Veronika Kohler

E-Mail: vkohler@worldbank.org

Phone: +1 202.458.9597

Fax: +1.202.522.0396

