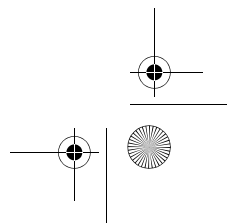
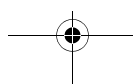
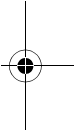
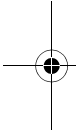
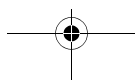
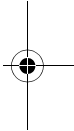
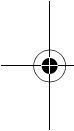
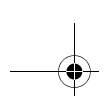


**A FARMER'S BEST FRIEND?
ARTISANAL DIAMOND MINING AND RURAL CHANGE
IN WEST AND CENTRAL AFRICA**



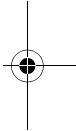
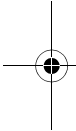





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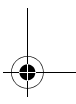
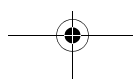
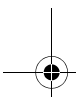
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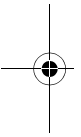
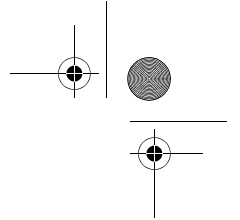


Editors
STEVEN VAN BOCKSTAEL & KOEN VLASSENROOT

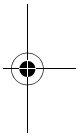


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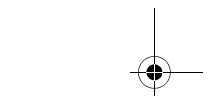
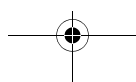


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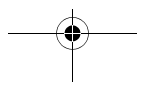
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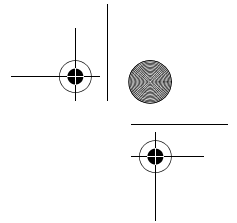
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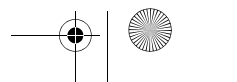
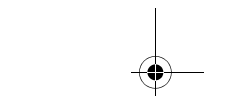
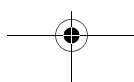
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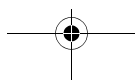
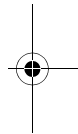
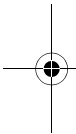
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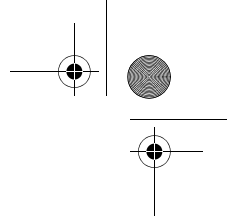
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INTRODUCTION

Steven VAN BOCKSTAEL & Koen VLASSENROOT

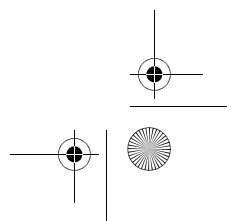
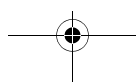
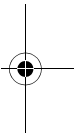
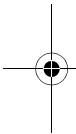
In November 2008, the Egmont Institute published the results of a research project on artisanal diamond mining and the challenges this activity presents for the Kimberley Process, the global initiative launched in 2000 to counter the smuggling of 'conflict diamonds'. The study also discussed the opportunities artisanal diamond mining presents for stimulating rural development in some of the world's poorest countries. Funded by the Belgian Federal Public Service of Foreign Affairs, the Foreign Trade and Development Cooperation, then Belgian Foreign Minister Karel De Gucht presented the book *Artisanal Diamond Mining: Perspectives and Challenges* (Vlassenroot & Van Bockstael 2008) to the 2008 Kimberley Process Plenary Meeting held in New Delhi.

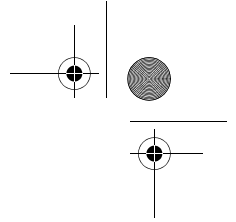
This book presents the conclusions of the second phase of the Egmont Artisanal Diamond Mining Project which ran from 2009 until mid-2011 and again was funded by the Belgian government. It pays particular attention to those communities for whom artisanal diamond mining (ADM) often represents the most important of limited opportunities available to earn small amounts of cash income, whether on a full-time basis or in concurrence with traditional agricultural or other livelihoods.

Scholarly research over the past two decades has conclusively shown that in sub-Saharan Africa rural livelihoods have increasingly come under threat: smallholder farmers, struggling to make ends meet, have been moving towards other

non-farm livelihoods in order to supplement their incomes (Bryceson 1996, Ellis 1998). This process of de-agrarianisation and the resulting necessity of income diversification has resulted in what can be termed multiplex livelihoods, stressing 'the complex multidimensional interplay of social, political, cultural and economic dynamics that are recasting the terms and conditions of rural work' (Bryceson 2002:2). Artisanal mining, being a low-tech, labour-intensive activity with few entry barriers, is a prime example of such a non-farm rural livelihood. Coupled with the likely growing numbers of artisanal miners in an era of increasing demand and prices for minerals, a comprehensive approach to artisanal mining has the potential to transform it into 'a catalyst for economic growth and sustainable development' (CASM 2009:2). Nevertheless, most of the African Poverty Reduction Strategy Papers (PRSPs) continue to place smallholder agriculture at the heart of national development efforts, and downplay the economic importance of non-farming livelihood diversification as well as the various factors which have fuelled rural livelihood diversification in the region (Banchirigah & Hilson 2010).

For many African governments, artisanal mining activities continue to represent a nuisance, a hindrance to potential foreign investors, even though artisanal diamond miners usually exploit alluvial deposits which are rarely economical for large scale mining development. Influenced by empirical studies linking easily accessible alluvial diamond deposits to a greater





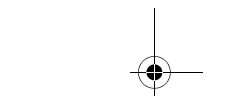
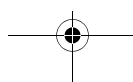
incidence of civil war, especially in countries which have had to face the spectre of 'conflict diamonds' in the recent past, additional security-related objections to artisanal mining are raised. Therefore, governments (and donors such as the World Bank and the International Monetary Fund) almost exclusively favour the industrial exploitation of alluvial diamond deposits, the continued exploration for kimberlitic primary deposits over existing forms of artisanal mining, or a collaborative effort between the two modes of resource exploitation (Le Billon & Levin 2008, 2009). On the other hand, disappointment with a large-scale mining industry that has not fulfilled anticipated development outcomes has led some countries to adopt more supportive policies regarding ASM. Ghana and Tanzania, for example, looking towards domestic alternatives to foreign-owned large-scale mining companies, have stressed the role of ASM as an important complementary element in terms of providing economic opportunities for rural communities, reducing rural-urban migration, and ensuring a higher degree of domestic returns from their natural resource endowments (Jonsson & Fold 2011:480)

While artisanal mining has been legalised in a great number of countries, existing legislation requires many ASM operators to comply with strict guidelines and costly mining licenses. Such legislation is often not fully adapted to the realities of ASM as a poverty-driven livelihood, and often at odds with the general lack of government capacity to adequately publicise, monitor, and enforce the Mining Code.

Unfortunately, adequate statistical information on artisanal diamond mining (and

artisanal mining in general) is hard to come by. Further research is needed in order to better ascertain the actual importance of artisanal mining for mining communities and countries at large. Unlike large-scale mining operators, artisanal miners do not enjoy decade-long tax-breaks or repatriation of capital: their meagre profits stay at home, and are invested in their communities through commercial interaction with local traders and service providers. And while diamonds (and therefore government resource rents) are sometimes smuggled out of the country, this is hardly the responsibility of the individual miners, but rather the outcome of a system of internal controls that is often too narrowly focused on individual miner's responsibilities, instead of the various brokers and middlemen who enable mining (both formal and informal) through funding arrangements, connecting rural economies with wider markets.

Despite efforts of the members of the Kimberley Process and a select number of international donors and NGO's, artisanal diamond mining continues to be a mainly informal enterprise. Current regulatory frameworks seem to have reached their maximum potential, with the remaining informal production being either integrated into the formal diamond trading networks by subsequent buyers and sellers, or illegally leaving the country through informal international networks. Apart from the clear implications this has on the credibility and effectiveness of the Kimberley Process Certification Scheme, it also represents significant losses for governments who are missing out on revenue. In addition, the global landscape for high-value minerals is changing.



The negative public profile of artisanal and small-scale mineral extraction, perceived as having slave-like labour conditions, causing untold environmental damages, and under the control of criminal networks, is becoming increasingly at odds with a growing global demand for 'clean', 'fair', or 'ethical' mineral supply chains. In addition, the image of artisanal mining continues to be tarnished by its involvement in armed conflict. Spurred by activist campaigns similar to those against the conflict diamonds of Sierra Leone, Liberia, and Angola of the late 1990s and early 2000s, public outcry over the perceived role (artisanally mined) natural resources have played in exacerbating the continued insecurity in eastern Democratic Republic of the Congo (DRC) has led to a flurry of initiatives that aim at stopping rebel militias benefiting from the trade in artisanally mined gold, tin, and coltan in Central Africa.

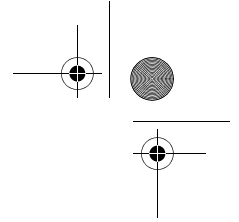
While large-scale mining companies can fairly easily ramp up their environmental or social credentials in order to pass certain standards and have the ability to market their diamonds as such, artisanal miners do not have this same ability. The Responsible Jewellery Council (RJC), for example, is a body established 'to reinforce consumer confidence in the jewellery industry by advancing responsible business practices throughout the diamond and gold jewellery supply chain'¹. It uses a set of standards on the basis of which it certifies its members as promoting 'responsible ethical, human rights, social and environmental practices in a transparent and accountable manner throughout the industry from mine to retail'. Following the high standards

required of each certified member, it is impossible for artisanal miners' organisations or miners' cooperatives to aspire membership of this body. In other words, large-scale mining companies are increasingly differentiating themselves and their diamonds from the 'other' diamonds: the roughly 25% of the world market that is produced by artisanal miners. Given its importance to rural livelihoods, the potential disenfranchisement of artisanally mined diamonds could have disastrous effects. While there will always be less conscientious buyers this will likely also result in negative repercussions on prices offered for artisanally mined diamonds. Without proactive policies adjusted to the needs and realities of artisanal mining communities instead of seemingly last-minute addenda to the Mining Code, artisanal miners are likely to suffer from these new developments.

However, a comprehensive framework that is designed with ASM interests in mind and which can convince artisanal miners and their financiers to formalise their operations can legitimise this important sector. Ultimately, a reinvigorated artisanal mining sector, supported instead of thwarted by national governments might create a new sort of diamond altogether: a diamond that is mined responsibly and that is guaranteed to help a rural community develop itself through a number of integrated saving and re-investment mechanisms. Different from an anonymous diamond carrying an identification number and mined by an anonymous mining conglomerate, such a diamond can be marketed as having a clear identity: mined by members of the community of X in country Y. Although far

1. See <http://www.responsiblejewellery.com/>





more advanced in terms of organisational structures, successful examples of this can be found in South America where artisanal gold miners in several countries, in collaboration with NGOs, have started certifying their gold according to a set of minimum standards. By doing so, they have gained access to the fairtrade and ethical jewellery markets, and have recently sold the first fairtrade and fair-mined gold.²

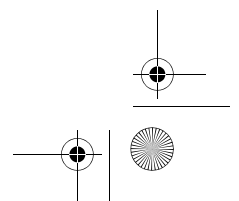
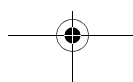
This also seems to be the rationale behind an ambitious project undertaken by the Diamond Development Initiative (DDI), which aims to gradually improve the social and environmental credits of the artisanal mining community. The Development Diamond Standards (DDS) that the DDI is currently developing are geared explicitly towards addressing development concerns related to artisanal mining. It positions itself as going 'beyond the idea of fair trade diamonds', arguing that most informal miners do not have the capacity to engage in such a process. The DDS framework defines 'development diamonds' as diamonds 'that are produced responsibly; safely; with respect for human and communities' rights; in conflict-free zones; with beneficiation to communities and payment of fair prices to miners'.³ While still in development, the DDS are designed to be applied by artisanal miners themselves, in cooperation with local NGO's. The strength of this model lies in its emphasis on community involvement, and its recognition of the reality of artisanal diamond mining and trading. Instead of trying to impose stringent requirements right away, the DDS is conceived as an evolutionary model, whereby miners are empowered to gradu-

ally improve their compliance with the more advanced standards in the DDS model. Interestingly, and unlike many other proposals related to ASM reform, it explicitly provides a space for the inclusion of middlemen, provided that they are willing to commit to gradually change their business models in line with the DDS framework. Currently, the project is still in development, and the DDS framework is not yet publicly available. The results of a pilot project currently being tested in the DRC will likely provide further insights before the DDS framework can be publicly presented and tested in other contexts.

Another key initiative that focuses on formalising artisanal diamond mining communities is the Property Rights and Artisanal Diamond Development (PRADD) project funded by USAID. Geared towards both mining communities and government officials, the project was originally set up in the Central African Republic (CAR) and has recently started work in Liberia as well. It aims to increase miners' awareness of existing legislation, while at the same time lobbying the government to progressively adapt this legislation in order to better reflect existing realities and practices. Key points are the recognition of customary property rights in order to increase miners' security of tenure, as well as providing mining communities with assistance on environmental reclamation. Miners are also assisted with reactivating mined-out areas, for example, by turning them into fish-ponds. Given the recent media reports of severe malnutrition in the CAR's diamond areas as a result of the collapse in global diamond prices due to the financial crisis of 2008, such measures

2. see <http://www.communitymining.org> for an overview.

3. Internal DDI documents on the development of the DDS framework, communicated to the authors, 2011.



allow miners to further diversify their income and significantly strengthen their livelihoods, making them less dependent on the revenue gained from diamond mining.

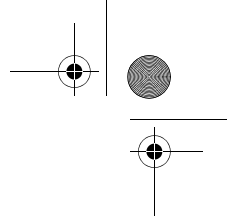
However, much like the discontinued Peace Diamond Alliance in Sierra Leone and the Diamonds For Development Project in Liberia that were studied in our previous book (Vlassenroot & Van Bockstael 2008), the initiatives currently undertaken by USAID and the DDI represent the only significant development interventions geared specifically at structurally reforming the artisanal diamond mining sector. Many donors and global development NGOs remain hesitant in engaging with the complex artisanal diamond sector. In the following chapters, we will try to provide the reader with a better understanding of the complex dynamics governing the artisanal diamond mining and trading sector. We will examine the impact of artisanal diamond mining on hundreds of thousands of African rural households, and try to explain why people still flock to recently discovered diamond mines or continue to search for diamonds where others have mined for decades. Many of the issues we identified in our previous study are still important points of contention today. It has been the express purpose of this research project to shed light on this key rural livelihood, so that future reform attempts and development projects do not start from misguided assumptions, but are designed with the needs and expectations of the targeted mining communities at their centre.

Sierra Leone is the West-African country that is probably most associated with conflict diamonds. It is the subject of the first chapter in this book, written by Dr Roy

Maconachie, who is a Lecturer in International Development at the Centre of Development Studies at the University of Bath. While much attention has been spent on the role that conflict diamonds played in the country's civil war of the 1990s, this chapter instead provides us with a longitudinal perspective on livelihood continuity and change in artisanal diamond mining communities in Kono District, and focuses on the flexible and adaptive nature of livelihood strategies there, examining how mining households try to maximise their livelihood benefits, intertwining both mining and farming activities.

In the second chapter, Shawn Blore, an independent researcher and journalist who has conducted research for the Canadian NGO Partnership Africa Canada (PAC) and the DDI on artisanal diamond mining in South America and parts of Africa, examines the DRC, the world's largest artisanal producer of diamonds by volume. Starting with the current regulatory framework governing artisanal diamond mining in the DRC, Blore proposes a reconfiguration of this framework. He is suggesting a shift in focus from individual miners to a system where the unit of production (the groups of miners working together) is used as the focal point for formalisation. Arguing that current formalisation strategies offer little tangible benefits to miners, Blore argues that guaranteeing security of tenure should attract miners to formalise their operations.

Written by Nicholas Garrett, Marie Lintzer, and Eric Manyacka of Resource Consulting Services, a consultancy firm specialising in natural resources governance and ASM formalisation issues, the third chapter deals with artisanal dia-



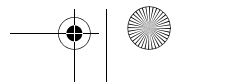
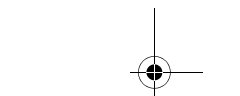
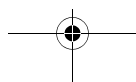
mond mining livelihoods in Cameroon. Cameroon's artisanal diamond production can be considered tiny by comparison with its neighbouring countries and it is not a member of the Kimberley Process (although it is in the process of applying for membership in preparation of a large-scale diamond mining project currently being developed), which makes for an interesting study. As the country's diamond sector is wholly informal and under-researched, this chapter can be considered a preliminary exploration of the country's small but vibrant artisanal mining sector.

The fourth chapter offers a detailed overview of the Ghanaian diamond industry, largely concentrated around the town of Akwatia. Written by Dr Gavin Hilson of the University of Reading in the UK, who is a well-published academic specialised in artisanal mining issues and in the Ghanaian mining industry in particular, this chapter examines the circumstances leading to the virtual disappearance of the Akwatia diamond industry, as well as providing a perspective for the reinvigoration of this once very significant part of the Ghanaian mining industry. In particular,

this chapter provides us with a clear demonstration of the impact of artisanal diamond mining on a community, and what happens when this livelihood suddenly starts to crumble.

The Central African Republic (CAR) is the focus of chapter five, written by Marie Lintzer and Harrison Mitchell of Resource Consulting Services. Although a long time artisanal diamond producer, it is usually neglected in the academic literature on artisanal mining. As the host country for USAID's PRADD programme it can offer good insights as to the importance of artisanal mining for rural livelihoods (as evidenced by the recent famine in the country's diamond mining areas due to the global crash in diamond prices), and how to strengthen these livelihoods.

A final chapter, written by the editors, will briefly look into these various cases and try to extrapolate some key arguments on how to bolster artisanal miners' livelihoods, better integrate them into their country's formal economies, and suggest policy guidelines that are adapted to these complex realities.



CHAPTER 1
**ARTISANAL DIAMOND MINING AND RURAL LIVELIHOODS
 IN SIERRA LEONE:
 CONTINUITY, CHANGE AND CHALLENGES**

Roy MACONACHIE

1. Introduction

Over the last two decades, Sierra Leone has become synonymous with political instability, economic devastation, and a brutal civil war that endured for most of the 1990s. Fuelled by diamonds and corruption, the conflict focused international attention on the processes of artisanal diamond mining and trading and their links to violent conflict. A growing body of research has examined the relationship between ‘lootable’ resources – those, such as diamonds, that have high value-to-weight ratios and can be easily appropriated and transported by unskilled workers – and underdevelopment in sub-Saharan Africa (Collier and Hoeffler 2005; Campbell, 2003; Mbabazi et al., 2002). The nexus between lootable resource wealth, poor governance, underdevelopment and conflict, it is argued, may be particularly prevalent in fragile states where there are large deposits of alluvial minerals that are mined ‘artisanally’, and it remains virtually impossible to monitor or regulate their extraction.

There is now a vast literature on ‘blood diamonds’ and the economic dimensions of Sierra Leone’s conflict (Keen, 2005; Gberie, 2005; Campbell, 2004; Smillie et al., 2000), and indeed much concern still remains for how illicit diamond trading continues to pose threats to national,

regional, and international security (MSI, 2004). These concerns have taken on new dimensions in a post 9-11 context, as the international community has become increasingly aware that the illicit diamond trade provides an effective vehicle for international money laundering and is a potential source of resources to be used by terrorist groups (see Even-Zohar, 2003). While the focus of recent international attention on Sierra Leone’s diamond sector has been predominantly concerned with human security issues, there has been comparatively little academic engagement with the specific role that alluvial diamonds have assumed in rural economies and grassroots livelihood portfolios and the potential contribution that they might make to rural development. While many previous commentators have explored the detrimental social impacts of diamond mining in Sierra Leone (Smillie et al., 2000), Ross (2003), on the other hand, notes that the potential benefits that lootable resources, such as diamonds, may have for local communities are significant; there is an urgent need to address key questions concerning interactions between mining activities, local livelihoods and wider change in rural society. As such, the objective of this paper is to steer clear of debates around diamonds, security, and violent conflict. Rather, the

main aim is to provide an overview of the changing nature of livelihoods in artisanal diamond mining communities, to explore how this has been shaped by wider societal structures over time, and to provide some perspective as to how the livelihoods of artisanal diamond miners and their communities might be strengthened and improved.

In carrying out these broad objectives, the paper draws on field-based research carried out in artisanal mining communities in Kono District in the Eastern Province during three separate periods in time, providing a longitudinal perspective on livelihood continuity and change. Focusing predominantly on the diamond-mining centre of Koidu and the nearby town of Kayima situated in Sandor Chiefdom some 40 kilometres to the north-west (see Figure 1), the paper first examines livelihood data collected during the pre-war years in the 1970s. This discussion is then followed by an analysis of field research carried out at the same sites between 2004-2008, during the post-conflict period, focusing on the changing nature of livelihood portfolios amongst miners. Finally, the paper concludes with an analysis and discussion drawing on recent interview material collected in Freetown and Koidu in November 2010, which highlights some of the main challenges that government and policy makers face in creating a more enabling livelihood environment for artisanal mining communities. In particular, the discussion reveals that recent efforts to reform and regulate the mining sector have considerable implications for the future of artisanal and small-scale mining (ASM) and raises a number of key questions for those who derive their livelihoods from ASM production.

In the next section of the paper, the discussion begins with an historical overview of the mining sector in Sierra Leone, sketching out the key elements of continuity and change since the discovery of diamonds in 1930. In particular, some of the main challenges and constraints to the ASM sector are presented. Against this backdrop, sections three and four of the paper then explore the inter-locking nature of small-scale diamond mining and farming activities in Kono District, demonstrating how the 'dovetailing' of the two economies has, for many years, been the backbone of local livelihood portfolios. In the process, the discussion demonstrates the 'resilience' of the essential links between the two sectors, showing how they have been maintained over time, despite the severe dislocation experienced during the conflict years. Most importantly, however, the analysis reveals that the relationship between the two sectors is flexible and dynamic, allowing for variable levels of engagement in activities on the farming-mining continuum, depending on specific circumstances. In section four, the resilience of livelihood portfolios becomes particularly apparent as evidence suggests that livelihood strategies have recently 'adjusted' to draw more directly on farming activities during an era of rising global food prices and a depressed international diamond market. Finally, in section five, the extent to which the government is taking steps to address the main challenges associated with ASM livelihoods is addressed, drawing upon recent interviews and focus group discussions carried out with sector officials in Freetown and Koidu, as well as with artisanal miners themselves in Kono District. The discussion demonstrates that the main stakeholder groups in the ASM sector all express different priorities, which poses



particular challenges to policy reforms aiming to formalise the artisanal mining sector, a development which many believe is a crucial step in strengthening livelihoods.

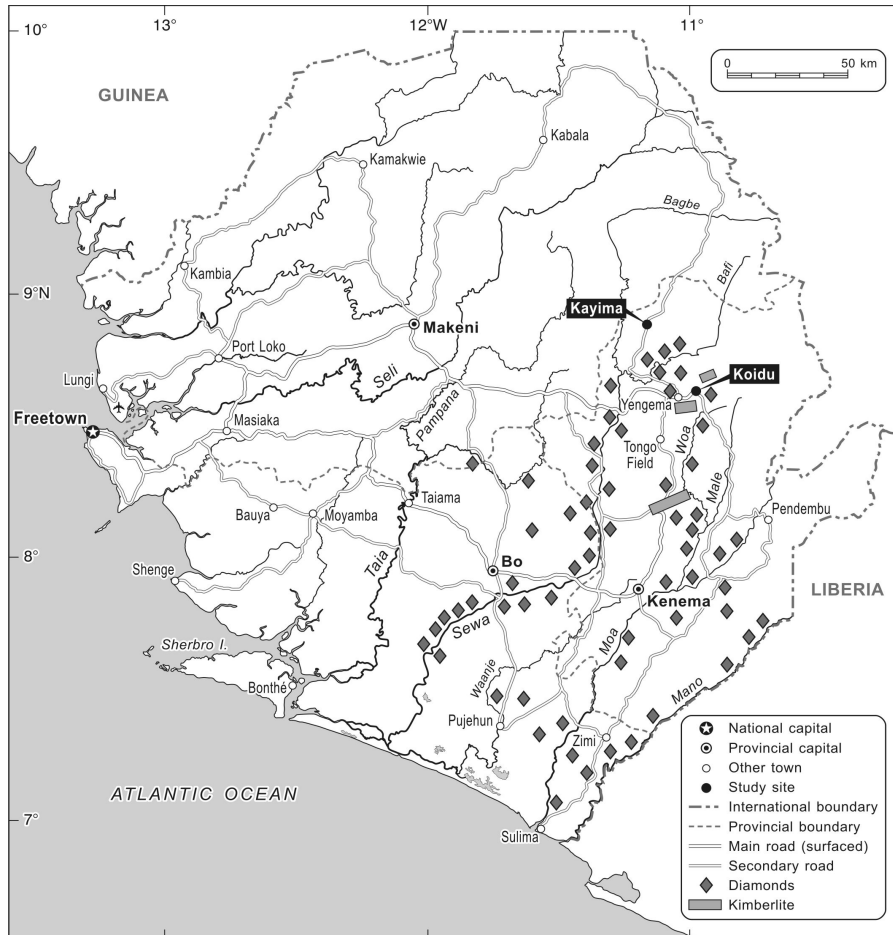


Figure 1: Diamondiferous regions of Sierra Leone

2. Diamond mining past and present: an overview

Since their discovery in Futingaya in Kono District in 1930, diamonds have been an important driver of Sierra Leone's national economy and a significant feature of the local economies and societies where they are mined. While much international

attention has focused on the central role that diamonds played in fuelling Sierra Leone's recent civil war during the 1990s, there continues to be much debate as to the role that diamonds might assume in the country's future development trajectory.

Unlike countries in Southern Africa, such as South Africa or Botswana where diamond mining is associated with the mechanical mining of deep reserves, in Sierra Leone diamond resources are much more accessible. Sierra Leone's diamonds are typically found either in volcanic breccias occurring as diamondiferous dykes (frequently referred to as 'kimberlite pipes' because their blue clay-like appearance is similar to those found at Kimberley, South Africa), or they are more commonly dispersed in the gravels of river beds and terraces. Two river systems, the Sewa and its tributaries, flowing through Kenema, Bo and Bonthe Districts, and the Moa, flowing through Kenema and Pujehun Districts, have deposited diamonds over large areas in the south and east of Sierra Leone (see Figure 1). In areal extent, the country's alluvial diamond mining fields cover almost 20,000 sq kms though the actual diamond-bearing alluvial ground is only about 200 sq kms.

Despite extreme present-day levels of poverty in the diamond-rich Eastern Province of the country, there was a time when the local benefits of diamond resources were much more apparent for those living and working in diamondiferous communities. In 1934, when the main mining company – Sierra Leone Selection Trust (SLST) – was first established, evidence suggests that there was, in fact, a considerable amount of diamond revenue being reinvested in local development (Maconachie, 2009; Temple 2006; Binns, 1982). At that time, employees of SLST were not only provided with relatively well-paid jobs but they also received a range of associated benefits, including schooling for their children, university scholarships, housing and medical care. Reports also indicate that during these

early days, diamond revenues were used to finance infrastructure development, including road construction, and the provision of clean drinking water and electricity (Temple, 2006). Consequently, the diamondiferous areas – most notably in Kono and Kenema Districts – prospered and were important drivers of economic growth.

Nevertheless, despite the initial reinvestment of SLST diamond revenues into local development initiatives, the benefits accruing to small-scale artisanal miners were less pronounced. Aggressive policing of the SLST concession area tended to exacerbate local grievances and led many Kono residents to believe that they were not getting a fair share of the wealth generated from their land. Oral histories from artisanal miners in Kono District reveal that during the 1950s, it was not uncommon to find a good quality diamond on the ground surface, particularly after rain (Binns, 1982), and this 'accessibility' of diamonds led to a 'diamond rush' in the 1950s. This quickly raised concerns about the ever increasing influx of migrant 'strangers' into Kono District, especially wealthy members of ethnic trading diasporas (Lebanese, Fula and Mandingo) who were supporting illicit mining but were perceived to be reinvesting the profits elsewhere (Hayward, 1972). According to official estimates, 75,000 people were engaged in diamond mining in the entire country in 1956, most of them operating illegally.

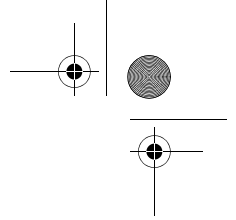
The establishment of the Alluvial Diamond Mining Scheme (ADMS) in 1955 meant that indigenous Sierra Leoneans could apply for mining licenses to legally extract diamonds in designated areas outside the two SLST mining company leases

in Yengema (Kono District) and Tongo Field (Kenema District). Spurning an opportunity to bring modern bureaucracy closer to the people, the government left it to the Chiefs to authorize private mining licenses. However, in this respect, the ADMS only served to strengthen Chiefs' brokerage role in the artisanal diamond industry. It also helped to entrench the 'tributor-supporter' system of mining governance in which investors ('supporters') would negotiate access to mining plots with Chiefs and/or license holders and hire youth gangs to work them. The mining gangs ('tributors') would be supplied with food and tools by the supporter but receive no other payments unless diamonds were found (Zack-Williams, 1995). This system of mining has endured in Sierra Leone to this day, and because tributors are held in a form of 'debt bondage' to their supporters, some commentators have argued that for those at the bottom of the diamond chain, ASM extraction in Sierra Leone resembles little more than a modern-day form of slavery (Smillie, 2000; Zack-Williams, 1995). Further consideration will be given to tributor-supporter relationships and the entrenched poverty that miners must endure in section five of the paper, which focuses on the institutional frameworks around mining policy and rural livelihoods.

By 1970, the Sierra Leone Government had acquired a 51 per cent share in SLST, and the National Diamond Mining Company (NDMC) was formed. At that time, extraction methods became more mechanized, involving draglines, earth-moving equipment, and sophisticated treatment plants to separate diamonds from the gravels. During the period between 1963-1975, the sale of industrial and gem dia-

monds represented about 60 per cent of the country's export revenue, with the total value of diamond production peaking at £19.3 million in 1975 (Binns, 1982). However, it was also during these years that President Siaka Stevens and the All Peoples Congress (APC) government (1968-1985) gained control of the diamond sector, marking the beginning of a long decline for the industry. As Stevens appointed many of his allies to positions of power and rewarded them with diamond revenues, the industry was reduced to a parastatal that was rife with smuggling and corruption. In the 17 years that Stevens retained power, official diamond exports plummeted from 1.7 million carats in the 1960s to a mere 50,000 carats by 1985 (Temple 2006). By the mid-1980s, bureaucratic rent-seeking, increasing scarcity of foreign currency and price controls had left basic imports of rice and fuel permanently in short supply. Infrastructure deteriorated, public sector real wages plummeted, and government services gradually became non-existent. The Revolutionary United Front (RUF) insurgency of March 1991 served as the final catalyst for state collapse and led to a decade of diamond-fuelled destruction.

Today, many of the initial obstacles and constraints associated with early artisanal mining endeavours in Kono District continue to provide considerable challenges for the sector. While it is both easy and economically practical for mining companies to strictly control deep kimberlite mining (as in South Africa or Botswana), alluvial diamond fields, on the other hand, contain relatively few diamonds per hectare, people tend to actually live where the diamonds are and labour-intensive mining techniques are more common. It is thus virtually impossible to closely control



alluvial diamond fields that are mined artisanally.

Considerable international attention has focused on the Kimberley Process as a possible way forward in breaking the link between the legitimate trade in diamonds and uncontrolled 'conflict' diamonds and since 2000, the introduction of kimberlite diamond production in Sierra Leone has significantly increased the value of export earnings. However, large-scale and capital intensive mining operations only account for some 10 per cent of Sierra Leone's diamond exports by value. On a much smaller, local-level scale, the bulk of diamond production comes from small-scale extraction (Partnership Africa Canada, 2006) and continues to be difficult to regulate since it is predominantly 'artisanal' in nature, involving no more equipment than picks, shovels, buckets, and sieves to 'wash' the gravel.

Current government estimates suggest that artisanal mining, Sierra Leone's second largest employer after agriculture, presently provides a livelihood for some 120,000 to 200,000 people⁴. In 2007, US \$141 million of diamonds were officially

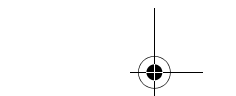
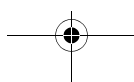
exported from the country, of which over US \$100 million came from artisanal production (SKI/NMJD, 2010; DDI, 2008). Typically, under the 'tributor-supporter' system of mining governance, between 20 and 100 miners will work together on small plots, digging gravel, transporting it and washing it. Although on the surface, artisanal mining activity in Sierra Leone appears to be completely anarchic, there is, in fact, a tightly managed, highly ordered structure to production, and such local-level mining remains vital to both local and national economies. It is significant to note that the sector also generates a considerable amount of revenue for the government, and at this micro-level the future potential of alluvial diamond mining in Sierra Leone is considerable (Ministry of Mineral Resources, 2005). Studies conducted in the Eastern Province during the 1970s, before the war, suggested that if diamond capital was reinvested into the local economy, it could provide the necessary catalyst for rural development (Binns, 1981). As such, in the next section of the paper a more detailed discussion of the role that artisanal diamond mining plays in local livelihoods is presented.

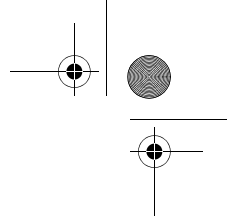
3. Artisanal mining and livelihoods

There is now an extensive literature exploring the 'inter-locking livelihoods' thesis in sub-Saharan Africa, which suggests that de-agrarianization and diversification are increasingly assuming a central role in rural household economies (Bryceson 1996; Ellis 1998, 2006). The ability for households to diversify their liveli-

hood 'portfolios', it has been argued, has helped many people in rural Africa buffer a range of shocks and stresses, and has provided an effective strategy for coping in difficult times and for spreading risk. It would appear that this is also the case for those living and working in diamondiferous communities in Sierra Leone.

4. Personal communication, Jonathan Sharkah, Director of the Ministry of Mineral Resources and Political Affairs (MMRPA), Freetown, 22 November 2010.





In undertaking livelihood analysis in Kono District, it is particularly important to understand the kinds of pressures that households face, and the variable ways that they may respond to them. At any specific moment in time, individuals, or households may possess different combinations of 'capital' assets in their livelihood portfolios.⁵ Indeed, if a household is lacking in one category of assets, capital might be converted from one form into another, but ultimately, changes in the level of available assets may affect the ability to engage in sustainable practices. In improving and safeguarding their livelihood base, households do not merely rely on agriculture alone, but rather they draw on a wide range of other resources, including non-farm activities such as artisanal mining, petty trading, or temporary seasonal labour migration. Livelihood portfolios in Kono District are therefore constantly in flux, and livelihood strategies are susceptible to vary over time and space, as local and external conditions change.

The tendency to diversify portfolios is widespread in Kono District, where actors pursue complex and dynamic livelihood strategies that involve the intertwining of the farming and mining economies. The ability of a livelihood to cope with and recover from shock is one of the defining elements of a sustainable livelihood, and evidence from the research upon which this paper is based demonstrates that essential links between farming and mining have been maintained over time, despite the severe dislocation of the civil war years. An essential focus of this paper

is on the resilience of this dual economy, and the varying contributions generated by farming-mining links, which have been important in maintaining the livelihoods of poor households.

Previous field research undertaken by Binns (1981; 1982) in Kono District during the 1970s provides an early illustration of the diversification of livelihoods in the region, and suggests that there have long been strong linkages between the farming and artisanal diamond mining sectors. In particular, this work demonstrates how the diamond mining and rice farming economies inter-lock, with the former being undertaken predominantly in the dry season when river levels are low, and the latter being carried out mainly during the rainy season (see Figure 2). Rice, the main staple crop in Sierra Leone, is grown in two main food production systems in Kono District – the upland system or the swamp (wetland) system. Traditionally, in both systems, during the farming season large reciprocal work gangs (referred to as boma groups in Kono) have been vital in undertaking a sequence of demanding, labour-intensive farm activities which must take place within a brief window of opportunity in the agricultural cycle. But in farming communities located close to the main diamond mining areas in Kono, there has long been a regular circulation of labour between farming and mining activities over the course of the year.

One important pattern that was evident in the early 1970s was that the graph of monthly ADMS licence issues corre-

5. According to the Sustainable Livelihoods Framework developed by the UK Department for International Development, there are five main types of capital that households draw upon – natural, economic, human, physical and social capital. According to Chambers and Conway (1992), a livelihood is sustainable 'when it can cope with and recover from stresses and shocks, maintain or enhance its capabilities and assets, while not undermining the natural resource base.'

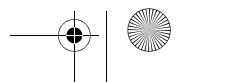
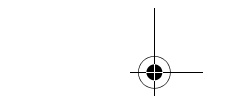
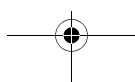




Figure 2: Seasonal Profiles of Farming-mining Activities in Kono District
 Source: Adapted from Temple (2006:25)

sponded closely to the cycle of rice cultivation on the upland farm, the most important food production system in Kono District (Binns, 1982). Although diamond mining is an activity that is principally carried out by men, the division of labour for rice cultivation is shared by both men and women, according to the different tasks undertaken at various points in the agricultural cycle. The peak period for licence issues in the 1970s was between January and March, which corresponds with the dry season and the preparation of the upland rice farm for planting. This period involves the highest level of effort, whereby men are preoccupied with the

clearing of undergrowth, felling of trees, and the burning of debris. Although this is a demanding period of work, there are times, for example whilst the cleared vegetation is drying, when farmers are able to spend some time away from their farms and undertake diamond mining activities. Typically during this period, those undertaking mining would be engaged in stripping and extraction activities, preparing the gravels for washing in the future months.

The month of April corresponds with the burning of farm debris, sowing of rice seeds and hoeing the farm, and during this

period the issue rate of ADMS mining licences in the early 1970s typically declined. From this point in the agricultural cycle, farming activities increase in intensity until the height of the rains in July and August, when fencing and weeding must be done. During this period, most part-time miners would return to work on their farms, growing foodstuffs for their families and possibly selling surpluses to the mining population in places like Yengema or Koidu. Between late September and the beginning of December, the rice crop is harvested and most part-time miners would spend their time participating in this important economic and social event. By the end of December, the majority of the harvest would be completed, mining activities once again became more prevalent, and the number of licenses issued tended to increase. It was therefore apparent in the early 1970s that diamond mining and farming activities were governed by seasonal cycles, with mining being undertaken in the dry season when river levels were low, whilst farming was the dominant activity during the rainy season.

Fieldwork undertaken in and around the diamond mining areas in Kono District in the 1970s thus suggested that the stereotypical view of the negative impacts of diamond mining on farming was in fact far from an inaccurate picture of reality.

Rather it was apparent that many part-time miners were also actively working and investing in both food and export crop production (Binns, 1982). In striving to achieve sustainable livelihoods, individuals and households drew upon different types of capital assets in a variable portfolio of productive activities. Early research undertaken in the town of Kayima illustrated that large quantities of food crops were being produced for sale to the mining population, and the income generated was being reinvested by producers into their homes, families and, most notably, in the expansion of cash crops such as coffee, cocoa and citrus fruits (Binns, 1982). Whilst many farmers were producing considerable amounts of surplus rice to sell in the mining area markets (Rosen, 1974), the greatest response in terms of production system changes occurred with fruit and vegetable crops, most notably cassava and citrus fruits, which were increasingly grown for sale to the mining population. In short, although the diamond boom invariably had some detrimental effects on food production in the early years of mass participation, many farmers actually seemed well aware of the increasing demand for foodstuffs in diamond area markets. In response, many strengthened their livelihood portfolios by progressively innovating their production strategies towards satisfying this demand for food (Binns, 1981; Rosen, 1974).

4. Farming, mining and changing livelihood strategies

Follow-up research was carried out in Kayima in 2004 and then again in 2008, focusing on the same livelihoods issues that were explored in the 1970s research described above. 50 households in Kayima were randomly sampled, and

semi-structured interviews were conducted with a broad cross-section of the community. Discussions specifically focused on issues concerning the relationship between alluvial diamond mining, agriculture, and rural livelihoods. The



interview schedule revolved around questions which explored local efforts to rebuild rural livelihoods, examined how surplus farm crops were being sold to miners and the income used in community reconstruction, and investigated the effects of diamond mining on farmers' production and marketing activities. Particular attention was focused on the seasonal or temporary movement patterns of individuals between their farms and the nearby mining region of Yengema (see Figure 1). Drawing on this fieldwork, the discussion that follows explores the flexibility and adaptability of livelihoods strategies over the four years between the two fieldwork periods, and demonstrates how mining households exercise trade-offs between productive activities to maximize their livelihoods.

4.1. *Kayima, 2004*

Accurate and up to date statistics on employment in the informal diamond mining sector are difficult to obtain, given the somewhat anarchic nature of current mining activities. However, analysis of the rural economy in Kayima in 2004 revealed that there continued to be periods during the agricultural calendar when farmers diversified livelihood activities and engaged in vital off-farm income-generating activities, especially in the nearby diamondiferous areas. Somewhat surprisingly, this research revealed that many of the links between the farming and diamond-mining economies noted in the 1970s had actually been maintained, despite severe dislocation during the war. Households were still generally characterised by a 'dual economy', on the one hand producing food for the family and surpluses for sale

in mining area markets, and on the other in supplying labour for diamond-mining. It was apparent that seasonal migration between farming and mining areas played a fundamental role in spreading livelihood risk by allowing individuals to 'straddle' different productive zones during uncertain times.

In 2004, 78 per cent of those interviewed in Kayima admitted that either themselves or a family member were part-time miners during the dry season and 46 per cent believed that the number of youths who were seasonal miners had increased since before the war. There were a number of explanations for this phenomenon. Most importantly, it was recognised that there was a desperate need for financial capital to repair houses damaged in the war, with many speaking of a serious 'housing crisis'. Others spoke of the need for cash to reinvest in farming activities, particularly to hire labour. Many respondents added that because social networks (social capital) had been weakened as a result of the war, labour had subsequently become monetized, and it was increasingly difficult to source the money to pay for it. Such income derived from artisanal diamond mining was reported as an important source of capital, and research carried out in other parts of the country confirms this observation. For example, in focus group work carried out in nearby Kamara Chiefdom in Kono District in 2006, Temple (2006) notes:

People mine because they believe that it is the best way of raising capital to secure their livelihoods and to invest in other aspects of their lives. Women participants in focus groups and workshops reported that the most valuable

benefit they received from mining was the renovation, repair or construction of housing. They were adamant that their decisions are based on rational household planning whereby the women provide for the daily needs and men bring in the capital for the greater household needs. This, they said, was the main reason their men mine (2006: 18).

In Kayima, research conducted in 2004 revealed that 40 per cent of those interviewed believed they were benefiting from diamond mining either directly or indirectly (see Table 1). Within this group, 12 per cent noted that miners created an important market to sell their produce, and 8 per cent pointed out that this was a vital part of their livelihood portfolio as they could not meet all their needs from farming alone. Alternatively, 36 per cent believed mining to be 'a gamble', and 10 per cent stated that mining had deprived their family of farm labour. A further 8 per cent of the sample conceded that mining was destroying valuable farmland (see Table 1, p. 22).

4.2. Kayima, 2008

Between September and November 2008, Kayima was re-visited and another 50 households were randomly sampled and interviewed in order to determine what, if anything had changed over the previous four years. While many of the same questions originally asked in 2004 were re-visited, the interview schedule also revolved around a variety of other livelihood-related questions which explored the present relationship between youth and Chiefs, the re-building of reciprocal

labour relationships, associational life and labour club activity, and the amount of independence and decision-making abilities that youth held in rural society.

As was the case in the research carried out in 2004, most of the households interviewed in 2008 reported that residents of Kayima still had strong links with nearby mining areas. When questioned about the present-day links that existed between the diamond mining and farming economies, interviewees believed that the most important relationship between the two concerned the profitable sale of foodstuffs to miners: 84 per cent of the sample reported that farmers from Kayima obtained higher prices by taking their produce to mining areas to sell; 60 per cent of respondents noted that mining supporters came to buy produce in Kayima; and 36 per cent of the sample claimed that there was a strong nexus of seasonal work between farming and mining activities, whereby farmers went to mine in the dry season when there was less work to do on their plots.

However, in contrast, 92 per cent of respondents interviewed in 2008 also reported that there were presently less youth in Kayima who were mining on either a full-time or seasonal basis. The 2008 data indicated that only 36 per cent of the interview sample claimed that either they or a member of their family were engaged in diamond mining, whereas in 2004, 78 per cent claimed that this was so. This decline in ASM participation is also reflected in official statistics from the Ministry of Mineral Resources and Political Affairs (MMRPA) for the period between 2007 and 2009, which illustrate a sharp decline in the total number of arti-

Table 1: Summary of interview responses in Kayima (2004)

Response	(%) of sample (n=50)
Proportion of interview sample who reported they had a family member who was a part-time diamond miner	78
Proportion of sample who believed there were more seasonal miners in 2004 than before the war	46
Proportion of interview sample who claimed to benefit from diamond mining	40
Proportion of interview sample who believed miners were an important market to sell produce	12
Proportion of interview sample who believed mining to be 'a gamble'	36
Proportion of interview sample who claimed mining had reduced available farm labour	10
Proportion of interview sample who believed mining was degrading farm plots	8

Source: Author's field data (2004)

sanal mining licenses granted in Kono and the country's four other major mining districts (see Figure 3, p. 23).

The reasons for the decline in artisanal mining were varied (see Table 2), but according to interviewees, the overwhelming belief was that as alluvial gravels had become overworked and mined-out over the years, there were much fewer dividends in mining now⁶. Many young miners interviewed claimed that they had spent years working as diamond diggers and had, in fact, seen very little in the way of any remuneration⁷. According to Temple (2006), the tendency for households in mining communities to diversify their livelihood portfolios, particularly when mining is not providing adequate dividends, indicates that mining is not merely a coping strategy but an accumulation strategy. She notes: 'people don't mine because they

need to, [in order] to survive. They mine to be in a position to re-invest in other areas of their life such as business, education, housing and the various forms of savings' (2006: 24) (see Table 2, p. 23).

In response to a perceived decline in artisanal diamond mining activities and reports of lower prices that were being offered locally for diamonds⁸, interviewees reported that many young people in Kayima were now much more interested in rebuilding agricultural livelihoods. This appeared to be especially so in light of rising global food costs since 2007 – many individuals believed that not only could they not afford to purchase rice, but if they could produce a surplus, it was now more lucrative to sell. Elsewhere, in his recent study of the post-war reintegration process in the diamondiferous region of Tongo Field (Kenema District), Peters

6. This sentiment was evident in the typical response of interviewees, 'diamonds don't last', a Krio saying which literally translated means 'diamonds are much fewer'.

7. Diamond diggers who work at the bottom of the supply chain must endure particularly dangerous and unhealthy conditions, with most being paid two cups of rice and less than a dollar a day. In 2008, 67 per cent of those from Kayima who reported that they were miners claimed that they had never earned a significant amount of money from their activities. Approximately 33 per cent of miners said they had only earned very small amounts of money over the years (typically between 50,000-100,000 Leones).

8. Reports indicate that the global market for wholesale diamonds in 2009 shrank from \$US 21.5 billion to \$US 12 billion, with the price of polished gems dropping by an average of 30% from its peak August 2008.

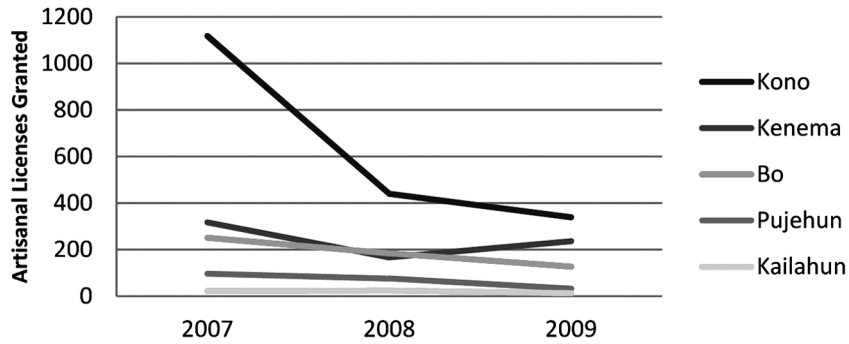


Figure 3: Mining licenses issued between 2007-2009
 Source: Adapted from MMRPA (2007, 2008, 2009)

Table 2: Summary of reasons why fewer youth in Kayima are mining (2008)

Reason why less youth are mining (mentioned in interview)	% respondents who referred to reason
There are less dividends in mining now	72
Youth realize that farming is worth investing in (more sustainable than mining)	24
The high price of rice (especially since 2007) has encouraged more youth to go into farming	12
Life is more expensive and diamond mining offers little return	12
Diamonds can now only be mined successfully by those individuals with access to large amounts of capital	12
Mining companies have stopped hiring	8
Small business activities and petty trading are more attractive than mining	8
Mining is a gamble	8
Elderly parents are in Kayima and they require full-time care	4

Source: Authors' field data 2008

(2006) argued that some young men may now also be looking to agriculture as a means of escaping pre-war violence and labour exploitation associated with diamond mining. In the research carried out in Kayima, however, the motivation to move into agriculture appeared to be purely economic, as many young men saw better opportunities for livelihood advancement in farming, as they had given up on the hope of one day finding a

big diamond. A number of NGOs have realized the importance of encouraging young diamond miners to return to their villages by providing them with the resources necessary to re-engage in farming activities. In some cases, NGOs have also had to act as mediators, as many youth have feared retribution from community elders for wartime atrocities that they had committed⁹.

9. Interview with Daniel Moiwo, Director of GTZ Kono, Koidu, 25 September 2008.

Many households in 2008 also reported that a large number of people in Kayima were now trying to plant larger farms, and it was suggested that this was increasingly possible since family farming labour was more plentiful (due to the increased number of people that had returned to Kayima following the war, and the perception that there were now fewer youth who were leaving to go to the diamond mining areas). Research carried out in Kayima in 2004 suggested that a major bottleneck in rejuvenating agriculture immediately after the war was that many farmers did not possess the means to activate traditional labour cycles (Maconachie, 2008). However, 98 per cent of the sample interviewed in 2008 believed that reciprocal relationships were now much stronger, especially those to do with labour. Referring to Table 3, where a sub-set of the most popular responses from 2004 and 2008 are compared, the changing nature of reciprocal networks and exchange mechanisms in Kayima is apparent. Among the many changes that have taken place, it would appear that one significant difference over the four year period is that extreme poverty levels have been reduced, meaning that more resources may now be available (labour and monetary surplus), and so engaging in reciprocal farming arrangements (*boma*) may be easier. This has been an important factor in convincing many young miners that farming may now be a much more lucrative and worthwhile livelihood activity (see Table 3, p. 25).

Another key factor that may help to explain the adjustments that local people have made to their livelihood portfolios concerns the changing relationship between young people and the rural 'gerantocracy'. One important point noted by a significant number of Kayima youth in

2004 was that certain cultural changes had taken place immediately after the war, which had increased mobility within rural areas. Many youth reported that they had become more accustomed to moving about during the war, and a 'culture of mobility' had developed, allowing them to move away from their villages and become part-time diamond miners in the post-war era. It was also reported that such mobility had increased because a rift had developed between youth and community elders, such that many youth no longer felt any allegiance to the Chiefs. Recent work by other researchers appears to reinforce this observation, arguing that this division is not a new phenomenon, but rather the product of a 'long-term crisis of agrarian institutions' – with labour exploitation by the rural elite at the heart of the matter (Richards, 2005). However, this grievance did not appear to surface in more recent discussions. In 2008, youth in Kayima were once again questioned about their relationship with the Chiefs and village elders, and there appeared to be a remarkable turn-around in attitude. 84 percent of the sample interviewed described the relationship as 'cordial', reporting that there had been great improvements since the new Paramount Chief had been instated in 2005. While a few respondents noted that there was still a small amount of friction with the Section Chiefs, it was acknowledged that much of the predatory and unjust fining of previous days had been reduced.

In summary, while seasonal diamond mining undoubtedly still plays an important role in local livelihood portfolios, stronger reciprocal relationships and a recent renewed interest in farming in nearby rural communities has been a positive development. 68 per cent of those inter-



Table 3: Changing reciprocal networks and exchange mechanisms in post-war Sierra Leone: summary of statements from interviews in Kayima – 2004 and 2008.

Post-war changes in relationships of reciprocity mentioned in interview	% respondents who referred to issue	
	Kayima 2004 (n=50)	Kayima 2008 (n=50)
Poverty and a lack of resources have made it more difficult to engage in reciprocal farming relationships.	50	28
There are more resources available in Kayima now (labour and monetary surplus) and so engaging in reciprocal farming arrangements (boma) is easier.	0	44
An individual's immediate needs take precedence over helping others.	36	8
Farming families are weaker and smaller in size, which has challenged reciprocal labour relationships.	18	8
Rising food costs have encouraged people to cultivate larger farms, which has created more need for reciprocal farming relationships (boma).	0	56
Extended family assistance has become weaker following the war – immediate family assistance is the only kind of assistance that can be relied on now.	18	48
Labour has become monetized after the war – the need for money has overshadowed reciprocal labour relationships.	18	0
The war divided rural communities – especially elders and youths. People no longer pull together in times of need.	16	8
Helping relationships have been damaged by the chiefs. Chiefs have become hostile and have taken advantage of youths by levying excessive fines.	12	12
The war has made youths more independent and less obligated to fulfil the demands of the chiefs.	8	72
Individuals do not have the time to engage in helping relationships – it is not possible to satisfy everyone's demands.	6	0
The 'big men' who helped us before the war have either left or were killed during the conflict.	4	8
Community trust ('Danayia') has been damaged by violence and atrocities that took place during the war.	4	4
Community trust is stronger now because there are more people who have returned to Kayima, and individuals are less likely to move around seasonally (e.g. as part-time miners or labourers).	0	24
Population mobility in the post-war period has changed people's attitudes towards helping others, especially amongst the youth.	2	4

Source: Author's field data, 2004 and 2008

viewed in Kayima reported that they were a member of an agricultural association or club, which had allowed many to refocus their livelihood strategies on agrarian activities. With the emergence of these associations have come the development of revolving credit schemes (e.g. *osusu*) and standing funds, reciprocal labour

arrangements, and a renewed sense of youth solidarity and trust. Above all, this illustrates the flexibility and adaptability of livelihood strategies over the four years between the two periods of fieldwork, and demonstrates how households exercise trade-offs between productive activities to maximize their livelihood benefits.

5. The institutional framework: mining policy, formalisation and rural livelihoods

While the previous two sections of the paper have demonstrated the diversity, adaptability, and resilience of linkages between the artisanal mining and farming sectors, the discussion also highlights the pressing need to address a number of key livelihood questions concerning interactions between the two economies as they are shaped by wider change in rural society. As we have seen, historically, ASM production and its relationship to the rural economy has been affected by a variety of governance challenges, including unequal power relationships within the tributor-supporter system of mining, high levels of smuggling associated with diamond resources, increasing degrees of bureaucratic rent-seeking, and conflicts between youth and the rural 'gerantocracy'. Today, these governance challenges continue to have a significant impact upon ASM livelihoods in Kono District, and both policy makers and sector officials acknowledge that more attention must be directed towards regulating the sector to ensure that more benefits reach diamondiferous communities and small-scale miners themselves.

As such, in recent years, a number of international donors, including the World Bank, USAID, the UNDP and the UK's Department for International Development (DfID) have been involved in supporting policy development and law reform in the mining sector, with a particular focus on governance issues. It is widely recognized that as alluvial deposits

are increasingly becoming 'mined out' and productivity wanes in many parts of Kono District, conflict over diamond resources has intensified¹⁰. Consequently, many commentators have suggested that there is a need to expand concern beyond governance issues and focus more directly on basic livelihood and employment issues. Not only must strategies be implemented to develop new non-farm activities to complement farming-mining livelihoods, but more effective policies must be developed within the mining sector to ensure that those who continue to mine are able to do so in better conditions while reaping more benefits from their winnings. In particular, as Siegel and Viega (2009) point out, there is an emerging consensus amongst scholars and policy makers that formalisation must be a part of any meaningful strategy to develop the ASM sector and safeguard miners' livelihoods. However, as they also note, neither the meaning of formalisation, nor the specific contribution it makes to livelihoods is always clear. In this final section of the paper, the discussion will elaborate on both of these areas, with the aim of providing some perspective as to how the livelihoods of artisanal diamond miners and their communities might be strengthened and improved.

In the context of Sierra Leone, government attitudes towards formalisation have predominantly revolved around the need to register, organize, and track mining activities, primarily through enhancing legisla-

10. Paramount Chief Kamachende of Gbense Chiefdom believes that the poverty experienced by artisanal miners serves as a significant barrier, as it has created a large cohort of unorganized labour that is embroiled in 'a competitive scramble' for work (DDI 2008: 25). Personal communication, Paramount Chief Kamachende, 24 November 2010, Koidu.

tive frameworks and licensing mechanisms. In this respect, the institutional and regulatory framework that has governed the mining sector in Sierra Leone is significantly more advanced than in many other African countries. While many countries are still advocating the legal licensing of ASM, Temple (2006) notes that in Sierra Leone, ASM has been legal in various forms since 1956, and is (in theory) structured in such a way as to benefit both the government and diamondiferous communities. The Mines and Minerals Act was first introduced in 1996, which kept many of the old colonial regulations concerning the relationship between land and mineral ownership, as well as licensing and export laws (Temple, 2006). The Act repealed the licensing rights of SLST/NDMC and released company held land for use by a greater number of licensed tributors. It also restored land tenure rights to the Chiefs. In short, the main aim of the 1996 Act was to open up the mineral sector to greater foreign investment in the hope of strengthening the national economy. However, the Act largely failed to acknowledge many of the key livelihood constraints that mining communities faced.

A new Mines and Minerals Act was introduced in late 2009 and ratified in early 2010. The new policies within the 2009

Act which focus on the licensing procedure, speeding up the process of obtaining a license, and clarifying the obligations of the different parties involved, do address some important issues for mining communities, including environmental concerns and the marketing of winnings. However, the dire circumstances of those actually digging in the pits are still largely ignored¹¹. In this respect, formalisation strategies within the 2009 Act continue to be concerned with creating a legislative framework, licensing, and tracking artisanal mining in order to capture revenue for the government, rather than addressing the livelihood demands and welfare issues of those enduring poor working conditions, low pay, and job insecurity¹².

While reports from government officials suggest that the 2009 Act has been well received by some stakeholders¹³, there is a general consensus that not enough effective steps have been taken to improve mining related and rural livelihoods issues or provide livelihood alternatives¹⁴. Workshops have been held to organize and sensitize miners¹⁵ but have not shown any lasting impact, environmental obligations have been largely ignored, and exporters still capture the bulk of the benefits¹⁶. Whilst the need to address dangerous and inhumane working conditions is men-

11. Personal communication, Patrick Tongu, Regional Coordinator of Network Movement for Justice and Development (NMJD) Kono District, 26 November 2010, Koidu.

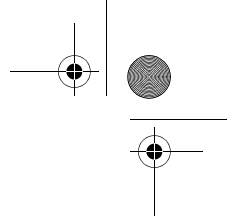
12. Personal communication, Abdul Koroma, Deputy Minister of MMRPA, 30 November 2010, Freetown.

13. Personal communication, Alusine Timbo, Government Engineer for Kono District, MMRPA, 25 November 2010, Koidu.

14. Personal communication with Jonathan Sharkah, 22 November 2010, Freetown; and Ezeikle Dyke, Secretary General of the United Miners Union, 23 November 2010, Freetown.

15. The most comprehensive consultation with artisanal miners was carried out by the United Mineworkers Union (UMU) during a series of workshops across the country between 2007 and 2009, which resulted in the production of the *Terms and Conditions of Work for Grass Root Diggers and Miners Engaged in Diamond and Gold Mining Activities in Sierra Leone* in 2009. This document outlines working conditions for artisanal miners including hours of work, rules on feeding and accommodation, medical requirements, pay and distribution of winnings. It also demands that artisanal miners adhere to a code of good working practice, including showing up for work on time, working diligently and following instructions. Despite these recommendations, little or none of them have been incorporated into the 2009 Act.

16. Personal communication, Thomas Mustafa, Chairman of National Advocacy Coalition on the Extractives (NACE), 23 November 2010, Freetown.



tioned in the 2009 Act, there are no meaningful recommendations for protecting hundreds of thousands of artisanal miners from enduring poor health, poor job security, and low wages. In the words of Patrick Tongu, Regional Coordinator of Network Movement for Justice and Development (NMJD) in Kono District:

I would like to say that [artisanal miners] are employed [...] but it is not gainful employment. The lack of alternatives open to them perpetuates their situation by creating a surplus supply of labour, allowing middlemen to abuse artisanal miners and neglect their welfare¹⁷.

Of vital concern to miners' livelihoods is the fact that the 2009 Act does not address the long, hierarchal and complex diamond marketing chain, described by UNHCR as 'a system of debt bondage and a contemporary form of slavery' (USAID 2010: 7). Rather, diamond exports continue to be governed by an oligopoly with considerable profit being derived at each level of the diamond chain, apart from the bottom where most artisanal miners remain in desperate poverty¹⁸. This poverty makes the licensing fees too high for the majority of miners, who continue to engage in artisanal mining activities due to a lack of alternatives and the willingness of supporters to provide finance¹⁹. Moreover, the entrenched poverty of artisanal diggers keeps them locked in a 'poverty trap' that in many ways impedes efforts to formalise the sector. As stated by Aminata

Kelly, Program Director of Mining and Extractives for Network Movement for Justice and Development (NMJD):

Artisanal miners themselves are 'blockers' who resist formalization of the sector. Poverty means that [their] immediate needs must first be satisfied, therefore placing miners in a predicament that allows middle-men to dictate terms and resist formalization if they so choose²⁰.

It is thus partially due to a lack of official support to artisanal miners that informal agreements dominate the sector, which thrives on secrecy, favours, dependency, mistrust and disinformation. Although the 2009 Act does seek to clarify the commercial terms between supporters and license holders by demanding that license holders reveal any supporters or financiers and stipulate marketing arrangements for winnings, it lacks details on how the government intends to tackle supporter and exporter networks which have exploited many artisanal miners in the past.

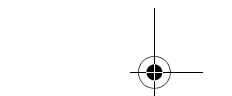
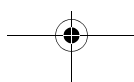
Of additional relevance to miners' livelihoods, the four main groups of stakeholders interviewed for this paper in 2010 – government, non-government organizations, commercial intermediaries and artisanal miners – all expressed different priorities which pose further challenges to the formalisation of the artisanal mining sector. Given that mining activities –

17. Personal communication, Patrick Tongu, Regional Coordinator of NMJD Kono District, 26 November 2010, Koidu.

18. Personal communication, Thomas Mustafa, Chairman of NACE, 23 November 2010, Freetown.

19. This is especially true for the 'korobo korobo' a name given to artisanal miners who only mine for subsistence living, largely on their own, or community, land (UMU 2009).

20. Personal communication, Aminata Kelly, Program Director of Mining and Extractives, NMJD, 22 November 2010, Koidu.



whether large-scale, small-scale, legal, or illicit – coexist and inter-link with many other livelihood opportunities, it remains vital to prioritize development interventions that can capitalize on, and improve upon, the livelihoods of a diverse range of groups.

For artisanal miners themselves, it is apparent that many individuals who engage in mining do so primarily due to a lack of alternative livelihoods, which have not been forthcoming and have largely been more government rhetoric than reality²¹. In addition to creating alternative employment opportunities that will offer miners more complementary livelihood options, and hence greater bargaining power, organizing artisanal miners to improve welfare and working conditions should also be a focus of interventions. Indeed, a number of attempts have been made to establish mining cooperatives but with little success (Levin and Turay, 2008). Moreover, some commentators also believe that commercial intermediaries, who have to date benefited from the lack of organization in the artisanal sector, are expected to further resist efforts to empower miners since it would impact upon their profitability. So far, the government has also resisted demands to enforce specific working and welfare regulations, instead focusing on licensing to generate revenue.

On a more positive note, the launch of the Diamond Area Community Development Fund (DACDF) in 2001 has been celebrated by numerous observers as an important step forward in supporting live-

lihoods and encouraging small-scale development in diamond communities. Indeed, the fund has been widely heralded as providing considerable incentive for both diamond miners and resource-rich Chiefdoms to engage in legal diamond-mining activities and revenue reporting, by returning a percentage of mining revenue to the producing Chiefdoms. A portion of the government's 3 per cent diamond-export tax (which amounts to a 0.75 per cent export duty) is now allocated to the fund for small-scale development projects in diamondiferous communities.

Since the initiation of the DACDF, it is clear that an unprecedented amount of diamond revenue has been returned to diamond-mining communities. The first tranche was made for the period of January-June 2001 and disbursements were made every six months until 2006. According to a report by Temple (2008), to date the fund has accumulated in excess of US\$4.25 million, with US\$3.5 million being disbursed to diamondiferous communities. There is evidence to suggest that the fund has been utilised wisely by some chiefdoms and councils for financing community infrastructure, education, health, and vocational skills training centres (Maconachie, 2010; Temple, 2005).

In addition to providing much-needed resources for social and economic development, the fund is (in theory) supposed to encourage chiefdoms to monitor mining more effectively and eradicate illegal activities, thereby enhancing the Kimberly Process Certification Scheme. Shortly

21. Interviews with government officials revealed that many spoke keenly about alternative livelihoods, but without actually elaborating on what these may be, or the strategies needed to create them. In other parts of the country, numerous donor-supported programmes aimed at providing employment opportunities and skills training for youths have also been criticized on the grounds that they are not offering youth useful skills or helping them to foster a meaningful vision for the future.

after its launch, however, it emerged that a number of chiefdoms were not utilising the fund in a competent manner and, in 2003, a coalition was set up to ensure that the fund would be used more effectively. Concerns continued to be raised by the Government of Sierra Leone High Level Diamond Steering Committee and the disbursement of funds was suspended in 2006. The main criticisms voiced by the committee were a lack of apparent transparency, community awareness, and local participation in decision-making processes concerning the management of the fund. Although Chiefdom Development Committees have been put in place to supposedly ensure that project decision-making is carried out more prudently they are often composed solely of rural elites such as section chiefs, which, in turn, has stifled the concept of local ownership by alienating other stakeholders such as women and youth (Temple 2005).

While the DACDF is an important initiative that has yielded some success in bringing benefits to communities in which mining takes place, it does have limitations both in terms of the incentives offered to miners to cooperate and the accountability of local authorities in using the funds. For example, in many cases artisanal miners are not indigenous to the areas they mine and are thus not considered part of the community²². Therefore some miners do not benefit from the DACDF to which they are expected to contribute. Recent focus group discussions with miners also reveal that even indigenous miners show little awareness of how the DACDF works

and what benefits they should expect from it²³.

In short, one major barrier to the implementation of promising initiatives such as the DACDF, or indeed attempts to formalise the artisanal diamond mining sector, concerns the limited capacity of government to properly sensitize miners. Jonathan Sharkah, Director of Mines, considers the large numbers of artisanal operators spread over a vast areal extent to be a considerable challenge to the capacity of the MMRPA, who are struggling to monitor mining operations²⁴. Such a lack of capacity means that the MMRPA cannot adequately supervise all mining operations in the country, which encourages many artisanal miners to take the risk of remaining unlicensed²⁵. A report by USAID confirms that the capacity of the MMRPA is '*grossly inadequate*', lacking the human and physical resources required to carry out its mandate (2010: 7). The report argues that large numbers of highly mobile artisanal miners spread across the country's diamond bearing regions severely compromises the MMRPA's capacity to organize the sector, and thus recommends that a monitoring framework be set up which will clarify the role of all participating stakeholders. Aminata Kelly of NMJD further suggests that due to the difficulties of monitoring highly mobile artisanal miners the focus should be on the less mobile supporters and financiers²⁶.

Although there appears to be a consensus in government that formalisation of the

22. Personal communication, Jonathan Sharkah, 22 November 2010, Freetown.

23. Focus group session with artisanal miners from Waedeh, Kono District, 26 November 2010.

24. Personal communication, Jonathan Sharkah, MMRPA, 22 November 2010, Freetown.

25. Personal communication, Mohammad S. Deen, former Minister of Mines, 29 November, Freetown.

26. Personal communication, Aminata Kelly, Programme Director of Mining and Extractives, NMJD, 22 November 2010, Koidu.

artisanal mining sector could potentially bring about positive change, this will only take place with enhanced capacity and robust enforcement. Abdul Koroma, Deputy Minister of Mineral Resources and Political Affairs, admits that the capacity of the government to adequately monitor and enforce the new regulations is low, but will be significantly enhanced with the introduction of the new National Minerals Agency Act²⁷. This Act, which will create a new agency to monitor the entire

mining sector, has already been passed by Cabinet and is expected to soon go through Parliament. It is also anticipated that these new arrangements will be a vast improvement over the current system which employs some 500 mine monitoring officers who do not have the capacity to reach isolated operations, and have been known to collude with supporters and dealers to capture profits (UMU, 2007).

6. Conclusion

While many stakeholders interviewed for this paper referred to diamonds as a 'double edged sword', pointing out that in Sierra Leone they have done as much harm as good, it would seem that there is little doubt that artisanal diamond mining has long been, and continues to be, a vital livelihood activity for numerous poor people. However, although in Kono District mining is often considered to be a principle household strategy, it is evident that households engage in a wide range of livelihood activities and do not depend on mining alone. In particular, the resilient links between the farming and mining sectors have played a central role in both local livelihood portfolios and the wider rural economy. Indeed, the economic importance of the ASM sector is also widely reflected in other parts of sub-Saharan Africa where it traditionally generates 3-5 times the income of other non-farm occupations and thus demonstrates significant potential for poverty alleviation (Siegal and Veiga, 2009). Consequently, some commentators believe that

ASM will continue expanding globally in the short term, with the expectation that ASM activities in some parts of sub-Saharan Africa will triple by 2012 (MMSD, 2002). In the case of Sierra Leone, the IMF and World Bank believe that artisanal diamond exports have constituted the country's most important avenue for 'direct poverty reduction through trade' over the last five years, and will continue to do so in the next five years to come – albeit unsustainably (DDI 2008: 5). However, as we have seen in the case of Sierra Leone, changes in the diamond mining sector are afoot, which are in turn shaping the very way local people construct their livelihood portfolios.

Evidence further suggests that while the formalisation of artisanal diamond mining may be part of the solution for safeguarding miners' livelihoods, it is not necessarily the panacea. In short, significant barriers to formalisation still exist at multiple levels of the artisanal mining value chain, from the miners themselves who

27. Personal communication, Abdul Koroma, Deputy Minister of Mineral Resources and Political Affairs, 30 November 2010, Freetown.

stubbornly resist government intervention, to dealers and exporters who want to protect their high profits. The informal nature of mining operations and absence of supportive umbrella organizations, such as an effective union, is seen by some to impede formal agreements between miners and sponsors, by allowing sponsors to dictate the terms and conditions to miners who lack the capacity or unity to stand against them (USAID, 2010). Some commentators also expect resistance from supporters and financiers who may be reluctant to invest in the 'casino economy' (DDI 2008: 26) of artisanal mining if they become liable for rehabilitation of mined-out areas, safety violations, and upfront licensing fees²⁸. This will be intensified if the United Miners Union (UNU) and other advocacy groups manage to have specific welfare prescriptions, articulated in the *Draft Artisanal Mining Policy for Sierra Leone* (USAID, 2010), ratified. Indeed, the failure of the 2009 Mines and Minerals Act to include more specific policies that will directly benefit artisanal miners, instead focusing on revenue generation and licensing processes, means that there is little incentive for miners to formalise. More attention must be focused on key livelihood issues such as the organization of artisanal miners, conflict with industrial operations, poor working conditions, and access to finance and technology (DDI, 2008).

Ultimately, not only must strongly enforced mining laws address the dire social conditions that miners face on a daily basis – a vital condition for improving the livelihoods for those who engage in artisanal mining – but more than ever before, it would seem that flexible rural development policies are urgently needed to foster an enabling environment for miners to improve and safeguard their livelihood bases. The diversity demonstrated in mining communities in Kono District and their ability to cope when mining does not provide sufficient dividends suggests that government policies which are more supportive of the links between mining and the wider rural economy would appear to be a positive step in the right direction for those who are currently trying to re-build their livelihoods in diamondiferous communities in the post-war era. In short, it is vital that individuals do not become isolated in depressed rural areas, and more attention must be directed towards creating gainful employment by nurturing the positive interactions between rural society and productive activities which may take place in other regions in the country. Above all, government policy makers must move beyond short-sighted and one dimensional approaches to restoring livelihoods and alleviating rural poverty, if meaningful poverty alleviation strategies are to be put in place which allow individuals to harness the full potential of the country's alluvial diamond resources.

28. Personal communication, Alusine Timbo, Government engineer, MMRPA, 25 November 2010, Koidu.

CHAPTER 2
**TRADING TENURE FOR FORMALISATION:
 A NEW APPROACH TO THE LICENSING OF ARTISANAL
 DIAMOND MINING IN THE DRC**

Shawn BLORE

1. Introduction

Artisanal diamond production remains the poor cousin of the diamond mining world, despite the significant contribution made by the sector, measured either in terms of quality or quantity, to the world's overall production of diamonds. Counting just the countries where the artisanal sector production figures are accurately measured²⁹, artisanal producers in 2007³⁰ dug up over 30 million carats, some 18% of world production by volume, or 7.2% by value³¹. Adding in those nations where the majority of production is artisanal but where the exact proportion of artisanal/industrial is not available³², artisanal production rises to 20.4% of world production by volume, and 11.57% by value. The Democratic Republic of the Congo (DRC) alone accounts for nearly 17% of world production measured by volume, and 3% by value.

And yet, the governments of many artisanal diamond producing nations – and especially the larger producers – would prefer to see the end of artisanal diamond mining. The reasons governments would prefer to phase out artisanal diamond pro-

duction are various, but chief among them is the belief that artisanal diamond mining is a waste of the resource. That is, artisanal diamond mining is believed to produce less employment, fewer taxes, and less overall economic development than if a formal mine would be given access to the same mineral resource. In the gold sector, some researchers suggest that artisanal and small scale mining has recovery rates comparable to industrial mining, while making a comparable or even superior economic contribution (Hentschel, Hruschka, Priester 2002: 50-55). For the diamond sector, however, the lack of hard data for the artisanal diamond sector makes it difficult to judge the accuracy of this supposition, especially given the important distinction of primary versus secondary or alluvial diamond deposits, which are often deemed unviable for commercial extraction.

The lack of government control over the sector is another key reason governments are uncomfortable with artisanal diamond miners. Being largely un-registered, artisanal diamond producers are thus also

29. DRC, Guyana, Brazil, Sierra Leone, Angola.

30. 2007 was chosen as the last full year before the world economic crisis sent diamond prices tumbling, which resulted in a radical drop in artisanal production. With the recovery of world rough prices artisanal production in 2010 has likely returned to 2007 levels, but figures are as yet unavailable.

31. Angolan figures courtesy of Endiama. All other figures from Kimberley Process.

32. Central African Republic, Ghana, Guinea, Indonesia, Lesotho, Liberia, Togo, Zimbabwe.

un-regulated, free to disregard government dicta on child labour, the environment or any other matter.

Thirdly, and perhaps most importantly from a government perspective, artisanal diamond miners remain largely un-taxed. The diamonds they produce are mostly subject to royalties at the point of export³³. The miners themselves, however, generally pay relatively little in ground rental, and little or nothing at all in the form of income tax³⁴.

The very sources of government unease with the artisanal diamond sector suggest the reasons for formalisation. Formalised, the sector would provide the kind of data on income and employment that would allow governments to make educated decisions on whether formal or artisanal diamond mining offers the best route towards development. What's more, the experience of Guyana and Brazil show that formalised artisanal diamond miners can be made to respect environmental and employment regulations (Blore 2008, Blore 2009).

The case for taxation is somewhat more problematic. In Venezuela, the imposition of a 14% value added tax was one of the prime factors motivating the country's artisanal miners – already long formalised

and organized into cooperatives – to begin hiding their production from the government and selling diamonds clandestinely (PAC 2006:10). However, the experience in Brazil and Guyana shows that formalised artisanal miners are willing to pay ground rental and cost-recovery level registration fees (Blore 2008, Blore 2009, PAC 2006). What's more, as formalised miners have a stake in the system, they are more likely to export their product through legal, taxable channels, so long as taxation levels are kept at reasonable and competitive levels³⁵.

From a government perspective, the case for formalisation is thus straightforward and compelling. However, in order for any such effort to succeed, artisanal miners must also be persuaded of the benefits of formalisation. Looked at from the perspective of artisanal diamond producers, formalisation can bring with it significant disadvantages in the form of both taxation and increased government regulation. Where these costs are the only concomitants of formalisation, artisanal diamond producers tend to evade or avoid government formalisation efforts.

Efforts to date, in the DRC and Africa generally, have focussed on registering individual miners. There are two problems with this approach. Firstly, individ-

33. One of the signal accomplishments of the Kimberley Process is that diamonds that evade national export and certification procedures (including taxes) are much more difficult to introduce into the downstream diamond chain. Few of the DRC's diamonds are smuggled out of the country. Contrast that with the DRC's artisanal gold, over 90% of which is smuggled out of the country (Interview with Paul Mabolia Yenga, KP Coordinator, DRC Ministry of Mines, Kinshasa, April, 2010).

34. Among the four alluvial diamond exporters in West Africa's Manu River Union, for example, only Sierra Leone attempts to impose an income tax (5%) on artisanal production, and even this is imposed at the point of export. See *Harmonization of Mineral Regimes*, Chapter 3 of Poverty and Social Impact Assessment and Strategy Formulation on Artisanal Diamond Mining Reform in Liberia, UNDP Diamonds for Development Programme, March, 2008, page 16.

35. The tendency of artisanal diamonds to flow downhill towards the lowest available tax regime was the prime motivation behind the Manu River Union's common royalty regime. Export royalties are set at 3% in all four countries. See *Harmonization of Mineral Regimes*, Chapter 3 of Poverty and Social Impact Assessment and Strategy Formulation on Artisanal Diamond Mining Reform in Liberia, UNDP Diamonds for Development Programme, March, 2008, page 16.



ual miners are the wrong level at which to attempt formalisation. Individual miners, diggers, *creuseurs*, and *garimpeiros* are too mobile, too illiterate, and have too little stake in the system for this approach ever to have much chance of success. Secondly, government formalisation efforts have focussed nearly exclusively on the obligations and duties that come with formalisation, while offering little to diggers in return. This approach, this paper will argue, is fundamentally misguided.

The failure of most such efforts in Africa to date bears out this supposition. To take but two examples, Angola has had a law on the books since 1994³⁶ requiring artisanal diamond miner registration, and has yet to register a single digger.³⁷ The DRC has no national figures on artisanal licensing (licensing artisanal diggers is a provincial responsibility), but interviews by the author with provincial Division de Mines staff in the primary diamond provinces in 2008 and 2009 reveal that perhaps several hundred miners have been registered, out of an artisanal diamond mining population in the hundreds of thousands³⁸.

To succeed, this chapter will argue that governments should make two critical adjustments to their formalisation strategies: firstly, they should re-focus their efforts from individual diggers to larger production units one step up in the diamond chain; secondly, they should accept the need to offer artisanal diamond producers some benefit in exchange for the increase in taxes and other costs that come with formalisation.

In pursuit of the first adjustment, this paper will argue that governments cease attempts to license diggers, and instead focus on registering and formalising the *unit of production*. In Guyana, where this approach has been implemented with great success, artisanal mining is semi-mechanized, and the unit of production is the dredge, the small-scale portable mining jig. Being relatively visible and relatively immobile, jigs lend themselves to registration and oversight in the field. Guyana authorities have found registering jigs and monitoring their production offers a relatively high level of monitoring and control of the artisanal sector (Blore 2009, PAC 2006).

In the DRC, where most mining remains un-mechanized, the analogous unit of production is the work crew or work gang. The route to formalising the work gang, it will be argued, lies through formalising the artisanal mining claim – the area where diggers work, and the artisanal mining gang boss – the *Administrateur de Foyer Minier* (AFM) or *President Directeur General* (PDG) as the position is variously known in the DRC. The mining claim and the mining boss, being sufficiently visible and immobile, lend themselves to registration and oversight. Formalising these two should offer sufficient control of the DRC sector, while falling within the current capacity of the DRC's machinery of government. Where this strategy was tried, in 2007 in Liberia, the system managed to license nearly 10% of the active artisanal mine sites in the country in the first few months (UNDP 2008).³⁹

36. Law No 16/94 of 7 October, updated in 2009 with additional regulations for artisanal diamond miners.

37. Pers comm, Mr. Paulo Nvika, Angola Ministry of Geology and Mines, July, 2009.

38. For numbers of registered miners, see also *PROMINES Study: Artisanal Mining in the Democratic Republic of Congo*, PACT, June 2010, page 20, 25.

39. Registration stalled afterwards, after it became clear that the government was unable to enforce the licensing requirement; unlicensed mine sites continued to function, leading miners to desist from the formal licensing system.

This strategy ties neatly into the requirement of offering artisanal diamond producers some benefit in exchange for formalisation. The largest single benefit a government can bestow is security of mining tenure. This explicit trade – security of tenure in exchange for formalisation, payment of taxes and compliance with regulation – has been shown to work with artisanal diamond miners in Brazil and Guyana. The Brazilian experience is particularly relevant to current efforts in the DRC, as Brazilian authorities moved to a system of small scale artisanal mining tenure only after having tried and failed to formalise artisanal production through the use of individual diggers' licenses and artisanal mining zones⁴⁰, much the same strategy currently being pursued by in the DRC.

This experience, in particular the recognition of the necessity for incentives, should guide government formalisation efforts in the DRC. Leaving aside the attempt to licence individual *creuseurs*, DRC authorities should instead concentrate on achieving formalisation by offering artisanal work-crew bosses (PDGs and AFMs) a trade-off, whereby licensing, taxation and regulation are traded for security of tenure.

This analysis is based not just on experience in South America, but also on positive examples from the DRC itself. In one DRC province – Orientale – the rudiments of such a system are already in place and functioning, a sign that tenure can be extended to artisanal diamond miners without the necessity for changes to the DRC mining code. With a few modifications, this Orientale-style system could be extended nationwide, providing effective control of the DRC artisanal diamond mining sector.

The sections below examine how that change might be brought about. Sections 2 and 3 give essential background, providing an overview of the DRC's artisanal diamond sector, its productivity, legal framework and on-the-ground organisation. Sections 4 and 5 describe current DRC efforts to formalise the sector, and the problems that those efforts have experienced. The final two sections elaborate in more detail how formalisation through tenure might be implemented in the DRC, and describe the effects, positive and negative; such a formalisation programme might have on individual diamond miners.

2. Overview of DRC Artisanal Production Diamond Mining Areas

2.1. *The Regulatory Framework*

The administration of the mining sector in the DRC is a shared national/provincial responsibility, with the division of respon-

sibilities laid out in the DRC Code Minier⁴¹. At the national level, the President has, *inter alia*, the authority to issue regulations implementing the mining code, and to open or close parts of the country to mining activity, to declare

40. Pers Comm, João César De Freitas Pinheiro, DNPM Director of Planning and Mining Development.

41. Law No 007/2002 of 11 July 2002 (Code Minier).

which minerals shall require mining permits and which can be exploited using only quarry permits⁴².

Still at the national level, the Minister of Mines considers, grants, and revokes mineral titles (i.e. research permits, exploitation permits), license *comptoirs*, and oversees the national government agencies concerned with mining (i.e. CEEC, SAESSCAM, CAMI). The Minister of Mines further has the authority to institute artisanal exploitation zones⁴³.

The Cadastre Minier (CAMI) does not grant mineral title, but rather is charged with keeping track of and making publicly available the location and status of all mineral titles and applications, as well as all artisanal exploitation zones.⁴⁴

SAESSCAM, the *Service d'Assistance et d'Encadrement du Small Scale Mining* was established by presidential decree in March, 2003, with the explicit mission to assist and formalise artisanal producers of diamonds and other minerals. SAESSCAM is headquartered in Kinshasa, and as of 2010 had main offices in all 11 cities (mostly provincial capitals) and some 50 sub-offices in significant production centres (PACT 2010:37).

The CEEC or *Centre d'Evaluation, d'Expertise et de Certification* (CEEC) is charged with registering the DRC's diamonds as they enter *comptoirs*, and then

tracking, valuing, and taxing these diamonds prior to export⁴⁵. A CEEC agent is stationed in every licensed *comptoir*, and there are CEEC bureaux in every provincial capital and significant production centre.

At the provincial level, provincial governors are granted the power to license *négociants*, while the head of the Division Provinciale des Mines is responsible for issuing quarry licenses and licensing artisanal miners by issuing *cartes d'exploitant artisanal*⁴⁶; the Direction des Mines is in charge of inspecting and controlling mining activity on the ground⁴⁷. The Division des Mines and Direction des Mines report to the provincial minister of mines, who reports in turn to the provincial governor. In theory, governors then report to the president, though provincial governors in practise have wide latitude for independent action.

While there are strong arguments for devolution of power in a nation as large and diverse as the DRC, the lack of national standards has resulted in vast interprovincial differences in capacities, funding levels, and on-the-ground enforcement capabilities. Orientale and North Kivu provinces, for example, both have Divisions de Mines with reasonably competent staff, a network of field offices, and enforcement staff who try, under difficult conditions, to keep an eye on mining activity in their geographical areas⁴⁸. Kasai Orientale, by

42. Ibid, Article 9.

43. Ibid, Article 10.

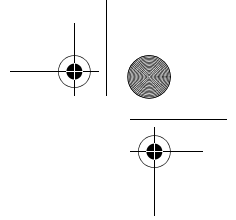
44. Ibid, Article 12.

45. In 2008 the CEEC's mandate was extended to include other high value minerals, including gold, coltan, tantalum and tin.

46. Ibid, Article 11.

47. Ibid, Article 14.

48. Interviews with Division des Mines staff in Kisangani and Isiro (2009); Interviews with Division des Mines staff in Lubero, Goma, Walikale and Shabunda (2009). Interviews with Division des Mines staff in Mbuji-Mayi (2008).



way of contrast, has barely enough mines staff to place an officer in each of the *comptoirs* in Mbuji-Mayi, leaving the mining sector outside the provincial capital almost completely unsupervised.

The above is merely a brief overview of the DRC legal framework. The Promines Study offers a thorough and comprehensive review of the DRC's regulatory framework, along with an analysis of the difficulties the DRC authorities have had in implementing these regulations (PACT 2010).

2.2. Diamond Mining Areas

A much noted 'geologic scandal', the DRC has diamonds in all ten of its ten provinces, though the chief deposits are concentrated in the Kasais and Orientale. Diamonds were discovered first in colonial times in Kasai Orientale (capital Mbuji-Mayi), and this is where the government diamond company MIBA maintains its headquarters and mining facilities, though in recent years MIBA's production has dwindled and come to a complete halt.⁴⁹ Diamond production in Kasai Orientale tends towards larger volumes of low value industrial diamonds. As shown in Figures 1-3, the volume of production recorded in Mbuji-Mayi *comptoirs* ranged from 10-16 million carats per year, while the average value of diamonds produced in Mbuji-Mayi hovered down around US\$12/carats.

The next-door province of Kasai Occidentale offers diamond deposits of much

lower concentration and much higher value, with an average hovering around US\$75/carats. Several of the diamond mining majors, including De Beers and BHP Billiton, have exploration operations in the province, but for the moment artisanal exploitation remains the main source of diamond from this region.

Orientale province was first opened to artisanal exploitation in the early 1990s⁵⁰. The diamond-rich areas are found towards the north and east of the capital Kisangani, around smaller towns such as Bafwasende, and larger regional centres such as Isiro. Diamonds here also tend towards higher quality gemstones, with production volumes lower than in either Tshikapa or Mbuji-Mayi. As shown in Figures 1-3, Kisangani production ranged from 225,000 to 425,000 carats, with average values of from US\$50/ct to US\$110/carats. Diamond value in Isiro ranged from US\$50/ct to US\$400/ct, however volumes were low enough (under 5000 cts) that a few very large gemstones could distort these values upwards.

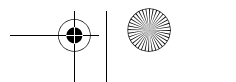
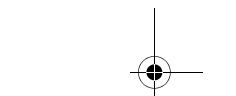
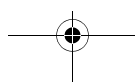
The easternmost provinces, including Bas-Congo and Bandundu, are the least blessed with diamonds. The dominant position of Kinshasa – located near the Bandundu-Bas-Congo border – in DRC production figures is thus an anomaly that requires explanation.

While Figures 1-3 show what DRC officials refer to as 'production figures', a strong caveat should be noted about these data. The DRC does not actually have or generate true production figures⁵¹. It does

49. MIBA's 2008 production was under 80,000 cts; in 2009 it ceased production altogether.

50. Pers comm, Christophe Lapipa, CENADEP programme coordinator, Kisangani, May, 2009; The Promines study places the opening of artisanal exploitation in the late '80s. (PACT 2010: 40).

51. SAEESCAM is working to develop the capacity to record artisanal diamond production at the mine site, but its efforts are as yet in the very early stages.



not possess sufficient control of the artisanal sector to do so. The numbers in these figures are rather 'purchase figures' – they represent the geographic location of the licensed *comptoir* where the diamond was first purchased, and thus brought into the formal economy and recorded in the ledgers of the CEEC. While one might assume that a diamond brought into a *comptoir* in Kisangani (for example) was produced in the surrounding province of Orientale, this is not universally true. Lacking local licensed *comptoirs*, diamond diggers, and dealers in Walikale and the Kivus often bring their diamonds to Kisangani to sell⁵².

More significantly, many mid-level traders (*négociants*) by-pass the *comptoir* in their

local provincial capital and bring their diamonds directly to Kinshasa, where they claim prices are better⁵³. This practise accounts for the dominant position of Kinshasa in the CEEC's "production figures" – nearly half of the DRC's diamonds first become visible to authorities when they are purchased by *comptoirs* in the capital. As neither the CEEC nor Mines officials stationed in the *comptoirs* perform any kind of origin or chain of custody check on the diamonds (and indeed, the DRC lacks any kind of system that would allow them to do so), the actual physical source of the diamond could be any of the DRC's diamond producing provinces⁵⁴ (see Figures 1 & 2, p. 40 and Figure 3, p. 41).

3. Role of Diamond Mining in the Local Economy

3.1. *The Diamond Chain in the DRC*

As in other artisanal countries, the diamond chain in DRC begins with the artisanal producer or digger, in the Congo known as a *creuseur*. Congolese *creuseurs* organize themselves in a wide variety of working configurations, and finance their mining through a number of financial arrangements. These are described in more detail in Section 3.2 below.

In terms of commercializing diamonds, *creuseurs* have a number of options by which to sell diamonds up the chain.

In some situations, the *creuseur* is obliged to sell the diamond to his financial backer, the individual who advanced funding to support the *creuseur's* mining activities. In a 2007 survey of 40 *creuseurs* from the Mbuji-Mayi area, researchers from the Congolese NGO GAERN found that 35% of diggers sold their diamonds regularly to their financial backer (Mbikayi 2007:28) (see Table 1 below).

Alternatively, a *creuseur* can also sell to one of the low-level field traders – generally known as *trafiquants* or *ambulants* – who can be found stationed by the edge of a DRC dig site of any size. These *ambu-*

52. Interviews with diamond traders in Beni (1 trader) and Butembo (4 traders); May, 2009.

53. Interviews with diamond traders in Mbuji-Mayi (3 traders), Tshikapa (2 traders) and Kamoko, Kasai Occidental (3 traders), 2008; Interviews with traders in Kisangani (2 traders) and Isiro (1 trader), May, 2009.

54. Or indeed some other diamond producing nation that may have temporarily lost the right to issue KP Certificates on its own. A statistical analysis performed as part of the 2009 KP Review Mission to the DRC raised the strong possibility that in 2006 (the peak year of the Marange diamond boom) up to 1 million carats of supposed DRC production could well have originated in Zimbabwe (pers comm, KP Review Mission member).

Artisanal Production by Region: Total Volume (volume of diamonds recorded in licensed comptoirs)

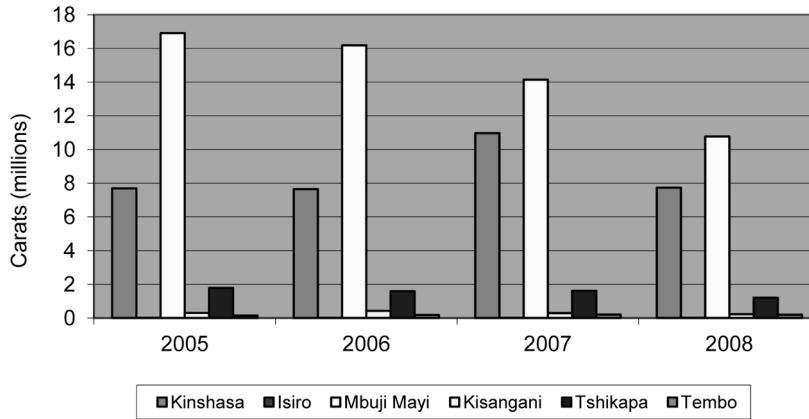


Figure 1: Volume of DRC Artisanal Production by Region (Source: CEEC) (figures in millions of carats; Isiro figures too low to register on the chart)

Artisanal Production by Region: Total Value (Total value of diamonds recorded in licensed comptoirs)

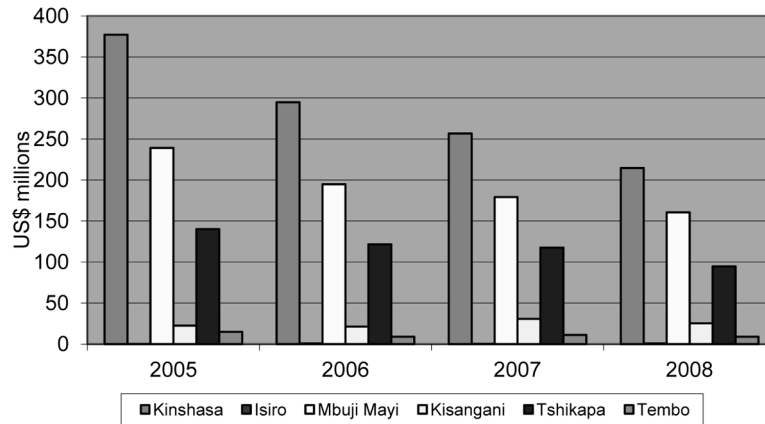


Figure 2: Value of DRC Artisanal Production by Region (Source: CEEC) (Figures in millions of dollars; Isiro figures too low to register on the chart)

lant are un-licensed, work with limited buying capital, and make their living on whatever margin they can find between a

diamond's price at the pit and the price in town⁵⁵. A *creuseur* receives less money selling to an *ambulant*, but saves the cost,

55. Interviews with ambulants, Mbuji-Mayi area, 2008.



Artisanal Production by Region: Diamond Value

(Diamond value (US\$/ct) recorded in licensed comptoirs)

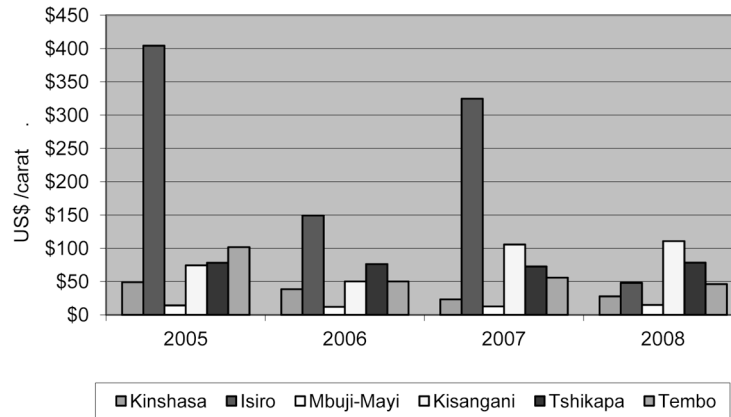


Figure 3: Diamond Value of DRC Artisanal Production by Region (Source: CEEC)
(Values in US\$/carat dollars)

danger, and hassle of making a trip into town himself. For this reason, *creuseurs* often sell their smaller, less valuable diamonds to *ambulants*⁵⁶. The GAERN study found that 15% of *creuseurs* sold their diamonds to *ambulants/trafiquants* (Mbikayi 2007: 28).

One step up the chain, *négociants* normally operate out of a fixed location (a *maison d'achat*) located in a sizeable population centre. *Négociants* are licensed by the DRC authorities, and have the right to buy and sell diamonds anywhere within the borders of the DRC (*négociants* may not export). A *négociant* will generally offer a better price than a *trafiquant*. However, as *négociants* must eventually sell on to *comptoirs* (who can export) their prices must perforce be somewhat lower than those available from a *comptoir*. *Creuseurs* still opt to sell to *négociants*, however, either because they are

geographically closer, or because the *creuseur* feels more comfortable dealing with a fellow Congolese (*négociants* are Congolese nationals by law, while *comptoir* buyers are often foreign).

In order to attract business, *négociants* also make use of coaxers, men whose job it is to befriend a *creuseur* with a good-size diamond and convince him that a particular *négociant* he knows will offer the best price. In reality, the coaxer works for the *négociant*, who pays him out of a percentage of the value of the diamonds he brings in the door. The GAERN study found that only 5% of diggers sold their diamonds to *négociants* (Mbikayi 2007: 28).

At the very top of the chain, the DRC's licensed *comptoirs* buy from *négociants*, *ambulants*, and from ordinary *creuseurs*, then sort and aggregate their purchases,

56. Interviews with *creuseurs*, Mbuji-Mayi area, 2008.

then ship the diamonds out for export. The findings from the GAERN survey show that 35% of *creuseurs* sell their diamonds directly to a *comptoir* (Mbikayi 2007: 28).

Table 1: First purchaser of Artisanal Diamonds in the Mbuji-Mayi area

First Purchaser of Artisanal Diamonds	Frequency
Financial Backer	35%
Ambulant	15%
Négociant	5%
Comptoir	35%
Mixture of the Above	10%

Source: Derived from Mbikayi 2007

3.2. Types of Artisanal Production

3.2.1. Work Crew Size

Artisanal production in the DRC runs the gamut from single diggers working a pit of their own, to vast organized open pit mines of a hundred diggers or more. The section that follows describes the most common types of dig site organisation, which can be found in most DRC provinces. The exception to this rule is the province of Orientale, which has its own particular type of dig site organisation, described on its own in Section 3.5.

A 2007 survey in the Mbuji-Mayi area attempted to determine the relative frequency with which groups of *creuseurs* of a particular size are encountered in the mining areas. The researchers tallied up forty work groups, and categorized them by the number of *creuseurs* in the group. A summary of the results, with some

grouping and analysis added, is shown in Table 3 (Mbikayi 2007: 25). While the numbers are hardly conclusive, they do give an indication of the range of artisanal dig site types in operation. Small groups of 1-10 miners are relatively common (22.5% of groups), but they involve a relatively small percentage (only 6%) of the total digging population. Larger groups (16-75 miners) accounted for nearly 80% of the *creuseur* population – and by extension, of artisanal production.

The preponderance of larger, better organized groups has clear implications for regulation of the artisanal sector regulation. These larger groups are obvious first targets for formalisation – they encompass the majority of diggers, and the larger, more investment heavy dig sites in which larger groups tend to congregate lend themselves more readily to formalisation (see Table 2, p. 43).

3.2.2. Single Miners/Small Groups

Some few artisanal diggers work singly or in small groups. Such *creuseurs* often work marginal diamond deposits, either in close proximity to their village, or at the fringes of a larger dig site⁵⁷. The tools used by solitary *creuseurs* do not differ significantly from those used by larger groups. However, because their impact and operations are small, single diggers can often avoid paying a land rental fee or percentage of their production to the landowner or local chief⁵⁸.

In that sense, solitary or small group diggers are among the few Congolese *creuseurs* who conform to the vision of arti-

57. Field research in Kasai Orientale (2008), Kasai Occidentale (2008).

58. Interviews with *creuseurs* in Kasai Orientale (2008), Kasai Occidentale (2008).

Table 2: Size of Artisanal Work Groups in the Mbuji-Mayi area

Group Size	Frequency Group Size Encountered	Miners Involved	% of Miners Involved
1-5	12.5%	15	2%
6-10	10.0%	30	4%
11-15	17.5%	103	15%
16-25	55.0%	412	58%
75+	5.0%	150	21%

Source: Derived from Mbikayi 2007

sanal mining outlined in the Code Minier: resolutely small scale low impact diggers, working freely where they chose in an artisanal mining zone. However, the numbers for Mbuji-Mayi show that such diggers are a small minority of the total. While the Table 3 figures are not definitive, they agree with the author's own research in Kasai Orientale. Groups of 5-10 miners are more common in other diamond provinces such as North Kivu, but even so likely still make up a minority of the overall *creuseur* population⁵⁹.

Note that no formalisation drive, no matter how well conceived or executed, is ever likely to bring the type of solitary *creuseur* described here into the fold. By the same token, given the relatively low numbers and low impact of this class of artisanal miner, this should not be seen as a reflection on the success of the formalisation program.

3.2.3. MIBA Polygon

The other area where single *creuseurs* or very small groups predominate is inside the mining concession of the DRC's now largely dormant state-owned mining company, MIBA. The miners enter the conces-

sion – known as the Polygon – after sundown and dig as much as they can in the hours of darkness, and then depart again before dawn. The police and army both maintain cordons around the MIBA polygon to prevent such infiltration, but miners penetrate the cordon via small payments of cash⁶⁰ to soldiers or officers in charge of guarding a particular section.

The miners who work the polygon are exclusively male, and residents of the city itself. They normally work in small groups of 1-3 miners. This profile is determined to a large extent by the risks of penetrating the polygon. The mines police do sometimes arrest diggers found in the polygon⁶¹, but the greater danger comes from the armed bandits, known as *suicidaires*, who lie in wait for miners exiting the area. Those miners who successfully exit the polygon with their diamonds still in hand normally sell the stones immediately at one of several informal outdoor diamond markets found in Mbuji-Mayi (Lubamba 2007: 32-33).

Interviews with Polygon-bound miners reveal that they continue with this risky enterprise largely through lack of other options. As residents of the city, they lack the access to crop land that provides a

59. Field research in Orientale (2009), North Kivu, South Kivu (2009).

60. 100 Congolese Francs was the going rate observed during a field visit in 2008.

61. Interview with Police National Congolais official, Mbuji-Mayi, June, 2008.

backstop for rurally-based artisanal miners. Other economic opportunities seem to be singularly lacking in Mbuji-Mayi. The city has always been a one-industry town. The near paralysis of MIBA has removed the engine that drove much of the local formal economy. The vast expansion of the informal market appears to be how the local economy has adjusted to the MIBA shutdown.

The MIBA polygon is a special case when it comes to formalisation; using tenure as a lure for formalisation is not an option, as MIBA, though dormant, expects at some point in the future to resume operations⁶². Other Congolese state-owned enterprises (SOEs), such as OKIMO in Orientale and GEKAMINES in Katanga, have at times worked out a *modus vivendi* with artisanal diggers, whereby the artisans are granted access to the SOEs' concession in return for some combination of licensing payments and a share of the artisans' production (PACT 2010: 40). However, both OKIMO and GECAMINES exploited minerals (primarily gold and copper respectively) that were both less valuable on a per weight basis than diamonds, and thus less prone to the type of concealment that frequently occurs with diamonds.

At a minimum, in order for MIBA to attempt such a scheme, the company would have to exercise effective control of its own polygon perimeter, in order to ensure that only licensed miners enter, and that those miners do not exit carrying diamonds that should be sold or declared to the company. Given that even with auxiliary cordons of both police and military MIBA has been unable to effectively con-

trol the polygon, there seems little point in pursuing this strategy.

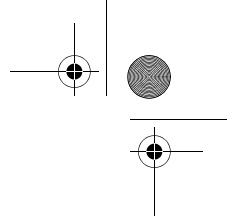
3.2.4. Shafts and Galleries

Decades ago, diamonds were common enough in the Mbuji-Mayi areas that shallow surface scrapes were enough to bring up diamonds. Currently, however, diggers are excavating vertical shafts straight down as deep as 30 metres to reach new diamond deposits. About a metre in diameter, the shafts extend downwards until a layer of diamond-bearing gravel is reached, at which point the diggers excavate horizontal galleries outwards as far as they can before the risk of collapse becomes too great; some of these sideways galleries can extend up to ten meters. None of this is particularly safe, which may be why this particular form of digging is exclusively the purview of young men.

These shafts are not filled back in afterwards, with the result that the land around many villages in Kasai Orientale is dotted with deep and dangerous pits, which occasionally claim both children and goats. The fact that village elders tolerate, encourage and participate in mining – despite its detrimental effects on children, livestock and agriculture – is a sign of the importance of mining in the local economy and culture.

Of course, deeper mines such as these also bring in revenue to the land-owner or traditional local chief (who are often one and the same). *Creuseurs* are required to seek permission from the landowner to dig, which is usually granted in return for a

62. Interview with MIBA official, June 2008, Mbuji-Mayi.



percentage of the proceeds from the dig site. This rental varies from site to site and province to province; the percentages vary from a low of 10% in provinces such as North Kivu to a high of 25% in Kasai Orientale. The rental can be paid either in cash or in bags of ore-bearing gravel, which the land-owner will process separately.

Deeper mines such as these galleries do not require any more specialised equipment to excavate. However, the greater investment in time and effort to reach ore-bearing gravel often necessitates that the *creuseurs* find a financial backer, who advances funds to pay for food and supplies while the *creuseurs* dig down to the diamonds. The financial backer typically demands half of the miner's share. Thus, a typical share out at a shaft and gallery mine might be 20% for the land-owner, 40% for the financial backer, and 40% for the *creuseurs*.

The cost of opening this type of mine (as well as the larger open pit mines covered below) can be substantial, at least in local terms. Shaft mine operators in the vicinity of Mbuji-mayi spoke of investments of from US\$200 to as high as US\$1000 to open a successful shaft mine⁶³.

The relative high investment cost of opening a shaft mine provides a possible entry point for formalisation. Shaft operators naturally prefer to ensure that their mine remain in operation long enough to recoup their initial investment. Currently, shaft mine operators in Kasai Oriental guarantee their investment through informal tenure arrangements with the land-owner or local traditional chief. Ways in

this might be shifted towards a system of tenure through formalised government licensing are explored below in Section 6.

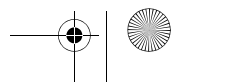
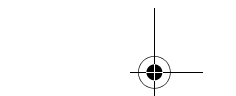
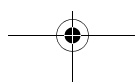
3.2.5. Large Open Pit Mines

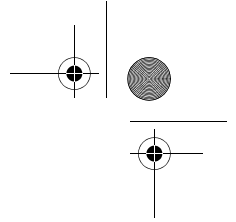
Where there are richer diamond deposits, a dig may evolve into a large organised endeavour, with scores of workers digging large open pits. Larger pits attract merchants and diamond dealers, and may evolve an extra layer of management, but the basic organizing principle remains the same: land owner, financial backer, diggers, and other labourers are paid via a percentage of the production.

Digs of this size often involve differentiation of labour. *Creuseurs* dig, whereas porters transport sacks of ore from the pit down to a watercourse, where washers separate out the diamonds under the watchful eye of the crew boss or his designate. Each of these tasks has an assigned percentage – often payable in sacks of diamond-bearing gravel – which varies from site to site and region to region. In such digs, women are sometimes employed as porters, and they as well as children find employment washing diamonds.

As already mentioned, the investment costs of opening such a mine can be substantial. As with shaft mines, the need to protect this investment gives mine owners an obvious interest in securing tenure, with mining tenure consistently ranking as one of the top demands of artisanal miners (PACT 2010: 22). Ways of utilising this latent desire to achieve formalisation are explored below in Section 6.

63. The higher value is most often the result of sinking one or more shafts without successfully encountering diamonds. Field interview with artisanal diamond miners, Mbuji-Mayi, June, 2008.





3.2.6. *Artisanal Exploitation of River Bottom Deposits*

River bottom deposits are exploited by artisanal diggers through a variety of methods, notably in Kasai Orientale. In some areas, *creuseurs* wall off a longitudinal section of river using sand bags, then pump out the water to allow access to the river bottom gravels. This technique requires significant investment in labour and materials, as well as the use of a motor driven pump to evacuate water from the dammed area.

A less investment-heavy technique involves the use of *pirogues*, or dugout canoes. A group of villagers in a pirogue will secure a stationary position in the river using barge poles, while one or more divers works below the canoe scooping gravel from the river bed into buckets, which are then hauled up and dumped into the pirogue. When the canoe is full the gravel is then taken to the shore for washing. One of the advantages of this technique is that no percentage is owed to a land owner; government agencies also find it hard to extort percentages from these mobile canoe teams. However, percentages must still be paid to the canoe owner, as well as the divers and washers.

Pirogue based exploitation of the river bed is unlikely ever to be successfully formalised – such operations are too transient, mobile and small scale to lend themselves to licensing. However, given the very small scale and limited impact of this type of exploitation, its continued lack of formalisation should not be seen as a significant concern.

River diversion sites, like shaft mines and open-pit mines, are fixed installations requiring relatively large investments, and so amenable to formalisation, licensing and regulation. Given the environmental sensitivity of such sites, the need for formalisation and environmental regulation is especially critical.

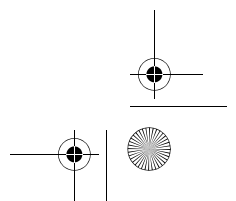
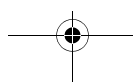
3.2.7. *Dredges*

River bottom deposits are exploited in a more mechanized fashion in the environs of Mbuji-Mayi through the use of river dredges. Divers supplied with air hoses and armed with suction pumps suck gravel off the river bottom, which is then run through a centrifugal heavy media separator to extract the diamonds. Percentages are paid to the diver, dredge owner, and often to the Police National Congolais (PAC 2008:8).

Officially, the Kasai Orientale Division des Mines requires that dredges be licensed, using a version of the Code Minier's *Permis d'Exploitation de Petite Mine*, known locally as a *Attestation des détenteurs des dragues*. Dredge licenses cost US\$500 and are good for one year.⁶⁴ Given their visibility and immobility, dredges should be a relatively easy to inspect and regulate. However, in a 2008 field visit to the Mbuji-Mayi area, all three of the three dredges visited had no current license. Mbikayi, researching in approximately the same period, found that only 2 dredges out of 5 had obtained the appropriate documents (Mbikayi 2007:17).

The difficulty here is not with the law or regulations, but rather with the level of

64. Interview with Division des Mines, Mbuji-Mayi, June, 2008.



enforcement. As noted above, staffing levels and enforcement effort vary province to province; Kasai Orientale devotes less effort to field enforcement than many other diamond producing provinces. Without adequate and consistent field enforcement, no regulatory system can hope to keep artisanal diamond producers formalised.

3.3. *Orientale-style Miner Organisation*

The province of Orientale has its own particular form of *creuseur* organisation. The system appears to have evolved, at least in part, in response to a government regulatory presence not found elsewhere in the DRC.

Artisanal exploitation in Orientale is permitted only in areas where the provincial Division de Mines has issued an artisanal exploitation permit. Known as a *Declaration d'Ouverture de Exploitation Artisanal*, these licenses cost US\$350, cover an area of 4ha, and must be renewed on an annual basis. The license holder is also supposed to submit regular reports – including production figures – to the Division des Mines, but in practise this requirement is generally overlooked.

As part of the licensing process, the applicant is required to submit an application with a map or sketch (a *croquis*) of the mining area, and its relation to local geographic features such as roads and rivers. Division des Mines officials keep these sketches on file, but do not currently incorporate the information into one master map, cadastre or database showing all

the artisanal digs in their area. The Division de Mines does, however, keep track of these artisanal mining licenses, ensuring that artisanal claims don't overlap with each other, or with the formal mining claims registered with CAMI in Kinshasa⁶⁵.

Armed with a Declaration d'Ouverture, the claim holder or *Administrateur de Foyer Minier* (AFM) becomes effectively the *seigneur* of the mining camp. He determines who can enter his claim area, what activities they can pursue, and what tithes and tributes they will have to pay for the privilege.

Some accommodation with traditional local authorities is often necessary. Often, the AFM himself is a traditional chief, or from a family that has traditional claims to an area. Where this is not the case, the AFM will come to an arrangement with the local chief, often undertaking to hand over a percentage (10-15%) of the AFM's share of mine site production.

Beyond this requirement, the AFM is lord of his 4 km² domain. Miners who enter the AFM's territory are required to pay an entrance fee (the *jeton*), typically \$10-\$15 per entry. Merchants who enter the camp must pay an entry tax, usually 10% of whatever goods they are carrying. *Ambulants* (diamond field buyers) must surrender 10% of their buying capital.

The AFM organises the miners who enter his claim into work groups – known as *écuries* – of 6-8 men, making sure to separate friends or brothers into separate *écuries*. Each *écurie* is assigned a pit in which to dig, and it is expected that the *écurie*

65. Interview with Division des Mines, Kisangani, June, 2009.

will turn over a set percentage (usually 10%) of the value of whatever diamonds it finds to the AFM. *Ecurie* members watch each other, and any *creuseur* attempting to hide a diamond runs the risk of being denounced by a member of his work group⁶⁶.

In addition, work groups owe the AFM a number of days of free labour, known locally at *liwanza*. When the mine has reached steady state production, miners own two days of *liwanza* each week. On these days, all diamonds found belong to the AFM. In the early stages, when the mine is just being opened and basic tasks such as clearing brush and establishing a camp are required, *liwanza* may be extended to as much as four days a week.

The AFM enforces this system and keeps discipline through a graduated hierarchy of officers, including a score or so of BD (Brigade Disciplinaire), who roam the camp and keep miners in line. These positions are not paid. Rather, those who serve are exempt from dues such as the *jeton* and duties such as *liwanza*.

The advantages and disadvantages of this system to individual miners are discussed in greater detail below (see Section 6.2). From a government perspective, the advantage to the Orientale system is that it provides a method for controlling and registering dig sites, and thus requiring the licensing holders to record production, pay taxes, and abide by other government regulations concerning environment and working conditions.

4. Attempts to Formalise DRC Diamond Diggers

4.1. SAESSCAM's Efforts

SAESSCAM, the DRC government formalisation and assistance agency, has been singularly unsuccessful in its efforts to formalise artisanal diamond diggers. SAESSCAM's failure is systemic: it stems both from the agency's approach towards formalisation, and from the personnel and tactics chosen to implement formalisation programs on the ground. At the policy level, SAESSCAM has been burdened with a dual mandate: to assist and formalise artisanal diggers, while also subjecting artisanal diggers to taxation. Indeed, SAESSCAM's funding and formalisation plans depend upon its ability to tax the

artisanal sector. The Promines study pegs the taxation rate SAESSCAM is officially empowered to levy at 1%, while noting that SAESSCAM bureaux in different parts of the country often impose taxation above the officially sanctioned level (PACT 2010: 87).

In practise on the ground in Kasai-Orientale and Orientale, the taxation rate set by local SAESSCAM officials is a full 15%⁶⁷. This exceeds even the 10% royalty that Botswana charges on its formal (and hence easily controlled) kimberlite mines (UNDP 2008:16), and is far beyond anything attempted for the artisanal sector by any other government anywhere in the

66. The *creuseur* who denounces his fellow *ecurie* member receives a reward, typically 25% of the value of the hidden diamond.

67. Interview with SAESSCAM Mbuji-Mayi., June 2008; Interview with SAESSCAM Kisangani, June 2009.

world (see Table 4, below). In Venezuela, the imposition of a 14% value added tax was one of the prime factors motivating the country's artisanal miners – already long formalised and organised into cooperatives – to begin hiding their production from the government and selling diamonds clandestinely (PAC 2006:10).

SAESSCAM compounded this basic strategic error through several tactical missteps at the implementation stage. To implement the assistance portion of its mandate, SAESSCAM chose to focus on improving or re-building social services such as hospitals or health clinics in cities close to artisanal mining zones⁶⁸. While this focus was understandable, given the widely dispersed nature of artisanal miners, it also greatly obscured – at least to artisanal miners themselves – the connection the agency was trying to create between the taxes it was trying to impose and the benefits it was purporting to bring⁶⁹. In this regard, it might have been better to focus on direct extension services to artisanal miners (see Table 3, p. 50).

SAESSCAM's efforts to formalise miners have also been hampered by its adherence to cooperatives as the vehicle through which it planned to control and formalise the artisanal sector. Cooperatives have a poor track record in the artisanal diamond mining sector in Africa. Where they do function, in Brazil and Venezuela, they are based not on revenue sharing, but rather on securing access to mining terri-

tory. Once that territory is secured, individual miners or mining crews work their own plots and reap their own profits. Where access to land is not an issue, mining coops tend not to function (Blore 2008).

While DRC has a cooperative law of long standing⁷⁰, there is little tradition of cooperatives in the DRC diamond sector. Mining entities bearing the appellation of cooperative have sprung up here and there, but a closer examination of their structure reveals them to be more like companies – with a boss who owns and directs the work and receives most of the profits, and workers who follow direction in return for some form of compensation.⁷¹

The cooperative model fostered by SAESSCAM, however, involves members pooling capital, and sharing communally in the revenues gained by the joint sale of any diamonds produced⁷². This is not a model that has worked for diamond mining anywhere else in the world. Given that none of the cooperatives created under SAESSCAM's aegis continue to actively exploit diamonds, it would appear not to function in the DRC either⁷³. The rewards of diamond mining are too spottily distributed and too dependent on chance for any kind of revenue sharing ever to function. Recognition of this fact and the abandonment of the cooperative concept may well be a prerequisite for further progress in formalisation.

68. Interview with SAESSCAM official, Kinshasa June 2008; Interview with SAESSCAM Kisangani, June 2009.

69. Interview with CENADEP programme officer, Kisangani, 2009; Interview with SAESSCAM, Kisangani, June 2009; Interviews with miners in Orientale (2009); Interviews with miners in Kasai Orientale (2008), Kasai Occidentale (2008).

70. Decret du 24 mars 1956 sur les Cooperatives.

71. Interviews with diamond miners, Kasai Orientale (2008), Orientale (2009).

72. See for example, Act Constitutive de la Cooperative Minière du Kasai, COOMIKAS, formed 2 Oct 2006.

73. As of 2008, SAESSCAM's initial coop in Tshikapa had folded, as had two new cooperatives SAESSCAM set up based on the Tshikapa model. Interview with SAESSCAM official, June 2008, Kinshasa.

Table 3: A comparison of royalties and taxes levied by artisanal diamond nations^a

Country	Export Tax/ Royalty on Diamonds	Royalties/Taxes on Small-Scale Mining Producers	Net of Combined Royalties and Taxes on Artisanal Producers
DRC	5%	15% (SAESSCAM as imposed in many jurisdictions)	20%
Angola	6.8%	0%	6.8%
Guinea	3%	0%	3%
Liberia	3%	0%	3%
Sierra Leone	3%	5% plus 1% valuation fee	9%
Brazil	0.2	2.75% (retained income tax)	2.95%
Venezuela	4%	14% (value added tax)	18%
Guyana	3%	0%	3%

a. Sources for Table 2: Manu River Union Countries – UNDP 2008:16; Angola – PAC 2007:9 PAC 2008:6; DRC – PAC 2008:4; DRC's export rate raised 22 Aug 2008 to 7.5%, then lowered 24 Jan 2009 to 5% (Order No 003/CAB/MIN/FINANCES/2009 of 24 Jan 2009); Brazil – pers comm, Dario Machado, President Coromandel Garimpeiros Cooperative, 2 December, 2010; Venezuela – PAC 2006a:8; Guyana – PAC 2006b:27.

SAESSCAM's efforts at formalisation have been further hampered by the quality of the personnel brought in to carry out its mission. Many appear to have little knowledge or experience of mining, and a good portion seemed to be uncomfortable in the rough conditions of a Congolese diamond mining camp⁷⁴. Beyond this, at least some of SAESSCAM's cadres seem to have made recourse to the DRC's apocryphal Article 15, and attempted to make use of their authority to shake down creuseurs for their own profit⁷⁵. Miners, not surprisingly, reacted poorly to these overtures. In some areas, SAESSCAM field agents have been barred from entering or forcibly expelled from mining areas⁷⁶.

The net result of these failings in both policy and implementation is that seven years into its mission, SAESSCAM has – at least in the diamond sector – not succeeded in

formalising effectively any part of the artisanal diamond sector. That said, the idea of a specialized agency for artisanal miners remains a good one, and SAESSCAM has shown recent signs of improvement. The quality of personnel hired into the agency in some jurisdictions⁷⁷ has shown improvement. However, until SAESSCAM and DRC authorities accept that artisanal diamond mining is different from formal diamond mining, and must perforce be taxed differently from formal mining, and until they adjust or better yet abandon their focus on cooperatives, the agency will likely continue to meet with little success.

4.2. NGO Efforts

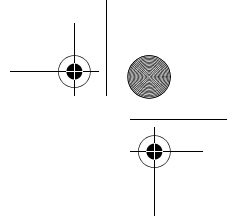
Two other notable attempts to formalise artisanal diggers have been undertaken by

74. Interviews with SAESSCAM personnel in Kisangani (2009), Mbuji-Mayi (2008).

75. Interviews with diamond miners, Kasai Orientale (2008), Orientale (2009); see also *Blood Minerals: The Criminalization of the Mining Industry in Eastern DRC*, Pole Institute, Goma, August 2010, p 16.

76. Interview with CENADEP programme officer, Kisangani, 2009; During much of 2007-2008, SAESSCAM was also involved in a dispute with the governor of Kasai Orientale, which resulted in SAESSCAM's activities in that province being effectively frozen.

77. Notably North Kivu.



the NGO sector, one in Kasai Orientale, the other in Orientale.

4.2.1. GAERN (*Mbuji Mayi*)

In Kasai Oriental, the NGO GAERN (Groupe d'Appui aux Exploitants des Ressources Naturelles) has for several years been trying to bring local miners into voluntary *creuseurs*' associations. The idea is that once organised, it will be possible to work through the diggers' associations to further particular social goals, be it the eradication of child labour, or improvements in the working life of artisanal diggers themselves.

The voluntary recruitment strategy has the advantage of not alienating diggers, as the somewhat heavy-handed efforts of SAESS-CAM have often done. GAERN outreach workers have established a good rapport with many of the miners in surrounding villages, and have managed to establish a half-dozen diggers' associations.

The problem with this approach is that the digger associations are not grounded within the economic life of local diamond production. GAERN chose to base recruiting for its associations not on the dig site, but on the village; each association is based on a village, or a group of adjacent villages. Whether this was done for reasons of convenience, or because they could not secure the cooperation of dig site bosses is not clear. However, the net result is that individual association members have nothing in common save their address. They may meet at night, but they disperse in the morning to a variety of dig sites.

The association thus serves no purpose in their working life as diamond diggers. It is

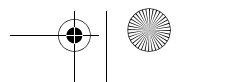
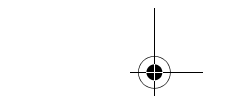
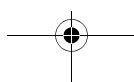
not a coop, nor a union. Members join in the hopes that GAERN and its association will be able to bring some benefit to the community. The model works only as long as GAERN and whatever aid agency currently providing funding has the resources to entice diggers into the associations.

These associations are thus useful as a means of communicating with diggers. However, GAERN-style associations will never serve as a substitute for formalisation, or provide any meaningful registration of dig sites or diamond production, and is likely to be of limited use in serving to enforce diamond mining regulations.

4.2.2. CENADEP (*Kisangani*)

In 2009, CENADEP, the Centre National d'Appui au Développement de la Participation Populaire, began an innovative attempt to organize artisanal diggers in the Kisangani region. The project is focussed more on development than it is on formalisation, and attempts to take advantage of the particular mining geography of the Kisangani area.

Unlike many other parts of the DRC, the mining camps near Kisangani, particularly those northeast of the city along the Bafwasende road, are not located close to any nearby settlements. While many of the miners come from villages along the Bafwasende road, the miners have to trek into the bush, often for as long as 2 days, to reach the mining camps. There they remain for months at a time before returning, sometimes to sell a larger diamond in Kisangani. The net result of this system is that the diamond mining brings little of the way in development to the Bafwasende road villages.



CENADEP's plan involves organising the diggers from these villages, then through these organisations build a kind of miner commercial and community centre in each of the villages feeding into field camps. The plan is to have the diggers contribute to the centres by making the bricks – a form of sweat equity – while external funders will provide the resources for roofing and real estate.

One centre has been built so far. It contains space for diggers to store tools on their way in and out of the camps, as well as places for field buyers to stay and store equipment. The idea is to transpose some of the diamond buying and other commerce from the mining camp to the com-

munity. In time, it is hoped that the centres will also form a nucleus around which diggers will coalesce and organise, in ways that will better their own working conditions and further the development of their communities.

The *creuseur* centre is in many ways a gamble, and it remains to see whether the centres will truly yield the hoped-for benefits. As with the GAERN project, the very fact of organizing the diggers may facilitate further outreach efforts. In this sense, the centres may contribute to formalisation by facilitating education on the topic. They will not, however, serve as a substitute for regulating dig sites, or tracking production.

5. Government Regulation and Enforcement Efforts

The DRC Code Minier contains a number of provisions for formalising the artisanal sector, few of which have met with any success. Some are poorly considered, others are intelligent measures which have simply failed for lack of consistent enforcement. The challenge for further formalisation efforts lies in distinguishing the useful from the ill-considered, so that the DRC's limited government resources can be concentrated on those measures most likely to be successful.

5.1. *Cartes d'Exploitant Artisanal (Miner Registration)*

The first and basic measure of DRC formalisation is the artisanal diamond miner permit. According to the Code Minier, all

artisanal diggers are supposed to obtain a permit from their provincial Division des Mines, at a cost US\$25 per year⁷⁸. This is one of the measures DRC authorities should abandon.

There are two fundamental problems with the *creuseur* registration program. First, it provides absolutely no benefit to *creuseurs*. Diggers can easily work without a permit, and no conceivable increase in manpower or enforcement on the part of the Division des Mines or SAESSCAM is ever likely to change that fact. The DRC government simply lacks the capacity and the authority to enforce the requirement on the ground. Even in those provinces where the Division de Mines has a network of field officers, it would be a brave mining officer indeed who marched into a mining camp and told several hundred

78. Law No 007/2002 of 11 July 2002 (Code Minier), Article 11.

diggers they were out of a job for want of a piece of paper.⁷⁹

In the entire country, likely no more than a few hundred artisanal diamond *creuseurs* have been registered. Artisanal licensing is a provincial responsibility, so there is no central registry of artisanal diggers from which to obtain exact figures. However, field visits to Kasai Orientale in 2008 revealed that not one out of several dozens of miners interviewed had an artisanal mining license. A 2007 inquiry by GAERN made similar findings: 0 out of 40 miners interviewed were licensed (Mbikayi 2007:16). In Kisangani, Division des Mines staff claimed to have issued some 50 licenses, out of a local mining population in the tens of thousands⁸⁰. In Lubero, North Kivu, only 5 artisanal licenses had been issued⁸¹.

Whatever the numbers, the second and more serious problem with miner registration is that provides absolutely no benefit to the government. The costs and difficulties of administering the programme almost certainly outweigh any revenue the registration fees might bring in; particularly if the registration fee was lowered to a level *creuseurs* might be willing to pay. What's worse, registering individual *creuseurs* will not increase government control of the artisanal sector in any meaningful way. It will not serve to control where miners dig, nor help to enforce environmental or work site regulations, or even to help track the flow of diamonds.

In short, the artisanal mining permit program is a lose-lose situation for both government and miners. It is for these reasons that even nations such as Guyana and Brazil with much more developed government capacity, a more peaceful countryside, and a lower population of diggers have largely abandoned attempts to register individual miners (Blore 2009).

In place of attempting to register artisanal miners, the DRC should instead put its limited resources into enforcing other existing and potentially more useful licensing requirements, such as those covering *négociants* or dredges. More comprehensive control of the artisanal sector can then be achieved through licensing dig sites and gang bosses, as will be explored below.

5.2. Artisanal Mining Areas

The DRC government's second major tool for controlling artisanal exploitation is via the Artisanal Mining Areas (*Zone Exploitation Artisanal* or ZEA), an area that can be created 'when the technical or economic factors characterizing certain deposits of gold, diamond or any other substance do not permit industrial or semi-industrial exploitation'.⁸² According to the mining code, licensed artisanal miners are supposed to conduct their activities exclusively within the bounds of a designated Artisanal Mining Area (ZEA). The authority to open and close a ZEA lies with the national government's Minister

79. The local Division des Mines officer in Lubero, North Kivu, reported in an interview in 2009 that he had given up on trying to issue or enforce the requirement for artisanal permits, and was even treading lightly on *négociant* permits, for fear of generating resentment among the local population of miners. The officer explained that men who are *creuseurs* today might just as easily be rebels or *Mayi-Mayi* tomorrow.

80. Interview with Divisions des Mines staff, Kisangani, May, 2009.

81. Interview with Divisions des Mines, Lubero, North Kivu, June, 2009.

82. Law No 007/2002 of 11 July 2002 (Code Minier), Titre IV, Chapitre 1 (De L'Exploitation Artisanale), p. 14.

of Mines⁸³. As of 2009, somewhere between 60 and 220 Artisanal Mining Areas have been declared in the DRC⁸⁴.

Promulgation of the various Artisanal Mining Areas has unfortunately had little effect on the ground. Conceivably, this could be attributed to poor communication: local mines officials are often unaware of the existence or exact location of artisanal zones in their provinces. On the ground, many (if not most) artisanal diamond miners seem not to be aware of the very existence of Artisanal Mining Areas as a concept, much less their specific locations.

Possibly, better communication might rectify this situation. However ZEAs suffer from a more serious structural problem: while artisanal miners are restricted from working outside an artisanal zone, the ZEA offers *creuseurs* no corresponding assurance that large industrial mines will be barred from working within an artisanal zone. Although formal companies are restricted from mining in a ZEA, if a significant deposit is found in the area (possibly even by the *creuseurs* themselves) the government can close the site within 60 days, thus making it subject to inclusion within a formal mining concession (PACT 2010:52). The ZEA, then, offers artisanal producers no protection from claims by industrial mining companies to their artisanal dig sites. Just as significantly, a ZEA offers artisanal miners no security against encroachment by other artisanal miners. Within these zones, at

least by statute, it's a free for all, with no formal government mechanism for determining or adjudicating between claims to particular mining sites.

The vision of artisanal mining underlying the ZEA – a kind of open access area, where any and all have equal right to dig the subsoil – simply does not reflect how artisanal mining works in the DRC. Control of a particular mining territory is a concept that artisanal mines understand and support (PACT 2010:22). Indeed, given the preparatory work required to access diamond bearing gravels – whether by digging tunnels, removing overburden, or building coffer dams to divert rivers – security of tenure is vital to the functioning of the sector, as important to artisanal miners as it is to their large-scale counterparts.

As the state has abdicated its responsibility in this area, traditional local authorities have stepped in to settle the vital question of who digs where. Even the smallest digs – of the type pursued part-time by local villagers – require the permission of the land owner or the local traditional chief, often secured through presentation of a gift of some sort. Those in control of larger dig sites are often related to a traditional chief, or else have come to a revenue sharing arrangement with the land owner or local traditional leaders (who are often one and the same)⁸⁵. The cost of obtaining this permission ranges from 10-25% of mine site production⁸⁶.

83. Law No 007/2002 of 11 July 2002 (Code Minier), Article 10.

84. A senior official from the Mines ministry put the number close to 75 (pers. comm., May 2009); The Promines study cites a CAMI report putting the number at 194 as of 2008, plus 20 more declared in 2009. Of these, PACT was able to delineate the locations of 68 (PACT 2010:52, appendix E).

85. Interviews with artisanal miners in Kasai Orientale, Kasai Occidentale (2008) and Orientale (2009). See also Mbikayi 2007:20.

86. Lubamba (2007:33), found that in Kasai Orientale the figure is 25%. This author found broadly similar numbers (15%-25%) during research near Mbuji-Mayi in 2008. In Lubero, North Kivu, the figure was lower – only 10%.

The DRC's disappointing experience with artisanal zones has to a large extent been prefigured by the track record of artisanal zones in Brazil. Like the DRC, Brazil is a vast country⁸⁷ with a huge population of artisanal miners (roughly 1 million in Brazil (Hilson 2002:6) versus a similar number⁸⁸ in the DRC), most of whom have a long tradition of ignoring or evading government attempts at regulation (Sousa, Veiga et al 2010:741).

Brazil's experiment with artisanal zones began in 1967 with the passage of a new federal mining act⁸⁹. The act required artisanal miners – *garimpeiros* – to be licensed, and restricted their activities to within federally declared artisanal mining zones⁹⁰. As in the DRC, few such zones were ever declared⁹¹, and knowledge of their existence was poorly communicated to *garimpeiros* in the field (Sousa, Veiga et al 2010:742). Artisanal miners filled the vacuum left by the lack of a government presence by working out tenure relationships with local landowners – normally by paying 10-15% for the right to mine (Blore 2008).

As in the DRC, the existence of artisanal zones offered *garimpeiros* no legal protection against encroachment by other artisanal producers, nor protection from a formal mining company registering a claim, asserting mining title and excluding

artisanal producers from an area⁹². Nor were artisanal areas particularly effective at keeping *garimpeiros* off of the concessions and claims of formal mining companies (Veiga & Hinton 2002:18).

As a result of these drawbacks, Brazil in 1989 replaced the artisanal zone system with a new and simplified kind of mining license called a PLG, or *Permissão de Lavra Garimpeira*⁹³. Like a standard Brazilian mining claim, the PLG gives the owner exclusive rights to the mineral subsoil within a defined area. For the PLG, the size of the claim is restricted to a maximum of 50ha. In addition, a PLG restricts the scale and the level of mechanization. In addition, to facilitate the licensing procedure, many of the geological and environmental studies required for a standard mineral license are simplified or waived for a PLG (PAC 2005:13).

The first PLG was issued in 1991, and in the approximately two decades from 1991-2010, 3904 PLGs were issued, for all minerals in all parts of Brazil⁹⁴. The figure is comparable to the 4680 formal exploitation permits issued during the same period⁹⁵. That said, it should also be noted that vastly more PLGs are applied for than are issued. As of June 1, 2011, there were 17,871 applications for PLGs in Brazil still pending. This gap is due partly to a lack of government capacity to

87. Over 8 million sq. km, compared to the 2.3 million sq. km of the DRC.

88. The Promines study (PACT 2010:21) estimates some 400,000 artisanal miners counting just the DRC provinces of Katanga, North and South Kivu and the Ituri section of Orientale.

89. Decree-Law 227 of 28 February 1967.

90. Decree-Law 227 of 28 February 1967, Article 74-1.

91. The DNPM lists 15 artisanal areas, the first declared in 1978 (Portaria No 119, 19/01/1978), the last in 1984 (Portaria No 442, 30/03/1984), for minerals including gold and emeralds (but not diamonds). Source: www.dnmp.gov.br, accessed 1 June 2011.

92. Decree-Law 227 of 28 February 1967, Article 77.

93. Created via Law 7.805 of 18 July 1989, then further modified via Resolution DNPM 178, (Apr/12/2004), "PLG e Permissão de Lavra Garimpeira".

94. Data from http://www.dnmp.gov.br/mostra_arquivo.asp?IDBancoArquivoArquivo=388, accessed June 1, 2011.

95. Ibid.

process claims⁹⁶, and partly because despite the measures taken to simplify the application procedures, many applications still lack the requisite environmental permitting (Blore 2008). There is also the widespread problem that many of the promising dig sites fall within the bounds of existing formal mining prospecting claims.

Hilson and Potter (2003) suggest that a similar problem is one of the main reasons behind the failure of a similar attempt to use small scale mining concessions as a vehicle formalise Ghana's artisanal *galamsey* gold producers; most of the likely territory was already claimed in some way by larger mining companies. In Brazil, this problem was particularly acute in the diamond sector. Though nearly all diamond production was (and remains) artisanal production, most diamond producing areas fell within exploration claims of junior exploration companies. The advent of the Kimberley Process in 2003 provided a major impetus for the government to take a hand in rectifying this situation (PAC 2005:13). Brazil's KP system requires that diamonds exported from the country be traceable back to a legitimate diamond concession⁹⁷. As the vast majority of Brazilian diamonds are sourced from artisanal dig sites, there was an urgent need to create a way for artisanal miners to formalise their mine sites. In 2003-2004 Brazilian authorities, led by the National Department of Mineral Production (DNPM), organised and facilitated a process of intensive negotiations between

diamond exploration companies and *garimpeiros* in a number of Brazilian communities. Through this process, a number of larger concession holders agreed to release portions of their concessions, which were then converted into PLGs and made available to a number of Brazilian diamond mining cooperative (Blore 2008). As a result, as of June 1, 2011, there were a total of 68 PLGs registered in Brazil for diamond production. In 2009 (the last full year for which statistics are available) 89% of Brazil's diamond production originated in PLG claims⁹⁸.

The full Brazilian experience with artisanal mining zones, including 22 years of limited functionality, followed by their replacement by artisanal mining claims (PLGs), is something DRC authorities should consider as they strategize on how best to formalise artisanal mining. Instead of continuing frustrating attempt to make the ZEA system work, a switch to a system of artisanal tenure merits consideration.

5.3. Trading (*Négociant*) Licenses

Under the current DRC system of diamond chain regulation, a diamond trader license or *carte de négociant* – issued by the Division des Mines at a cost of \$1000 per year⁹⁹ – gives the holder the right to buy and sell diamonds anywhere with the borders of the DRC. *Négociants* are supposed to keep a record of all their dia-

96. Sousa, Veiga et al (2010:746) point out that in 2008 the Amazon municipality of Itaituba there were 17,903 applications for PLGs, and only 12 approved, in large part because the DNPM office in that municipality has closed.

97. Law No 10.743, of 9th October 2003.

98. Brazil Mining Yearbook 2010 (Diamond Chapter); Available at <http://www.dnpm.gov.br/conteudo.asp?IDSecao=68&IDPagina=1820> (Accessed June 1, 2011).

99. Law No 007/2002 of 11 July 2002 (Code Minier), Article 11.



mond purchases and sales, and submit these records on a regular basis to the Division des Mines.

In practise, the licensing requirements for *négociants* are not consistently enforced. In Mbuji-Mayi, Mbikayi found that about half of the *négociants* (7 of 13) interviewed had a current *négociant's* license (Mbikayi 2007:21). The author's own interviews with *négociants* in Mbuji-Mayi (2008), Orientale and North Kivu (2009) revealed that even those who did not have a current license had been licensed at some point in the past. Many *négociants* neglected to renew their licenses on time, often letting them lapse for 6 months to a year before renewing (PACT 2010:44). However, the requirement that diamond *négociants* record their transactions and submit their records to the Division des Mines goes almost completely unenforced, everywhere in the country. In Mbuji-Mayi, Mbikayi found that while most (12 of 13) *négociants* kept detailed records of their purchases and sales, only 2 of 13 (15%) claimed they submitted reports to the Divisions des Mines (Mbikayi 2007:42).

Interviewed in June, 2008, the head of the Division des Mines in Mbuji-Mayi could produce no reports from *négociants*, and evinced surprise that reporting was a requirement. Elsewhere in the DRC, in Kasai Occidental, Orientale and North Kivu, local Division des Mines officials are at least aware of the reporting requirement, but are universally unable to produce up-to-date purchase and sales reports from *négociants* when asked.

The lack of follow-up on this requirement is unfortunate. Enforcing the reporting requirement would add significantly to the traceability of the DRC's diamonds, and in particular, it would help provide some traceability and origin information to the nearly 50% of the DRC's diamonds that are first registered when they arrive at a *comptoir* in Kinshasa (Figure 4). If diamond traders were required to submit monthly reports on their purchases and sales (including the name and location of the *comptoir* who purchased each lot of diamonds), it would enable DRC authorities to at least track DRC diamond production back to the provincial level. This in itself would be a major advance.

Diamonds of Unknown Origin

(percentage of total DRC production by value claimed to have originated in Kinshasa)

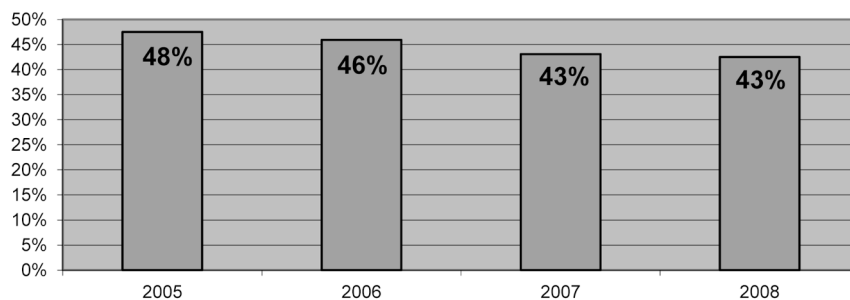


Figure 4: Proportion of DRC's total production (by value) that are first registered in comptoirs in Kinshasa (Source: CEEC)

The measure becomes even more powerful when combined with a requirement that artisanal mine sites be registered and mapped and licensed. Once this is done, DRC authorities could require diamond traders (and *comptoirs*) to record the name (or license number) of the artisanal mine site that produced the diamonds. By collecting this data, the DRC would have the beginnings of a chain of custody system, one that allows for the tracking of diamonds from their source (in a registered artisanal dig) to a trader (who records the dig site of origin when he purchases the diamonds) to a *comptoir* (who records the name of the trader who sold the diamond).

While such a system would likely not be robust enough to prevent determined individuals from introducing contraband into the DRC diamond stream, it would at allow DRC authorities to develop a reasonable picture of their artisanal industry, including where their diamonds are being produced, and how they are being traded and transported.

As part of a package of improvements, *négociants* should be required to submit their trading reports to the CEEC, in addition to the local Division des Mines. The CEEC is the DRC agency responsible for diamond statistics, as well as the agency with the greatest capacity for managing and analysing diamond trading information. External funders may want to consider short term programs to assist the CEEC in developing appropriate protocols and procedures for managing and analysing this data.

5.4. Field Traders (Ambulants)

Below the level of the *négociant*, a whole other level of diamond trader exists which is not recognised in any way in the DRC Code Minier. These field traders are known by a variety of names in various parts of the country – *ambulant*, *trafiquant*, *manager*, etc. – but their function is everywhere the same. They visit or remain at active mining sites and buy diamonds from diggers at the pit itself¹⁰⁰. Sometimes these field traders work with their own capital, sometimes a *négociant* loans or fronts them funds.

These field traders provide a vital function in the DRC diamond chain, allowing *creuseurs* to commercialize their diamonds at the mine site without the risk and cost of a journey to a town or city. Field traders themselves often have a better knowledge of where diamonds originate than either *négociants* or the buyers in *comptoirs*. What's more, unlike diggers, field traders have the financial wherewithal to afford a reasonable license fee (say US\$100), and the education and capacity to understand and comply with reporting requirements. Leaving them completely unlicensed and unregulated keeps them outside the law's protection, with no incentive to cooperate in the management and formalisation of the DRC artisanal sector.

Field traders interviewed in Kasai Orientale and Orientale both responded extremely favourably to the idea of a separate licensing category covering their position in the diamond chain. Of course,

100. Only in Mbuji-Mayi have field traders developed to the point where they operate in the city itself, in the city's vast night markets. This is a reflection of the volume of diamonds produced in Kasai Orientale, the proximity of the city to the dig sites, and the severe lack of capacity in the local Division des Mines. In function, however, the Mbuji-Mayi market traders are effectively identical to other field traders, and should be treated as such.

care would have to be taken to distinguish the less expensive ambulant license from a more expensive *négociant* license; otherwise *négociants* would simply license themselves as *ambulants*. One useful difference would be to restrict *ambulants* from transporting diamonds across provincial boundaries, or restrict the validity of the *ambulant* license to a single province. Some limit could also be placed on the yearly turnover of an *ambulant*, to reflect to fact that they are lower-level traders. Creating a new *ambulant* license might require a change in the DRC Code Minier, which could prove politically difficult in the near term. Once licensed, however, *ambulants* could be brought into the system as allies, to help monitor and record the flow of DRC diamonds.

5.5. *Inappropriate Involvement by other Government Agencies*

One of the major impediments to formalisation in the DRC is that while the Division des Mines is often absent from artisanal mining areas, any number of other government agencies that should not be present have imposed themselves on the artisanal scene in ways that contravene the DRC's mining code and legal norms.

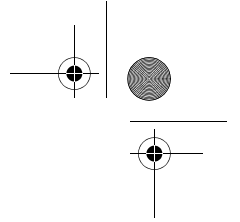
During a 2008 field visit to the Mbuji-Mayi area, armed agents of the PNC (Police National Congolais) were found to be present in many of the larger dig sites, stationed there, so they claimed, to provide the miners with protection. The charge for their services was 20% of the diamond production from the site. A 2007

inquiry conducted by the Mbuji-Mayi NGO GAERN asked artisanal miners to name the DRC agencies that most often demanded a percentage of their diamond production: the PNC topped the list, followed by the ANR (Agence National des Reseignments) (Mbikayi 2007:33). In some mines, more than one extorting government agency is present¹⁰¹. In addition to these agencies, others have noted the additional presence in some (non-diamond) mine sites of agencies including the Direction Generale de Migration (DGM), Garde Republicaine, and the Forces Armées de la République Démocratique du Congo (FARDC) (PACT 2010:59).

Artisanal miners are aware that the charges levied by these agencies are illegal. The generic term used by miners to describe these payments is *tracasserie*. The illegal presence of these various government representatives in artisanal dig sites serves to make formalisation of these mine sites much more difficult. The fact that artisanal miners are already paying a substantial portion of their income in the form of illegal taxation makes them much less willing to pay any further legal taxation. That the Division des Mines cannot enforce its writ in the mining areas (or that Division des Mines staff themselves engage in *tracasserie*) serves to diminish miners respect for the DRC's mining authorities.

Solving this problem will be a long term challenge, particularly faced with corrupt or illegal behaviour by the PNC, FARDC, and ANR – agencies with both armed staff and greater political heft than the Division des Mines. Only by establishing a pres-

101. A 2010 visit to the Bisie cassiterite mine in North Kivu revealed that the ANR, PNC, provincial government, Division des Mines, SAESSCAM and the FARDC were all extracting payments from miners as they transported sacks of ore from the mine site to the buying centre.



ence in the artisanal mining areas, then ensuring that its own personnel remain strictly within the law, will the Division des Mines perhaps be able to ease these other corrupt agencies out of the DRC's

artisanal mine fields. While the political challenges of this task in the current DRC climate should not be underestimated, formalising the artisanal mining fields remains a critical first step.

6. Formalising the DRC Artisanal Diamond Sector

Formalising the artisanal diamond sector requires that the state exercise effective control of both the artisanal mine sites and the commercial chains through which artisanally-produced diamonds are brought to export.

The critical stretch of the diamond chain from the mine site to the *négociant* or *comptoir* remains a weak link. As it stands, diamonds arriving at a *comptoir* or *négociant* have no documentation showing their origin.

6.1. Formalising the Diamond Chain

As the preceding sections have shown, some at least of the existing DRC measures for registering and monitoring the diamond chain from mine site upwards are generally well conceived, though often lacking in follow up and enforcement.

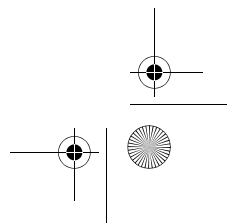
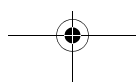
Extending licensing to the smaller field traders (*ambulants*) would help rectify this situation to a significant extent provided DRC authorities followed up the registration drive with ongoing enforcement; as a requirement of their licensing, *ambulants* should be required to keep and submit record son their purchases and sales of artisanal diamonds. However, in order to gainful control of the diamond chain, DRC authorities must have some mechanism for tracking diamonds from their source; this in turn, requires that the source be registered in some way. How best to accomplish that is the subject of the following section.

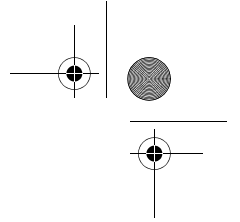
Comptoirs are adequately regulated, and the diamond chain from *comptoir* to export well monitored. This part of the diamond chain is relatively secure.

The regulations governing *négociants* are well conceived, but not adequately enforced. *Négociants* need to be checked regularly by field enforcement staff to ensure their licenses are up to date. Provincial Division de Mines offices need to insist that *négociants* keep and submit records of their purchases and sales, as a condition of maintaining a licence. The CEEC should coordinate with provincial authorities on collating and analysing these statistics, in order to better track the DRC's diamond flows.

6.2. Formalising Artisanal Diamond Dig Sites: Trading Tenure for Formalisation

As noted in the sections above, DRC authorities at the dig site level have been relatively un-successful in their efforts to formalise artisanal diamond producers. Formalisation efforts have concentrated on licensing individual miners, and on the





proclamation of artisanal exploitation zones, measures which make significant demands of artisanal miners, without in return meeting any of the needs of artisanal producers. In particular, government formalisation efforts in no way address artisanal producers critical need for security of mining tenure.

In practise, for all but the smallest digs, security of mining tenure – control of a piece of land for the duration of exploitation – is critical. Indeed, given the preparatory work required to access diamond bearing gravels – whether by digging tunnels, removing overburden, or building coffer dams to divert rivers – security of tenure is vital to the functioning of the sector, as important to artisanal miners as it is to their large-scale counterparts. In interviews, artisanal miners consistently rate security of tenure as one of their top demands (PACT 2010:87).

In the absence of central government efforts in the sector a number of informal and semi-formal artisanal licensing and tenure systems have come into being, most of them run by traditional local authorities, along with one run by a provincial government.

Rather than attempt to eliminate these parallel systems, DRC officials should adapt and formalise them, using the lure of tenure as a way of achieving wider buy in for government formalisation efforts. That is, DRC officials should consider offering artisanal producers a trade-off, whereby licensing, taxation, and regulation are traded for security of tenure, implemented via a system of small scale artisanal mining permits. This would

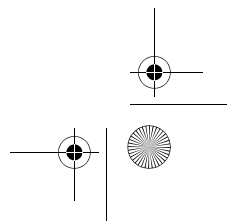
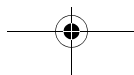
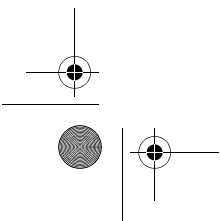
bring greater formality, oversight, and regulation to the artisanal sector, and bring authority over artisanal activity back into state hands where it belongs.

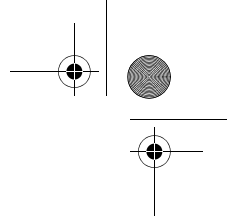
One DRC province – Orientale – already has such a system in operation, to positive effect. Implementing such a system nationwide can easily be accommodated within exiting DRC mining law; no new legislation is required. As this proposed approach attempts largely to codify and formalise existing artisanal practise in the field, the measures should find ready acceptance among artisanal producers. Certainly, that has been the experience in Orientale, where a provincially-run system of artisanal mining permits is already in place. Far from a radical overhaul, then, what is being proposed is the simple extension of a currently functioning prototype from one province to the remainder of the country.

As artisanal standards should really be uniform across the length and breadth of the DRC, the Ministère des Mines should take the lead in drawing up the new required standard for artisanal mine site regulation.

Mine site registration would thus become a cornerstone of the DRC strategy for regulating the artisanal sector. While DRC officials may want to develop a new set of regulations to cover this exigency, the task could also be accomplished with the within the DRC's current legal framework through recourse to the provisions for quarry licensing. The DRC mining code grants the President the authority to designate which materials are subject to quarry licensing¹⁰². This done, the mining code

102. Article 9 of Code Minier.





grants provincial authorities the power to grant quarry licenses, which cover a maximum size of 4km² (400ha).

The Division des Mines in Orientale province already utilises what appears to be a variation of this license. Issued by the Division des Mines to artisanal miners in possession of a valid artisanal miner's license, the *Declaration d'Ouverture de Exploitation Artisanal* costs US\$350, is valid for one year, and gives bearer the right to dig for gold, diamonds or other precious minerals within a 4 km² parcel.

As part of the licensing process, the applicant is required to submit an application with a map or sketch (a *croquis*) of the mining area, and its relation to local geographic features such as roads and rivers. Division des Mines officials keep these sketches on file, but do not currently incorporate the information into one master map, cadastre or database showing all the artisanal digs in their area. The license holder is also supposed to submit regular reports – including production figures – to the Division des Mines, but in practise this requirement is generally overlooked.

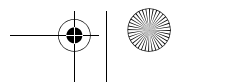
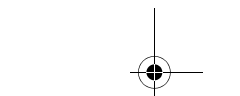
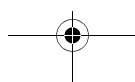
With only minor modifications, Orientale's artisanal mining claim could easily form the basis of a system of artisanal mine-site licensing throughout the DRC. As part of the improvements, each local Division des Mines bureau should compile a single cadastre of all the artisanal mining licenses in their province. This information should then be integrated into CAMI's national mining cadastre. In addition, mining officials should consistently enforce the requirement for license holders to submit regular reports (either monthly or quarterly) showing the pro-

duction and the number of miners working on their site. These two improvements aside, the concept needs no modification. The basic idea is sound, the legal infrastructure is already in place, and the Orientale experience shows that the system is well within Congolese government administrative capabilities.

By establishing a nationwide system of artisanal mining claims, DRC officials would bring mining authority back into the hands of government where it belongs. Re-establishing this authority would enable government mining authorities to monitor and determine where dig sites are located. Enforcing the reporting requirements on claim holders would provide a useful census of artisanal diggers (and do so in a practical cost effective way, in contrast to the *creuseur* registration program). Reports by claim holders on dig site production would provide the first real DRC production figures from the artisanal sector.

Further regulation of the artisanal sector could follow on from this measure, if and when it was found to be necessary. Registration of an artisanal site could, in future, be linked to compliance with environmental criteria, or with criteria on working conditions or local revenue sharing. Registration should thus be seen as the first step in controlling and then harnessing the artisanal diamond sector.

While this is not a substitute for a full chain of custody system, it would nonetheless represent a major advance on the current situation. A system of individual artisanal mineral title is thus the most comprehensive, effective, and easily implemented single measure that could be implemented in the DRC.



6.3. *Positive Effects of Extending Small Scale Mining Tenure*

From a government perspective, there are potentially numerous positive effects from a system of small scale artisanal tenure.

6.3.1. *Regulation of Artisanal Diamond Mine Sites*

The DRC Mining Code and accompanying regulations specify in some detail how artisanal mining operations should be licensed and carried out, giving particular attention to measures designed to mitigate the environmental impact of artisanal mining. Unfortunately, most of these provisions go unobserved and unenforced (PACT 2010:25).

The difficulty is not just one of adequate personnel, though that is an issue, but also one of appropriate regulatory levers; simply put, the penalties in the DRC code set the bar either too low or too high. On the low side, artisanal miners found to be in contravention of some part of the mining code can have their mining card revoked. As most do not have one in the first place, this is not much of a deterrent. On the high side, the code allows for fines of US\$10,000 to US\$250,000 for illegal mining activities¹⁰³ – a sum so far beyond the financial wherewithal of a typical artisanal mining operator that it is unlikely to ever be applied (and even less likely to actually be paid).

The extension of a licensing or tenure system, however, could provide DRC mining authorities with a potentially effective and

appropriate lever with which to enforce the exigencies of the mining code. The relevant practises (be they related to environment or labour practise or other aspect of mining operations) could be written into the artisanal site license, and explained to the site holder at the time of issue.

Inspections would focus on the specific sites covered by artisanal claims. Those license holders who did not meet the relevant requirements would not have their artisanal site license renewed. Such a penalty is sufficiently draconian to engender respect, while still being far more easily administered than a cumbersome system of inappropriately high fines.

6.3.2. *Taxation*

The potential for using mining tenure to increase taxation levels is less clear cut. The experience in South America shows that artisanal miners are fully prepared to pay the land rental costs associated with establishing and maintaining a mining concession (Blore 2008, 2009). Unfortunately, however, experience also shows that attempts to link formalisation with increased taxation are likely to ensure the failure of formalisation. In Venezuela, the imposition of a 14% value added tax was one of the prime factors motivating the country's artisanal miners – already long formalised and organized into cooperatives – to begin hiding their production from the government and selling diamonds clandestinely (PAC 2006).

Diamonds, being high value, low volume items, are particularly prone to clandestine marketing channels, and have a ten-

103. Law No 007/2002 of 11 July 2002 (Code Minier), Article 299.

dency to flow towards the lowest available tax regime; other things being equal, even a percentage point is enough to cause diamonds to flow from one jurisdiction to another¹⁰⁴.

That said, by strengthening their control of the diamond chain – through measures including tenure, licensing of *ambulants*, and more rigorous supervision of *négo-ciant* activities – DRC authorities would be in a better position to attempt small upward adjustments in royalty rate, keeping in mind always the necessity to reverse course should diamonds begin exiting through legal export channels.

6.3.3. Effects on Artisanal Miners

The effect of small scale tenure on ordinary diamond *creuseurs* is less clear. As noted above, in Orientale province, where the provincial government has implemented a system of artisanal tenure, the claim holders (*Administrateurs de Foyer Minier* (AFM)) have implemented an unusual degree of control. The AFM determines who can enter his claim area, what activities they can pursue, and what tithes and tributes they will have to pay for the privilege.

Care, however, should be taken to examine the economic cost of the system to individual *creuseurs*. The 10% tax on diamond traders and food merchants is common to all digging sites in the DRC. The *liwanza* forced labour provision is in effect a 33% tax on miner production (2 days out of 6; miners normally rest on Sundays). Adding on the 10% tax on

whatever the miner finds, and the total tax on miner income comes to 43%.

Elsewhere in the DRC, it is common for a backer or boss to demand 50% of miner production, in return for access to a dig site and some (often nominal) support in the form of food and tools. This half-share can be demanded explicitly, or be extracted via a requirement that miners sell their diamonds only to the boss, who then sets his purchasing levels some 50% below normal field market value. The Orientale forced labour system thus extracts a broadly similar percentage. Miners are provided with no up-front financial backing, but on the other hand, they are free to sell their diamonds where they please (always remembering to pay the AFM his tithe).

In short, while the system appears – and is – exploitative and unfair to ordinary diggers, it is no more so than other systems in place in DRC.

In the medium to longer term, however, a system of artisanal mine site licensing could become a powerful tool for improving the working life of artisanal diamond producers. Licensing would, for the first time, enable DRC authorities to hold a particular entity (be it a person, partnership or cooperative) responsible for conditions on a particular dig site. As noted above in Section 6.3.1, renewal of a license could then be made conditional on the dig site operator meeting certain minimum requirements: a ban on forced labour would be an obvious first place to begin. Other standards, including work site safety or environmental criteria, could

104. The most dramatic recent demonstration of this was the extraordinarily high level of diamond exports from Congo-Brazzaville, leading to its suspension from the Kimberley Process (See *Kimberley Process Removes the Republic of Congo from the List of Participants*, KP Press Release No. 4, July 9, 2004).

then be introduced over time. The advantages of retaining mine site tenure are sig-

nificant enough that dig site operators would be willing to comply.

7. Recommendations

1. *Eliminate the Carte d'Exploitant Artisanal – DRC Authorities should abandon attempts to license individual creuseurs.*

The Carte d'Exploitant Artisanal program does not work, costs more than it brings in, and does not serve to effectively control where or how *creuseurs* work. It is not an effective tool for regulating the artisanal sector and should be formally abandoned.

2. *The DRC Ministere de Mines should work with provincial Division des Mines to extend an Orientale-style system of artisanal mine site regulation across the rest of the country. There are three key elements to such a system: (1) Artisanal Mining tenure; (2) Production Tracking; (3) Field Enforcement.*

– **Artisanal Mining Tenure** means giving one person (the crew boss or AFM) the legally sanctioned right to engage in artisanal exploitation within a circumscribed area for a set period of time. As currently implemented in Orientale, the *Declaration d'Ouverture* grants artisanal mining rights to a 4km² parcel for a period of one year at a registration cost of US\$350¹⁰⁵. Extending this system across the DRC will require first putting the system on a firm legal basis. The current system in Orientale appears to be an adaptation of the

provision for quarry licensing included in the Code Minier.

DRC authorities will know best how to establish the legal framework for a national system of Artisanal Mining Claims. One possible route is to have the President declare artisanal diamonds a quarryable material¹⁰⁶, then have the Minister of Mines establish and issue regulations governing Artisanal Mining Claims¹⁰⁷. As in Orientale, the term should likely be one year, and the cost of the order of US\$350. In terms of surface area, 4km² should likely be taken as an upper limit; the regulations may want to leave it to Provincial Divisions des Mines to adjust this size downwards if local conditions so dictate. Finally, the national regulations should include specific provisions on the kind of reporting that will be required of claim holders, as a condition of their holding and keeping their license. The nature of the reporting requirements is described in greater detail below.

Extending this system across the DRC will require building capacity among local Division des Mines for registering and mapping artisanal mining claims. In addition, the national mining cadastre agency CAMI, must begin to incorporate and respect such artisanal claims in its own overall database of mining tenure. CAMI is currently notorious among local Divi-

105. Interview with head of Orientale Division des Mines, Kisangani, May, 2009.

106. As per Article 9 of the Code Minier.

107. As per Article 10 of the Code Minier.

sion des Mines managers for its habit of disregarding artisanal tenure, or granting large scale mining or exploration permits to areas where artisanal tenure has already been granted.

Finally, extending the system of artisanal tenure nationwide will necessitate some accommodation or liaison with local traditional authorities. In Orientale, a relatively lightly populated province, AFM's often reach their own accommodation with local chiefs, or else chose areas beyond the local chief's writ. For the system to function in more populous provinces, the Ministère de Mines may want to mandate those wishing to secure a claim to first obtain consent of local chiefs, in return for a nationally recognized percentage of the proceeds (perhaps 10%).

– **Production tracking** entails requiring the artisanal claim holder to submit regular reports to the Division de Mines on the volume and size of all diamonds produced on his claim. Note that most AFMs already collect this data. As the AFM demands a 10% share of all diamonds produced by diggers on his site, he has a vested interest in collecting this data, and thus pursues this task vigorously and conscientiously. What is currently lacking is simply reporting. The Division de Mines must make it a condition of licensing that the AFM collate these data and submit them regularly, preferably to both the Division des Mines and the CEEC.

– **Field enforcement** entails developing a network of field officers in mining areas with the capacity to perform regular field visits to all of the artisanal sites in their geographic areas. This is a critical element of a successful artisanal system. Guyana officials believe a government presence in

the field is critical for maintaining respect for the system and control of the artisanal sector. The licensing experience in Liberia is also instructive – an initial promising licensing drive of artisanal mining sites stalled once mine site bosses realized the government lacked the field presence to enforce the requirement for a license (UNDP 2008:50).

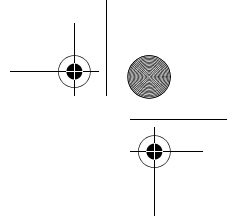
Many provinces already have, to a greater or lesser degree, networks of field officers. To extend this system nation-wide, the Ministère de Mines should establish a national standard for the number of officers and degree of coverage (perhaps via a formula for number of officers per artisanal mine site) and a national standard for inspections. At a minimum, visiting mines officers should ensure that AFMs are respecting environmental and labour laws, and submitting regular production reports.

3. Enforce Licensing Requirements for *Négociants*

The current DRC licensing regime for diamond *négociants* (traders) are reasonably well considered. The problem is simply a lack of enforcement, particularly with regard to the reporting requirements. Though most traders keep track of their purchases and sales, few if any ever submit this information as required to the provincial Division des Mines as required. If enforced, this measure would allow DRC authorities to track diamonds to the province in which they were first traded, adding an extra critical step in what should eventually be a full chain of custody system.

To enforce this measure, provincial Divisions des Mines should require that *négo-*





ciants submit monthly reports of all their purchases and sales, and withdraw licenses from those who don't comply. To strengthen this measure, these reports should be shared with a national agency – either the Ministère des Mines or the CEEC – who should process and analyse the data in a way that tracks DRC diamond flows from the *négociant* to *comptoir* level.

4. License small field traders (*Ambulants*)

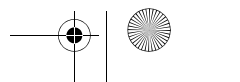
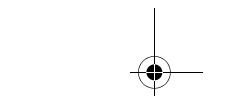
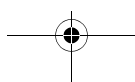
An entire level of the diamond chain currently lies outside the rule of law – that of

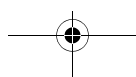
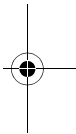
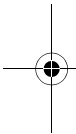
the small diamond field trader – the *ambulant* or *trafiquant* – who buys diamonds at the artisanal dig site and brings them in to sell to a *négociant* or to a *comptoir*. DRC authorities should create a specific license for this category of lower level mobile diamond trader. The license should restrict *ambulants* to working within a single province, and perhaps set a limit on the volume or value of yearly trading. Licensed *ambulants* should be required to keep detailed records on their purchases and sales, and submit monthly reports to the Division des Mines and perhaps the CEEC.

8. Conclusion

This chapter has described the artisanal diamond sector in the DRC, paying particular attention to the difficulties experienced by DRC authorities in formalising and controlling the artisanal diamond sector, including difficulties with measures such as the Artisanal Identity Cards (*Cartes d'Exploitant Artisanal*) and the implementation of Artisanal Exploitation Areas (*Zone d'Exploitation Artisanal*). In light of these difficulties, DRC authorities should consider de-emphasising or abandoning these measures. In their place, DRC authorities concentrate on a new approach, one that seeks to enlist artisanal mining bosses as partners in the formalising process, by offering tenure to small scale mining claims, in return for payment of taxes and adherence to other important aspects mining regulations, including pro-

duction reporting, working conditions and environment. In other jurisdictions, notably Brazil, small scale artisanal claims have been introduced with some success. Moreover, the DRC has its own working example of such a system already working in Orientale province. This could and should be adapted and standardized into a nationwide norm. The benefits to DRC authorities would include greater information on and control over the artisanal diamond sector. For rank and file artisanal diggers, the advantages to tenure would likely come over the medium to longer term, with government licensing leading to increased compliance on the part of mining bosses with standards and regulations covering issues such as forced labour, environment and work site standards.





CHAPTER 3

THE ARTISANAL DIAMOND MINING SECTOR IN CAMEROON: FORMALIZATION AND LIVELIHOODS

Nicholas GARRETT, Marie LINTZER and Eric MANYACKA

1. Introduction

Cameroon's development strategy until 2035 relies largely on the growth of its natural resources sector. More specifically, "the goals pursued in the mining sector consist in promoting and encouraging research, mining and the processing of mineral resources necessary for the economic and social development of the country" (IMF 2010:19). If well managed, Cameroon's resources, which include iron ore, bauxite, limestone, nickel, gold and diamonds, have great potential to result in economic growth. However, the mining sector has yet to prove its role in Cameroon's development.

The artisanal diamond-mining (ADM) sector in Cameroon is under-researched and so far has not attracted significant attention in international policy circles. This chapter is a preliminary exploration of the ADM sector in Cameroon. It focuses on two dimensions in particular: a) it provides a governance assessment of the ADM sector in Cameroon, highlighting the key governance challenges the sector faces; and b) it examines different strategies and possibilities envisaged by the Government of Cameroon (GoC) to strengthen the controls on ADM. Particularly with regard to the governance challenges, this chapter occasionally draws on the artisanal gold mining (AGM) sector to illustrate points, as there is considerably more GoC attention being

placed on the AGM sector at present. With these two analysis strands in mind, it provides a perspective for the improvement of livelihoods of artisanal diamond miners and their communities. The chapter provides pragmatic recommendations, grounded in observed local realities, on how to increase formalisation of mining activities and improve mining-related livelihoods.

The study is based on desk-based research with supplementary field research being carried out in Cameroon in November and December 2010. Research was conducted in the Cameroonian capital Yaoundé and a local researcher examined the Mobilong district in the East region, which is the most active gold and diamond mining area of Cameroon. In Mobilong a mix of (soon to be operational) industrial mining and artisanal mining activity is taking place. Here, two focus groups with artisanal miners were organised to assess their livelihoods and exploitation and trading methods. Traditional authorities, representatives of the mining administration and NGO representatives were also interviewed. Stakeholders' interviews were also held in the city of Batouri, in the Kadei region, which is a mineral and metal trading centre in eastern Cameroon. Finally, four mining sites were visited to observe artisanal miners' living conditions.

The chapter suggests that the ADM sector faces significant governance challenges that are rooted in political economy dynamics transcending Cameroon's extractive industries at large. A strong interrelationship between individuals dominating the sector's governance structure and business interests, as well as an inherently exclusive governance structure

has detrimental effects on the quality of governance. This chapter argues that this lack of governance quality translates into a lack of regulation and formalisation of the ADM sector. The latter, in turn, has detrimental effects on artisanal miners' livelihoods, which suggests the sector's poverty reduction potential is undermined (see Figure 1, p. 72).

2. The artisanal diamond mining sector in Cameroon

2.1. Background

Artisanal diamond mining (ADM) in Cameroon has always been a complex issue, which is evident from the evolution of legislation on the issue. Until 1964, the mining legislation forbade possessing diamonds on Cameroon's territory, while the Mining Code of 1964 forbade any diamond imports into Cameroon¹⁰⁸. As a result, Cameroon did not officially export diamonds until the New Mining Code in 2001 was passed. Informal artisanal and small-scale mining (ASM) was however happening in Cameroon's rural areas, particularly in the East of the country, along the borders with the Central African Republic (CAR) and the Republic of Congo.

Towards the end of the 1990's the Cameroon government undertook a policy shift, focussing on deriving a growth dividend from the mining sector to complement Cameroon's significant, but declining revenue streams from offshore oil

exploitation.¹⁰⁹ As part of this policy shift, initiatives started to work on how to formalise the diamond and gold ASM sectors. This was supported by corresponding legal reform, as enshrined in the 2001 Mining Code,¹¹⁰ and the creation of the Small-Scale Mining Support and Promotion Framework Unit¹¹¹ (known by its French acronym: CAPAM).¹¹²

Combined with higher commodity prices in the 2000's, the new Code generated some investor interest and Cameroon witnessed an influx of junior exploration companies. As of late 2010, a number of industrial mining projects were in advanced stages of exploration – namely the iron ore project near Mbalam (CamIron), the nickel-cobalt project near Lomie (Geovic), the bauxite development project near Ngaoudere (CAL), and the Mamelle iron ore project (SinoSteel), African Aura's iron ore project near Nkout. There are also two important processing plants, with one being operational and the other being

108. Mining Code, Law 64-LF-3 of April 6, 1964.

109. The Sun, 2010, 'Cameroon oil slump raises risk of unrest', 12 September 2010, http://the-news-from-cameroon.com/article.php?article_id=1661 (accessed on 17/02/2011).

110. Law No. 001/2001 of April 16, 2001 relating to the Mining Code.

111. Prime Ministerial Decree No. 064/PM of July 25, 2003 relating to the creation, organisation and functioning of the CAPAM.

112. *Cadre d'Appui et de Promotion de l'Artisanat Minier*.

developed.¹¹³ At the time of research, only one mining license had been issued for Geovic's nickel-cobalt operation – and so far exploitation has not begun (World Bank 2010). In the large-scale diamond mining sector, the South-Korean/Cameroonian company C&K Mining was in December 2010 authorized to start exploiting diamonds in its Mobilong concession in the south-eastern part of the country. A joint-venture between the South-Korean Koko Enterprises Ltd (65%) and public and private Cameroonian interests (combined 35%), C&K mining was authorized in December 2010 to exploit the concession in the districts of Boumba and Ngoko over a period of twenty-five years.¹¹⁴

Despite these achievements in attracting investors into the country, the diamond and gold mining at present sectors remain mainly artisanal, with some cases of mechanisation as shown with C&K Mining's mechanised gold ASM operations in the Betaré region.¹¹⁵ Here miners use shovels, heel bars as well as motor pumps and excavators to mine (ADE 2009:24).

2.2. Characteristics of artisanal diamond mining in Cameroon

Artisanal diamond mining has existed in Cameroon since 1932 (Manyacka & Nguelpjougou 2010). It is governed by the

Mining Code,¹¹⁶ which defines ASM as 'any exploitation that uses manual or low level mechanised techniques to extract or concentrate mineral resources.'¹¹⁷ The legislator tried to prevent conflict between ASM and large-scale mining (LSM) by defining the maximum depth and area (not deeper than 30 metres and not larger than 4 hectares for ASM) exploited by each activity (ADE 2009:23). Artisanal diamond mining activities in Cameroon are defined by the following issues (Manyacka & Nguelpjougou 2010):

- ◆ **No formal financing mechanisms**

The absence of formal financing mechanisms is an important factor for inefficient operations and for a poverty reduction impact that is significantly smaller than its potential. There are no banks catering to rural clients like artisanal miners who are often isolated from market centres because of underdeveloped transport infrastructure or transport links, and who have little savings and high default rates. In addition, most banks and microcredit institutions exercise high interest rates and have high transaction costs that are too exclusive for many rural dwellers (UNDP 2006:51). Thus, miners turn to cooperatives or 'tontines' to pre-finance operations. On the mine, they also rely on local traders (also called *serviteurs de chantiers* or *commerçants*) as a source of credit, especially at the very beginning of

113. AluCam is an aluminium processor and manufacturer, based in Edea. It is a subsidiary of Rio Tinto Alcan. The company turns aluminium into semi-manufactured corrugated sheets, and production stands at 90,000 tonnes per annum. Another manufacturing plant called Alubassa is being developed near Kribi, which will have production capacity of 400,000 tonnes per annum.

114. Interview with a member of the French geological survey BRGM, February 2011; Interview with Ndanga Ndinga, Minister of Mines, *in* Linge, I., 2010, Cameroun-Diamants: Le gouvernement concède l'exploitation a des Coreens, Journal du Cameroun.com, <http://www.journalducameroun.com/article.php?aid=7406> (accessed on 14/01/2011).

115. Exploitation has not started yet on C&K's Mobilong concession but both types of mining can be expected.

116. Chapter I, Title III, articles 24 to 31.

117. Article 2 of the Mining Code.

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Carte des Ressources Extractives du Cameroun

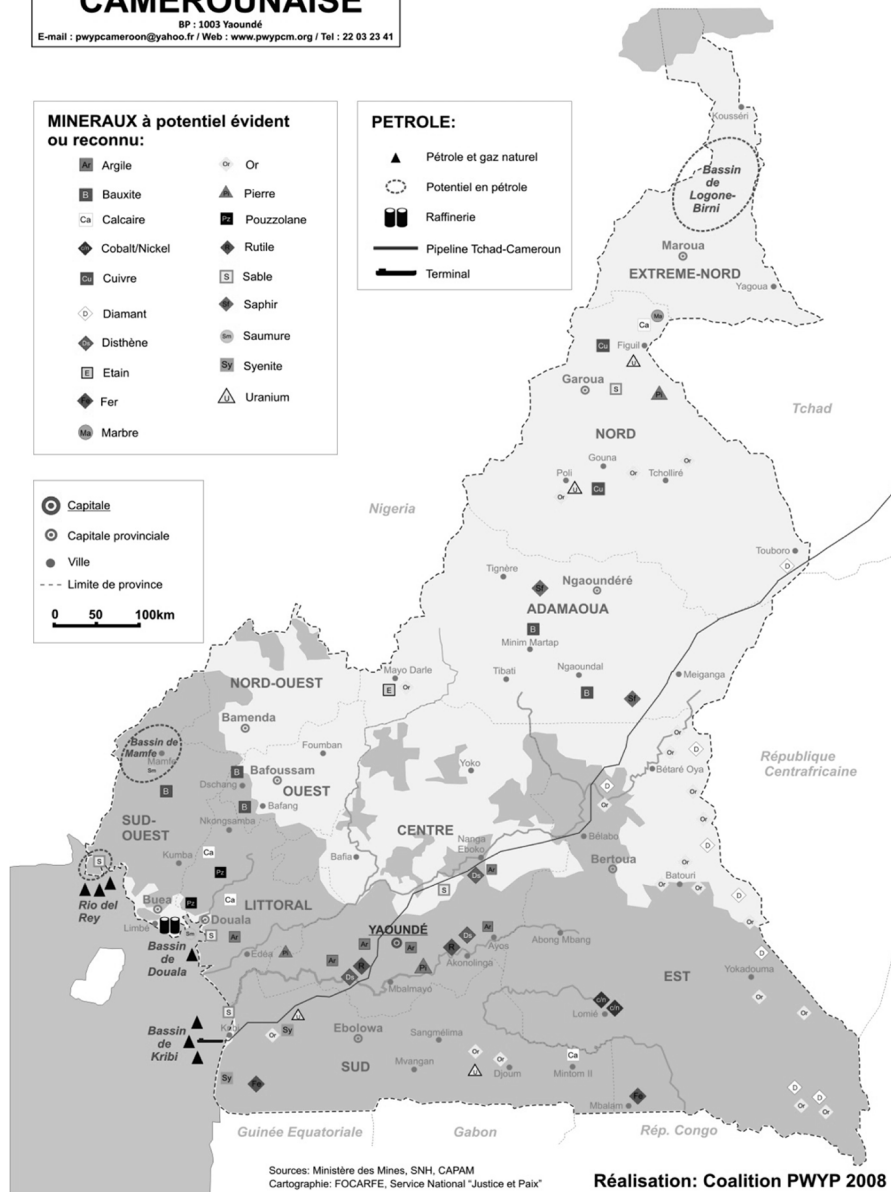


Figure 1: Map of extractive resources in Cameroon

Source: EITI PWYP 2008

their operations, when pits are not yet active and artisanal miners need an immediate access to finance to get material and food. The maximum amount observed on the ground was FCFA 500,000 (USD 1,000). The local traders – who themselves may seek credit from more wealthy traders (*grands collecteurs*) – provide miners with money to buy equipment or food. In certain cases, traders may directly supply miners with goods and digging tools. Whilst the terms of re-payment are often negotiated between parties, miners usually pay traders back in kind with the diamonds or minerals they extract.¹¹⁸ Thus, those providing credit facilities to miners and buying diamonds from them are usually the same people. This value chain configuration creates a dependency relationship between artisanal miners and traders, which is fairly typical of ASM and can be seen in other ADM countries.

- ◆ **Artisanal miners' comparatively low earnings and consumption culture**

Because of the insertion of middlemen who take a percentage of artisanal miners' revenue throughout the mining and trading cycle, miners' earnings potential is frustrated.¹¹⁹ Debt bondage with middlemen, whereby miners struggle to repay loans or pay back pre-financed goods, locks the miners into a system that limits their ability to sell on the open market. As a result they capture only a small portion of the value of the diamonds they find and are often forced to accept below-market

prices. They have potential access to resources but have no exit option (Garrett 2010). Miners sometimes lose money if the costs of transport, production material, and labour outweigh production. Net losses among miners that lose money are estimated to reach levels of up to FCFA 404,000 (USD 830) per month (Chupezzi, Ingram & Schure 2009). These system characteristics work to the detriment of the poverty reduction function of the ASM sector as a whole.

There are an estimated 15,000 artisanal miners operating in the East, South and Amadoua regions of Cameroon, which is where the core of ASM occurs (IMF 2009). By including dependents, this figure could rise to approximately 80,000¹²⁰, which represents about 0.4% of the total Cameroonian population.¹²¹ Mining represents 79% of artisanal miners' income estimated on average between FCFA 74,000 (USD 152) and FCFA 2.5 million (USD 5,185) per year – equivalent to USD 1,596 above the average annual income in Cameroon. Artisanal diamond miners' daily income is estimated at USD 4.37, which is above the standard poverty line measure of USD 2 a day. However, a consumption culture and short-term outlook on life means earnings are spent rapidly. Mining incomes are typically spent on six key items: primarily food (of which alcoholic drinks represent 20%), with some going to education of children, purchase of clothes, drugs, construction of houses and purchase of radios and televisions (Chupezzi, Ingram & Schure 2009:34).

118. Findings from field research and interviews, December 2010.

119. Interviews, Yaoundé, Cameroon, November and December 2010.

120. Due to lack of reliable data, commonly used multipliers of 2.5 and 2 for indirect and induced labour respectively are used to calculate the number of dependants. This would add up to an estimated total of 67,000 people depending on artisanal mining.

121. The population of Cameroon was estimated at 19.5 million in 2009 (World Bank, World Development Indicators, 2009).

◆ **Artisanal miners' poor working and living conditions**

Despite higher-than-average income for miners, symptoms of poverty are widespread and constitute a challenge for artisanal miners. Scarce access to basic social services, such as education and health are omnipresent challenges. Even though over 70% of small-scale miners went to primary school or received other non-formal education, the quality of education is poor, with not enough teachers, dilapidated educational infrastructures, gross gender disparities and high illiteracy rates (Chupezzi, Ingram & Schure 2009, UNDP 2006). Health conditions are also difficult, with lack of drinkable water, high rates of HIV/AIDS and run-down health centres being recurrent features (UNDP 2006).

◆ **Low level of mechanisation**

The Betaré gold ASM example described above shows a relatively sophisticated and mechanised form of ASM, which is easier to formalise than more rudimentary and mobile forms of ASM. This could strengthen the fiscal linkage of the sector, but its impact on the sector's normally significant employment generation function remains to be further evaluated. Mechanisation of artisanal diamond mining increases the efficiency of diamond production, but also brings additional challenges, particularly with regard to the environmental impact of the operations. Using water pumps on sites affected by rain allows miners to work pits more intensely despite rainfall. In some areas

miners are able to work throughout the year without suspending activities during the rainy season. Second, mechanisation may improve artisanal miners' working conditions by making their work safer, easier and less tiring (Garrett & Lintzer 2010). In other words, the fact that some artisanal mining activities are mechanised, even though it remains a small proportion, is an achievement, as long as it does not translate into a direct substitution of machines for manpower.

◆ **Low production volumes**

Miners believe that land is innately rich and that being pious is directly co-related to successful mining activities (Fox 2009). However, they often lack technical mining knowledge and fail to employ the most efficient mining methods, which means they do not make the best use of available resources. Their knowledge of the geology of diamond bearing areas is often limited. These factors again limit the poverty reduction potential of ASM.

◆ **Combination with other livelihoods**

An estimated 92% of artisanal miners in Cameroon draw on one to six other sources of livelihoods to fill in their daily basket needs (Chupezzi, Ingram & Schure 2009) and feed their immediate families, the size of which can range from three to eighteen members.¹²² For a near-majority (43%), agriculture is the main form of subsistence and the second source of income.¹²³ Agriculture, livestock rearing, forestry and fisheries account for a signif-

122. Estimation drawn from field visits in seven villages in the Mobilong area (Mboy I and II, Long, Mobalo, Mparo, Massiembo and Mang).

123. Ibid.

ificant part of Cameroon's economy – 23.3% of Gross Domestic Product in 2008 – and to 56% of formal employment (Yengoh et al 2010).

Crop production is highly tributary of changes between the rainy season – from November to April – and the dry season – from May to October. During the rainy season, the main cultivated crops are plantains, taro cocoyams and cassava, while groundnuts, cow pea leaves, okra and pumpkin leaves are cultivated during the dry season (Yengoh et al 2010). The highest rains occur from September to December and from March to April, during which artisanal diamond miners, who do not have access to water pumps can hardly dig, as mines are filled with water.

In addition to crops, 23% of artisanal miners rely on non-timber forest product gathering (i.e. wild fruits such as bush mango, leaves of Marantaceae, spices or rattan) for their survival (Chupezzi, Ingram & Schure 2009:44). Whilst some miners rear chicken, pigs and cows to provide them basic nutrients such as meat, milk, eggs, others prefer hunting wild game. However, the latter often leads to tensions with companies holding forestry titles for land on which hunting is carried out. Along with fishing and livestock rearing, it is also less profitable than farming or gathering of non-timber forest products (Chupezzi, Ingram & Schure 2009).

Women's involvement in mining spans the whole range of tasks, from digging to washing and selling food and drinks on mine sites. Children's participation varies according to the mine, (e.g. open-pit or underground), but they are often seen

transporting gravel, cleaning-up tools, caring after their younger siblings, or selling food and cigarettes.

♦ Low level of formalisation

According to the US Geological Survey, Cameroon's diamond production was estimated at 12,000 carats for each year between 2005 and 2009 (USGS 2009). However, it is also estimated that less than 10% of production was channelled through official routes in the last official record in 2007 and that less than 10% of artisanal miners had a license to mine¹²⁴, indicating a high degree of informality.

The effects of formalisation of the ADM sector can be positive to ensure that mining activity generates development benefits across the population rather than being only a survival strategy. These benefits include: high number of employment, the potential to economically empower disadvantaged and vulnerable groups (including women) and the generation of economic linkages and livelihoods in rural areas (Hayes 2008). As for the State, consequences of a formalised ADM might be: increased export revenues, easier management (rationalisation) of the sector, an increase in transparency in the diamond supply chain, and finally, enlarging the debate around diamonds to include issues pertaining to labour practices, the environment and human rights more broadly (Garrett & Mitchell 2009).

Cameroon's ADM operates fully informally since 2007, with the government's formalization strategy currently focussing on artisanal gold mining. There has not

124. Interviews, Yaoundé, Cameroon, November and December 2010.

Figure 2: Indicative measure of price for uncut diamonds^a

DIAMOND PRICES		
QUALITY	WEIGHT	PRICE (per carat)
SELECTION (0 to 29 points)	5 to 29 points	FCFA 20,000 (USD 41)
MELEE (30 to 90 points)	From 30 to 90 points	Between FCFA 20,000 and 75,000 (USD 41 and 154)
CARAT (over 90 points)	Over 90 points	From FCFA 75,000 (USD 154)

a. Interview with artisanal miners, Mobilong district, December 2010.

been any *official* diamond production recorded since 2007 despite diamond mining being observed on the ground. This can be partly explained by Cameroon's non-participation in the KPCS, which is discussed below. At the bottom of the diamond value chain lays an important contingent of traders who tour mine sites on a continuous basis in order to value and buy diamonds from artisanal miners (see Figure 2 for estimated prices by collectors).

When Cameroon was still officially exporting diamonds – until 2007 – it was observed that official buying houses sometimes lacked cash and could not finance the total production available for sale to them. Artisanal miners therefore found it more convenient to sell to non-registered (i.e. illegal) collectors who could immediately afford their production. Prices paid by official buying houses were also often lower than non-registered buying houses' price. Given the current absence of official *diamond* buying houses in Cameroon, the researchers could not assess the price disparity between the official and unofficial circuit in diamond trading. However, gold prices illustrate this difference. In December 2010, CAPAM, which acts as an official buying house, bought gold for FCAF 13,785/g while an informal trader would buy it for FCAF 17,500. Such a system of commercialization likely includes money-laundering

operations, whereby traders offer significantly inflated prices for diamonds.

Another impediment to artisanal miners joining the formal sector lies in the element of trust that exists between them and traders. Many artisanal miners suspect that some buying houses wrongly assess the weight of their production. As artisanal miners are often illiterate, they find it hard to dispute the price. They are therefore more tempted to sell their production to someone they know, even though he may be an illegal actor.

Finally, artisanal miners often have to travel long distances to be able to sell to a legal buying house. In the Mobilong district, for instance, the only official buying house is located in Mobilong, which is far from some mining sites. Artisanal miners therefore find it easier to sell their production to a local middleman based on the ground. Thus, looking at the structures of artisanal mining and trading, artisanal miners are currently not sufficiently incentivised to formalise. Being part of a formal system currently entails for them to sell their production at a lower price, trust strangers and travel longer distances. As a consequence, even when there was a formal route to export diamonds through official buying houses prior to 2007, estimates showed that only 10% of the diamond production was formally channelled (CAPAM s.d.). This represents a

loss for the State, in particular the Ministry of Finance, which cannot tax the informal production and does not receive

money from licensing. The government is therefore implementing initiatives to formalise the sector.

3. Cameroon, the KPCS and diamond smuggling

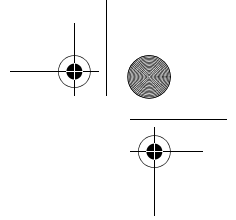
Cameroon is currently not a member of the Kimberly Process Certification Scheme (KPCS), which aims to control the international trade in rough diamonds. This status puts Cameroon into a delicate situation, as it cannot legally export diamonds to KPCS member countries, dramatically reducing its legal diamond export options. As a consequence, diamonds are routinely smuggled out of Cameroon, in particular to the neighbouring CAR where the trade to international trading destinations is more developed and where porous borders with inadequate controls facilitate smuggling.¹²⁵ Given the lack of official data on diamond production and the scarcity of information on the Cameroonian diamond sector more generally, this allegation has to be investigated carefully.

Supporters of the KPCS point to the scheme's success in stemming the flow of 'conflict diamonds' by verifying the origin of gems. However, research shows that its real success lies in two other achievements: 1) helping to formalise the international diamond trade at the point of export and 2) providing some rationalisation of the sector. By increasing their ability to tax formal trade and exports, formalisation and rationalisation have assisted the governments of producing countries to increase fiscal revenues from the diamond trade (Mitchell 2010). Nevertheless, while generally deemed a relative success at

monitoring the international trade by the industry and cooperating countries, the scheme requires its member countries to establish a system of internal controls capable of reliably determining the origin of each diamond shipment, something which is particularly difficult to implement in countries with significant artisanal-alluvial diamond production, where the high degree of informality of diamond mining operations makes it difficult for governments to exercise effective monitoring and regulation of the sector (see Vlasenroot & Van Bockstael 2008).

Artisanally mined diamonds, which are produced in small mines that are often far from town centres, can easily be carried out of Cameroon by traders who use the gems as a lightweight and concealable form of currency, exchanging them for cash once they reach their destination. However, despite these difficulties in the effective implementation of the scheme, not being part of it significantly reduces possibilities to export diamonds through legal routes and encourages smuggling. Cameroon's non-participation in the scheme de facto excludes the country from participating in the global diamond. While in theory Cameroon could officially export diamonds to non-members of the KPCS, its government has officially stopped diamonds export until the country joins the KPCS. The last official export record was made by CAPAM in 2007,

125. Interviews with artisanal miners and collectors, Betaré, December 2010.



which channeled approximately 500 carats of diamonds into international markets.¹²⁶ Despite having not exported any diamonds since 2007, field research showed that diamonds were widely produced and traded informally. According to interviewees, some diamonds are allegedly smuggled to CAR where diamond trading circuits are better organised and prices estimated at twice as high as in Cameroon.¹²⁷ As a consequence, such diamonds can be re-exported from the CAR to any other KPCS participant countries given that CAR is a member of the scheme.

According to government officials, Cameroon is committed to participating in the KPCS in the near future.¹²⁸ This appears a necessity now that C&K Mining was given authorisation to start exploiting its Mobilong concession.¹²⁹ The French Office of Mining and Geology Research (BRGM) is currently assisting the Cameroon government to meet the KPCS minimum requirements to become a member. There is no certainty on when exactly Cameroon will become a member and legal dispositions to finalise the country's candidacy are currently being reviewed.¹³⁰

4. The governance of ADM in Cameroon

Existing government-led mechanisms to control the artisanal diamond mining sector are limited, and the production and trade of diamonds are informal. The main governance challenges, which prevent a more substantial growth contribution of the artisanal mining sector as a whole, are rooted in the political economy dynamics that pervade Cameroon's economy at large.

The majority of individual powerbrokers of relevance to Cameroon's mining sector are organised in an elite network, connected to the ruling party and form an integral part of the existing 'hyper-presidential' political system. There is no tangible political opposition and overt support

for reforms, because those in power and their patronage network operate an exclusive governance structure, which helps them to benefit greatly from the status quo and provides them with little incentive to support change. Interviews for this report suggest there is very little faith across stakeholders in the artisanal mining sector that the government will adhere to its promise to improve governance in order to gain a more tangible development dividend from the natural resources sector. Interviewees have expressed concern about the government co-opting good governance initiatives and anti-corruption initiatives, yet applying them only selectively to serve the political ends of the elite. This jeopardises their effect in appli-

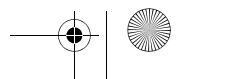
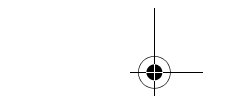
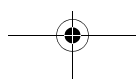
126. Interviews, Yaoundé, Cameroon, November and December 2010.

127. Interviews with artisanal miners, Mobilong district, December 2010.

128. Interview with Ndanga Ndinga, Minister of Mines, *in* Linge, I., 2010, Cameroon-Diamants: Le gouvernement concède l'exploitation à des Coreens, Journal du Cameroun.com, <http://www.journalducameroun.com/article.php?aid=7406> (accessed on 14/01/2011).

129. The authorisation of exploitation was given to C&K Mining on the 25th of January 2011, Allafrika.com, 2011, Diamants de Mobilong – C&K Mining recoit son permis d'exploitation, <http://fr.allafrika.com/stories/201101270942.html> (accessed on 17/02/2011).

130. Interview with a member of BRGM, February 2011.



cation and renders the governance space increasingly exclusive. The following paragraphs briefly examine the governance challenges the key state organisations in the ASM sector face: MINIMIDT and CAPAM and the decentralised authorities.

◆ MINIMIDT

Cameroon's mining sector is regulated by the Mining Code and the Ministry of Mines, Industries and Technology Development (MINIMIDT) is responsible for its application. The Direction of Mines and Geology (DGM) is divided into seven administrative services: Mines and Deposits, Geology and Prospection, Mining Economy, Titles and Mining Cadastre, Mining Environment, Laboratory, and Library. It organises and implements the government's policies regarding mining issues and has responsibility for issuing mineral licenses, reviewing operator performance and participating in negotiations with mining companies. The MINIMIDT regional delegate delivers artisanal exploitation authorisations (ADE 2009:48). Anyone over the age of 18 years who is a Cameroon national and owns a prospection card issued by the regional mining services can obtain an artisanal exploitation authorisation valid for two years from the same services.¹³¹ In practice though, these local license holders must partner with mostly foreign companies to develop deposits.¹³² According to Bertoua's MINIMIDT delegate, about 100 authorisations were issued in 2010.¹³³

On paper the Cameroonian mining sector has an organisational governance structure, yet in practice it does not achieve its stated aims. MINIMIDT, the mining ministry, has very limited capacity (Fox 2009). For instance, out of the 400 technical engineering positions needed at the ministry, only 40 are occupied.¹³⁴ In addition, it has been suggested that more than half of the personnel were not qualified for the occupied posts and many of them are close to retirement age (ADE 2009:23). There is only one person within MINIMIDT officially assigned to issuing and monitoring mineral licenses,¹³⁵ whereas in other countries a highly specialised and trained team performs this function.

Second, the DGM lacks independence when issuing exploration permits, which jeopardises the integrity of the Ministry. In other words, the distinction between the political and administration mandate of the Ministry's executives is blurred during the exploration permit approval process, particularly as interviewees suggest the mining permit applicants are subject to pressure from individual elite interests to make extra-ordinary payments to obtain mining authorisations.¹³⁶

Third, MINIMIDT's official mandate to recommend the awarding of mining titles (reconnaissance, exploration and mining permits) is undermined by the actions by CAPAM (discussed below) to wrestle decision-making power in the ASM sector away from MINIMIDT and establishing

131. Section 25 (1) of the Mining Code.

132. Interviews, Yaoundé, Cameroon, November and December 2010.

133. Findings from interviews on the ground, December 2010.

134. Interviews, Yaoundé, Cameroon, November and December 2010.

135. Interviews, Yaoundé, Cameroon, November and December 2010.

136. Ibid.

CAPAM as the principal authority dealing with ASM.¹³⁷

♦ CAPAM

As a supervision authority, MINIMIDT has power over structures such as the Small-Scale Mining Support and Promotion Framework Unit (CAPAM), which aim is to support, facilitate, coordinate and organise ASM. CAPAM was established in 2003 and quickly expanded into a complex and sometimes opaque mix of entrepreneurial, regulatory and support activities with regard to the artisanal mining sector. CAPAM has expanded into areas that would normally be the responsibility of the Institute for Geological Mining Research (IRGM) in terms of preparing and providing geological information on the country's mineral resources. It seeks to develop ASM and LSM, to formalise the mineral value chain by channelling mineral production, to improve miners' livelihood and to mechanise ASM (Manyacka & Nguelpjoug 2010). During a first funding phase and through assistance supplied by Anglo American, CAPAM has digitalised geological information (including on gold, gemstones and industrial minerals) and issued geological maps.¹³⁸

While there is no official mechanised artisanal diamond production, according to representatives of CAPAM's Betaré office, mechanised artisanal production of gold began in 2007 and approximately ten

companies are working on mechanised small-scale gold production on four hectares of ground each.¹³⁹ Two of the companies, AKMINING and SOMEK, are trying to significantly scale up their exploitation operations in Betaré. CAPAM is actively looking for new financial partners willing to invest in ASM in Betaré and is in discussion with potential investors. Within the third quarter of 2010, there were at least 10 investor delegations from different countries, looking to invest in mechanised ASM in the Betaré area.¹⁴⁰ Mechanised ASM can lead to more efficient mining, but interviewees suggest the miners are often left at a disadvantage, as companies tend to purchase their licenses at uncompetitive rates and only formally employ a small proportion of the miners within the actual mining operation. In the gold sector, between June and December 2010, CAPAM in Betaré officially channelled 3kg of gold into formal processes, which, according to CAPAM, represents about 10% of local production.¹⁴¹ C&K Mining self-declares production of 10-14kg of gold/month, and smaller companies such as SACAM or SOMEK self-declare between 3-4kg of gold/month.¹⁴² At present, neither CAPAM nor MINIMIDT have the capacity to monitor whether the companies self-declare the correct amount of production.¹⁴³ Interviewees in Betaré suggested there is also no real incentive for those involved in ASM to change the status quo, as a result of collusion between companies and the authorities to accept under-declaration in return for payments.¹⁴⁴

137. Ibid.

138. Interviews, Yaoundé, Cameroon, November and December 2010.

139. Interview with CAPAM officials, Betaré, December 2010.

140. Ibid.

141. Interviews, Yaoundé, Cameroon, November and December 2010.

142. Interview with CAPAM officials, Betaré, December 2010.

143. Ibid.

144. Interviews, Betaré, Cameroon, December 2010.

CAPAM has a vision of ASM and LSM cooperation, whereby the organisation considers ASM as an activity that should be allowed during the exploration phase within the provision of the law (not larger area than 4 hectares and not deeper than 30 metres). Once the mining license is granted, ASM should, according to CAPAM, not be allowed inside the smaller perimeters of the mining license. CAPAM's philosophy is thus to begin exploration and limited exploitation of deposits at the ASM level until a critical level of production is achieved. Then a foreign investment partner is brought in to help finance development of the mining project and to provide additional technological capacity.¹⁴⁵

CAPAM provides technical and logistical support to artisanal miners by providing exploitation equipment and geologists through groups of artisanal miners (comparable to cooperatives) called GICAMINES (*Groupe d'Initiative Commune des Artisans Miniers*), in exchange of a 3% tax on their production.¹⁴⁶ GICAMINES are usually made of fifty artisanal miners. The CAPAM currently supervises 1250 artisanal miners, in other words twenty-five GICAMINES, on a total population of 15,000 miners in the Betaré area. Four GICAMINES also exist in the Mobilong district. By 2009, CAPAM has installed around 200 GICAMINES in total, including around 10,000 artisanal miners. The organisation is implanted in twenty-four subdivisions

in seven regions.¹⁴⁷ CAPAM not only benefits from its taxation of the GICAMINES, but interviewees have also alleged that some CAPAM representatives hold individual equity stakes in both industrial and small-scale mining projects through front holding companies. The research did not uncover written evidence of this in the limited time available.¹⁴⁸

In the second funding phase of CAPAM, running from 2011-2015, the official emphasis is on providing support to mining activities. The programme is funded by the Heavily Indebted Poor Countries (HIPC) fund, the Cameroon Public Investment Fund as well as further unspecified donors. It is divided into five components:

1. Support to ASM production and mechanisation
2. Improving the geological knowledge (CAPAM suggests that currently only 40% of Cameroon's geological potential is known)
3. Local processing of production (according to CAPAM, the new mining code states that 15% of production has to be processed locally)
4. Support to the implementation of the programme (according to CAPAM, this includes infrastructure development projects and actions to ameliorate local capacity)
5. Reinforcement of local capacity

As it is, there is no specific focus on the formalisation of the artisanal diamond mining sector. Reopening and strengthen-

145. Interview with CAPAM officials, Betaré, December 2010.

146. Interviews, Yaoundé, Cameroon, November and December 2010.

147. The subdivisions include: Garoua-Boulaï (Bindiba), Bétaré-Oya, Kétté (Béké), Ngoura (Colomine), Batouri (Kambélé et autres), Yokadouma (Mobilong et autres), Garigombo, Moloundou (Kika et autres), Tibati (Marma et autres), Tignère (Galim et autres), Meiganga (Kombo-Laka et autres), Bipindi, Lolodorf, Akom II, Mintom, Ebolowa, Sangmélima, Makak, Ngoumou (Oté), Dibang, Matomb, Nanga-Eboko, Pouma, Mamfé. Please refer to CAPAM's website for more information <http://capam.cm/interne.php?page=article.php&idmenu=43&idsubmenu=72&idarticle=53#> (accessed on 18/05/2011).

148. Interviews, Yaoundé, Cameroon, November and December 2010.

ing CAPAM's capacity as a buying house to channel the diamond production is not on the agenda until Cameroon joins the KPCS. However, interviews suggest CAPAM is willing to take on the role of KPCS monitor if the scheme is implemented.¹⁴⁹ Considering CAPAM's role as an adviser, buying house and shareholder in mining projects, the institution is in its current structure not suited to credibly monitor KP implementation in Cameroon, as conflicts of interests and lack of political independence are evident. The BRGM, which is assisting the government in preparing its participation in the KPCS, recommends that the scheme be supervised by an independent structure within the DGM.¹⁵⁰

CAPAM faces many difficulties including an insufficient staff to monitor and control all of the exploitation sites (about 3000) due to a lack of financial means and strong competition from illicit collectors. However, the biggest challenge that CAPAM faces is its internal organisation and political structure.

The Mining Code does not allow any monitoring or tax revenue to decentralised territorial authorities (such as the sub-prefects or mayors) in the ASM sector. These authorities therefore only carry out their statutory powers. In theory, the only taxes that exist are collected by the central government which is then supposed to distribute that income according to a number of criteria such as local development needs, political or tribal pressures in different regions, and areas where there is

significant ASM mining.¹⁵¹ These taxes are identified in the Mining Code and include:

- FCFA 5,000 (USD 10) for a prospecting mining card and FCFA 10,000 (USD 20) to renew it.
- FCFA 30,000 (USD 60) for an exploitation authorisation and 50,000 (USD 100) to renew it.
- FCFA 200,000 (USD 400) for an authorisation to open a buying/trading house and FCFA 200,000 (USD 400) to renew it.

However, in practice, artisanal miners often ignore or cannot comply with these legal obligations. The licensed percentage of artisanal miners has been estimated at 10% – 10,000 miners – of the total number of miners, through CAPAM's GICAMINES formalisation system. Instead of getting licensed officially, artisanal miners tend to ask village chiefs (*chefs de village*) to allow them to exploit a parcel within the village chief's authority, in exchange of a symbolic donation and usually one third of the value of their first production.¹⁵² The artisanal miner then becomes a pit leader (*chef de chantier*) who has exclusive rights over his land. The pit leader is also able to share his land with other artisanal miners normally in return for one third of their respective production.¹⁵³

A study of the structures in place in the gold ASM sector in Betaré shows that revenues coming from mechanised ASM are being managed by:¹⁵⁴

149. Interview with CAPAM officials, Yaoundé, November 2010.

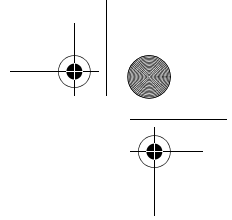
150. Interview with a member of BRGM, February 2011.

151. Ibid.

152. Interviews, Betaré, Cameroon, December 2010.

153. Interviews, Betaré, Cameroon, December 2010.

154. Interviews, Betaré, Cameroon, December 2010.



- a supervision committee made up of the Minister of Mines, the East region Governor, the Prefect of the department of Lom and Djerem;
- a management committee made of elites and traditional heads of the city, within which there are members of the administrative body that decides on the use of the revenues quota aimed at the population;
- a follow-up committee that is being chaired by Betaré-Oya's sub-prefect who controls how revenues aimed at the population are being used.

The budgets allocated to these committees

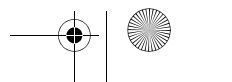
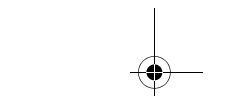
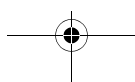
are taken from the flat-rate tax collected that mining companies pay. For example, FCFA 3.5 million is being paid by C&K Mining each month as a flat-rate tax in Betaré-Oya,¹⁵⁵ of which the management committee of Betaré-Oya collects one million for its functioning. Civil society interviewees suggest that these committees are led by political elites who pursue their own vested interests in decision-making processes. There is thus very limited true community representation in the committees, which makes them ineffective in fulfilling their mandate to align revenue distribution with community development priorities.

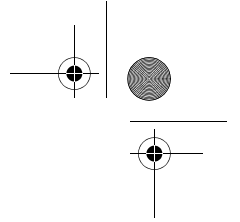
5. Conclusion

As part of their quest to increase the development dividend from mining, a number of governments have attempted to formalise the production and trade in artisanally mined diamonds in their territories. These moves to formalise coincided with the establishment of the Kimberley Process Certification Scheme (KPCS) for Rough Diamonds, which, from 2003 required participating members to identify the origin of diamonds produced in their countries. Cameroon, however, has not joined the KPCS yet and no official diamond exports have been recorded since 2007. Despite the absence of official diamond exports, informal diamond mining is happening on the ground and diamonds are being exported unofficially. The existing government-led enforcement mechanisms to control the ADM sector are limited or non-existent, which makes production and trade of diamonds fully informal. Two main constraints to the formalisation

of the ADM sector have been identified. First, artisanal miners lack incentives to join the formal sector as it would entail selling their production at a lower price, trust strangers (i.e. remote official buying houses) and travel longer distances because of the isolation of diamond alluvial deposits. Second, the main governance challenges, which prevent a more substantial growth contribution of the ASM sector, are rooted in the political economy dynamics that pervade Cameroon's economy at large. The majority of individual powerbrokers of relevance to Cameroon's mining sector are organised in an elite network, connected to the ruling party and form an integral part of the existing hyper-Presidential political system. There is no tangible political opposition and overt support for reforms, because those in power and their patronage network operate an exclusive governance structure, which helps them to bene-

155. Interviews, Betaré, Cameroon, December 2010.



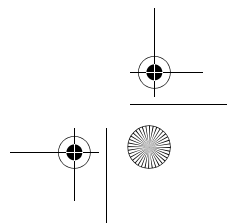
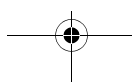


fit greatly from the status quo and provides them with little incentive to support change.

Effects of formalisation of the ADM sector can be positive to ensure that mining activity generates development benefits across the population rather than being only a survival strategy for the miners that also benefits elite interests. For the State benefits of a formalised ADM are: increased export revenues, rationalisation of the sector, an increase in transparency in the diamond supply chain, and finally, enlarging the debate around diamonds to include issues pertaining to labour practices, the environment and human rights more broadly (Garrett & Mitchell 2009). Achieving these benefits will largely depend on whether the policy-making space in Cameroon can become more inclusive, with civil society being allowed to undertake its important monitoring role and actively contribute to policy formulation.

In terms of livelihoods, given that ADM is currently an above-average income generating activity, other livelihood opportuni-

ties should be presented as complementary sources of income rather than substitution activities. The focus of the Cameroon government and the international community should therefore not be on providing alternative livelihoods to transfer people out of ADM (see Siegel & Veiga 2010) but instead 1) to ensure that diamond mining is a profitable activity for miners and alleviate them from poverty (through formalisation, for instance) and 2) that they have *complementary* activities that help them survive shocks and stresses, and diversify their incomes. For the long-term, these strategies have to be complemented by alternative strategies, considering that ASM sector is not an infinite source of revenue. In the short- to medium-term, supporting complementary livelihood opportunities for diamond miners could be, on one hand, a survival strategy in an economic downturn and, on the other hand, a development strategy to increase production and trade in a variety of goods. This involves designing and implementing policies to boost complementary sectors to mining and improving the general standard of governance in Cameroon, which would allow them to flourish.



CHAPTER 4

ARTISANAL DIAMOND MINING IN GHANA: PROSPECTS, CHALLENGES AND WAYS FORWARD

Gavin HILSON

1. Introduction

Ghana's diamond mining industry is in a state of crisis. Long one of the world's leading producers of rough stones, the country has experienced a significant decline in production over the past two decades (Table 1). The industry's rapid deterioration has turned Akwatia,¹⁵⁶ Ghana's diamond mining epicentre, into a 'ghost town'.

The collapse of Ghana's diamond mining sector was triggered by a combination of sudden events. These include the indefinite suspension of operations at the Ghana Consolidated Diamonds (GCD) Ltd. site, long the town's – and the country's – most productive, diamond-rich area; a rather scathing 'blood diamonds' scare that forced numerous merchants and small-scale investors to flee to neighbouring countries; the fluctuation of diamond prices on the international market, particularly since the onset of the financial crisis, which has caused even more uncertainty in Ghana; and the government's dismissing of repeated calls from local leaders to address the needs of the town, including poverty and economic development [2-3]. During the 1980s and early-1990s, the 'Belgium Market',¹⁵⁷ Akwa-

tia's main diamond trading centre, attracted over 500 merchants. Today, it only attracts upward of 25 traders daily, the majority of whom reside in Akwatia and surrounding townships.

Akwatia's sudden plunge into economic obscurity raises several important issues for investigation. This chapter focuses on two of these issues. First, it will broaden understanding of the regulatory apparatus in place for alluvial diamonds in Ghana. Recent events call into question whether Ghana is, in fact, capable of monitoring alluvial mining activities to the levels now demanded by the Kimberly Process. How 'regulatable' is the industry, and how effective have recent efforts been to 'formalize' its activities? Second, the chapter will examine how the embattled people of Akwatia have coped with the hardship induced by the aforementioned events of the past decade. A dearth of alternative economic activities and a general disinterest on the part of government to promote the town's development has delayed any type of revival from taking place: Akwatia continues to languish in its perilous state (see Table 1, p. 86).

156. Akwatia is located in the Kwaebibirem District of the Eastern Region. Its population is in the range of 23,000 people.

157. Ghanaians refer to Akwatia's diamond mining centre as the 'Belgium Market', whereas lawmakers and donors commonly refer to it as the 'Belgian Market'.

Table 1: Diamond mine production in Ghana, 2000-2008^a

Year	Production (carats)
2000	878,011
2001	1,090,072
2002	963,493
2003	904,089
2004	920,050
2005	1,013,600
2006	972,600
2007	894,800
2008	643,300

Source: Kimberley Process Statistics obtained from selected Minerals Commission Reports

a. See also Chirico et al. 2010.

2. Formalization, Regularization and Organization

The past three decades have been a tumultuous economic period in Akwatia. This section of the chapter explains why. It first outlines briefly the history of the locality. The chapter then proceeds to critically examine some of the major changes that have occurred in the past 30 years that have changed the economic climate of the diamond trade in Ghana, and Akwatia more specifically.

2.1. A Brief History of Diamond Mining in Ghana

Diamonds were first discovered in the former Gold Coast Colony in 1919 in what is now Ghana's Eastern Region. A handful of European-backed exploration ventures would take place throughout the 1920s and in 1929, the first organized diamond mining commenced with the extraction of alluvial deposits near the Bansa River. During the 1920s and 1930s, companies such as the West African Diamond Syndicate (WADS), the Amalgamated

Mining Company and Dunkwa Goldfields Ltd. all actively engaged in the extraction of alluvial diamond deposits in Ghana, having secured numerous concessions from the colonial government. Of the companies operating, the Consolidated African Selection Trust (CAST) was by far the sector's most influential pioneer. Its venture in the Gold Coast Colony was an integral strand of a network of mines it would establish in West Africa in the mid-to-late 1900s. The company mined over two million carats of diamonds in the Gold Coast between 1924 and 1939. It would continue to mine diamonds until 1982, when state-owned GCD seized control of its mine in Akwatia. The efforts of CAST helped to transform Ghana into one of the world's leading producer of diamonds, a position which it no longer occupies (Chirico et al. 2010; Kesse 1985; Tsikata 1997).

Booming diamond mine production facilitated significant development in Akwatia. Apart from attracting scores of skilled workers from across West Africa, devel-

opments across the Eastern Region spawned infrastructural development in the form of roads, buildings, housing and schools. As Nyame and Danso (2006) explain, CAST, which established its head office at Akwatia during its time in Ghana, was the chief financier of this infrastructure, which would spawn numerous secondary and service industries, including banks, hotels and equipment repair. Chirico et al.'s map of diamond occurrences in Ghana is somewhat misleading, suggesting that economic deposits are found beyond the reach of Akwatia and are, in fact, scattered throughout the Western and even the Ashanti Region. There have only been trace quantities of diamonds discovered to date, however, outside of the Eastern Region, where Akwatia is located, and certainly not in commercial quantities. In the few instances where sufficient quantities of diamonds have been found outside of Akwatia and surrounding areas, they been discovered by teams panning for gold. Over the past century, the Akwatia diamond field, which is situated within a bed of Birmanian rocks, has produced more than 100 million – mainly industrial-grade quality – carats of diamonds (GCD 1999).

In the early-1980s, by which time, the Government of Ghana, through GCD, had fully taken over CAST's operations at Akwatia, diamond production was at an all-time high. Between 1970 and 1976, annual output exceeded 2.3 million carats. But operations and production deteriorated fairly rapidly after GCD's takeover of Akwatia. Embezzlement, underinvestment, poor business decisions and gross mismanagement have contributed to the mine's deterioration: output in 1989 was a mere 10 percent of the production levels

attained in the late-1970s. It was rumoured that, just prior to GCD's closure in 2007, power consumption of the plants that were still functional was so high and their efficiency so low that the company would have been better off not using them at all (Nyame & Danso 2006).

An often-overlooked factor, however, and perhaps the main reason behind the collapse of GCD's activities and Ghana's diamond mining industry as a whole was the enclave-type functioning of CAST. This development strategy had transformed Akwatia, from an early period, into a town almost exclusively dependent upon diamond mining for its survival. During the company's tenure, the Akwatia Technical Institute, a vibrant technical college, was established; the prestigious St Rose's Secondary School was constructed and opened (in 1965); and St Dominic's Hospital was established (in 1980). With no government budget put aside to maintain these, and other, important Akwatia-based facilities, they have all deteriorated. Moreover, after CAST's exit from Ghana in the 1980s, there were very few qualified geologists and engineers on-hand that the government could turn to. Up until its final days in Ghana, CAST trained its own mine specialists to develop the diamond fields covered by its lease. It began doing so in 1925, when its managers had invested £300,000 to hire skilled personnel, and continued into the 1970s, by which time it was using the Akwatia Technical Institute as a developmental institution to train its own middle-level personnel in the areas of electrical, mechanical and automotive engineering. Consequently, at the time of GCD's takeover of Akwatia, there were few experienced geologists and engineers that the government could have entrusted with the mine's

management. The mine's deterioration, therefore, was inevitable.

By the time CAST had left Ghana, the Akwatia Township was fully dependent, economically, upon the mine for its existence. Most of the people from Akwatia and surrounding areas who were employed at the mine, however, were expendable, working as labourers and managers. Thus, as GCD became starved of investment, unable to replace obsolete equipment, some of which was installed in the 1950s (no plant was commissioned after 1965), many were made redundant. The move had serious repercussions in a township where little had been done to diversify the economic base. Akwatia was, and continues to be, a town of 'generational' mine workers, where there has been little need to retain valuable knowledge of other trades and industries, including farming. In fact, the entire town's commerce was structured around the diamond mining industry. The fate of Akwatia's service industries was inextricably tied to the performance of the mine, as has been the St Rose's School, St Dominic's Hospital and the Akwatia Technical Institute, which the Ghana Ministry of Education absorbed in 1975 (Hilson & Clifford 2010).

A dearth of alternative economic opportunities could explain why moves made by GCD in the 1980s to restructure and close the mine were met with significant community resistance. By 1989, production was in the range of 285,000 carats or roughly 20 percent of the output achieved in 1980. Intensive negotiations between GCD management, the Akwatia chief, and the citizens of the town soon followed.

2.2. *Chronicling the fall of Akwatia*

With few alternative economic opportunities available in the town, the people retrenched from GCD had little choice but to continue doing 'what they knew': engaging in artisanal diamond mining. Most targeted sections of the GCD concession, which inevitably led to violent clashes with company security, the army and local police. With community resistance mounting and the company's efforts failing abysmally to control the illegal mining on the concession, managers had little choice but to forge an agreement with local artisanal diamond miners. Negotiations spawned the 'Tributor System', a working partnership between the company and 'encroaching' artisanal mining groups. Parties agreed that in exchange for operating on designated plots within the confines of GCD's 185.35 square mile concession, mining groups (or 'tributors') and their employees would have to register with GCD management – more specifically, the Tributor Manager; to carry ID cards at all times; and to sell all mined product to the GCD buyers. The move temporarily revived the diamond mining sector in Ghana: national diamond production, which in 1989, had plummeted to 285,640 carats, its lowest since 1926, climbed sharply to 636,500 carats in 1990 and increased further to 757,990 in 1994, primarily because of the Tributor System. Though its success was short-lived due to reasons that will be explained, the Tributor System, which materialized following in-depth consultations with affected groups, is evidence of how, with a "detailed knowledge of the cultural, social, economic and organizational context of the [artisanal] miners" (Hentschel, Hruschka & Priester 2002)

effective ASM polices and interventions can be designed and implemented.

In late-2007, GCD officially suspended its operations at Akwatia, which resulted in the retrenchment of another 807 workers, who as of December 2010, had not received their full severance pay. Whilst the people of the Akwatia had done their part to keep the Tributor System and by extension, the country's diamond mining sector, afloat, the government, despite managing to buy the time needed to revive activities fully and revitalize the town, failed to live up to its commitments. The view here is that this transpired because of two – often overlooked – reasons. The first is the regulation and management of diamond mining, which has always taken place in an enclave, a setup which has bred nepotism and corruption. The GCD management structure has remained virtually unchanged since the Acheampong regime moved to nationalize the Akwatia mine in the 1970s. At this time, there was an institutional framework in place to regulate and support artisanal diamond mining: The Diamond Marketing Board was in place, having been established in 1963 following implementation of Legislative Instrument 401, and empowered with the responsibility of marketing all diamonds in Ghana; and in 1972, the Diamonds Decree (NRCD 32) was implemented, a move that transformed the Diamond Marketing Board into the Diamond Marketing Corporation, an organization that was given expanded responsibilities for controlling and promoting the country's diamond industry, as well as the marketing of its product (Hilson & Clifford 2010).

These regulations, which were enforced up until only recently by the Mines Department (which is now the Inspectorate Division of the Minerals Commission),¹⁵⁸ applied to all artisanal diamond miners in Ghana *apart* from those operating on the GCD concession – the location of the country's highest concentration of (artisanal diamond mining) groups. This responsibility was entrusted to GCD management, which could explain why the Tributor System had been left to its own devices, and why so little was done during the past two decades prior to GCD's closure to support individual artisanal diamond mining groups on the concession and raise the sector's profile. As a former GCD employee explained in an interview:

*'...Part of it [the problem] is [a] managerial problem. Those [put] in place [were] not up to the task, and nepotism sets in. Those in certain [managerial] positions shouldn't have been there. They promoted certain people in certain positions who weren't in the right direction...'*¹⁵⁹

Similar views have been expressed in the media, most recently by the columnist Harold Agyeman. Voicing concerns about the overall inefficiency of GCD management, Agyeman reports that 'there would be need for a complete restructuring of the company, its organisational structure, corporate governance principles and accountability regime, conditions of service of staff, mode of operation, etc., aimed at ensuring effectiveness and efficiency in the mining operations, adopting cost-effective and competitiveness measures in

158. The Minerals Commission is the main promotional and regulatory body for the minerals sector in Ghana. It is responsible for the regulation and management of all mining activities in the country.

159. Interview, former GCD employee, Akwatia (27/05/09).

comparison with global comparators and renewing the personal and professional integrity of the staff'.¹⁶⁰ It is not the intention of this chapter to question the integrity of GCD staff; but given what has transpired since the implementation of the Tributor System, it is apparent that change in managerial focus is desperately needed.

When the Tributor System was officially launched in the early-1990s, GCD management claimed that tributors would operate alongside the company's operations. The idea was that prospective tributors would be given areas that were low grade, already 'mined out' and/or which the company could not access with heavy equipment (Hilson & Clifford 2010). But as one former GCD employee explained in an interview,¹⁶¹ "the purpose of the small-scale mining was to lease areas of the mine not viable for GCD because we have grades of land which GCD mined but those lands that are below our specification, we [the company] gave to small-scale mining". But the system, claimed the former employee, "was abused because of political interventions". It was explained that "some of our [the company's] rich reserves, colleagues here, will have some friends from government, get a letter from Accra to the company asking to release high grade land". Failure to retain or protect rich alluvial reserves no doubt contributed to Akwatia's rapid deterioration: fewer high-grade diamonds being mined by the company meant that there were less monies available to upgrade GCD equip-

ment and, perhaps more importantly, to pay tributors for their diamonds, as per the original agreement. As another former GCD employee explained, "diamonds were supposed to be given to [the] Tributor Office but because of a scarcity of money...the peanut paid by the Tributor Office took a long time to mobilize, so the diamonds ended up in the outside market or Accra".¹⁶² This outside market – the 'Belgium Market' – would grow rapidly, its merchants providing tributors with competitive prices for their diamonds. Perhaps more importantly, failure on the part of GCD management to accumulate any funds led to the closure of its operations in late-2007. This, however, had little impact on overall production because the only notable diamond mining activity taking place on the concession was the handful of stones being harvested daily by the 474 tributors operating at the time. But, as noted, the move did result in the loss of 807 jobs, which has crippled the town of Akwatia. It has taken three years and a change of government for these employees to receive even part of their salary arrears.¹⁶³

Since implementing the Tributor System, GCD management has been overly preoccupied with trying to find a suitable investor for the Akwatia mine. Part of the challenge has been finding a company willing to both preserve the Tributor System and pay outstanding severance to the employees made redundant. There have been several 'false alarms' over the years, including US\$17 million and US\$34 million bids

160. <http://www.modernghana.com/news/293265/1/saving-ghanas-diamond-industry-is-disinvestment-th.html> (Accessed 13 December 2010).

161. Interview, former GCD employee, Akwatia (27/05/09).

162. Interview, former GCD employee, Akwatia (18/05/09).

163. On 26 December, the government paid 50 percent of these employees' severance packages. See <http://www.modernghana.com/news/309704/1/severance-award-for-ex-gcd-workers.html> (Accessed 24 December 2010).

from Mard Gold and Sapper Mining Company, respectively, but in each case, discussions stalled, presumably over the Tributer System. But awarding mining rights to a foreign investor may not be in the best interest of the country. According to recent exploration projections, alluvial tailings in the GCD mine alone contain close to four million carats of diamonds (of 0.2 grade) and two million grams of gold, and that exploration works on the Middle Birim River and Lower Birim River suggest proven reserves in excess of over 14 million carats of diamonds.¹⁶⁴

A second, often overlooked, factor responsible for the stagnation of the country's artisanal diamond mining sector is the level of priority placed by the Ghanaian Government on supporting and further developing it. Unlike small-scale gold mining, which has featured prominently in the development plans of the country since the industry's official legalization, the artisanal diamond mining sector has always been a peripheral concern. Following implementation of the *Small-Scale Gold Mining Law* (PNDCL 219), the *Precious Minerals and Marketing Corporation Law* (PNDCL 218) and the *Mercury Law* (PNDCL 217), in 1989, which established a regulatory framework for small-scale gold mining in the country, the government attempted to identify and set aside areas for prospective licensees. This is an exercise that began in 1995 following implementation of the World Bank Mining Sector Development Environment Project, under which approximately US\$1.88 million was earmarked to identify and demarcate gold-mineralized areas for small-scale miners (World Bank 1995). The work has continued under three suc-

cessive World Bank Natural Resources and Environmental Governance (NREG) Projects. In addition to demarcating lands for prospective licensees, hundreds of thousands of dollars have been pledged by various United Nations divisions, the UK Department for International Development and the World Bank to assist small-scale gold miners and support their operations. Whilst the effectiveness of this support is open to debate, the Ghanaian Government has long recognized the importance of ensuring that all gold originating from small-scale gold operations is captured in-country. Through its Precious Minerals and Marketing Corporation (PMMC), it has established a comprehensive network of 800 buyers, who patrol all corners of the country, purchasing gold from both licensed and unlicensed small-scale miners. To these licensed gold buyers, the government pays in the range of 97 percent of the market rate for gold in local currency, a competitive rate which has helped to minimize smuggling.

It remains unclear why the government has not yet implemented comparative support and purchasing schemes for the country's small-scale diamond mining; and, why it continues to give the sector's development such little priority. The most logical reason would be a combination of a lack of donor/private sector interest and policy 'fatigue'. In the case of the former, because Ghana has never been the location of abundant gemstone-quality stones, it explains why the government has struggled, for nearly 30 years, to attract the requisite foreign investment to upgrade obsolete machinery on the GCD concession. For the longest time, the most logical private sector partner was De Beers,

164. <http://www.modernghana.com/news/293265/1/saving-ghanas-diamond-industry-is-disinvestment-th.html> (Accessed 21 December 2010).

which had monopolistic control of the diamond industry up until the 1990s. In a desperate attempt to resuscitate national diamond production, the Ghanaian Government contracted the company to carry out a US\$1 million 18-month feasibility study to determine the extent of reserves in the Birim River Basin. The idea was for a subsidiary of De Beers to overtake GCD and for the New York City-based diamond manufacturer and distributor, Lazare Kaplan International, to produce and market the mined stones. The joint venture (Lazare Kaplan and De Beers Centenary AG of Switzerland), 'Birim River Diamond Ltd.', was approved by Ghanaian Parliament in late-1993 (the idea being that Lazare Kaplan and De Beers would each have a 40 percent stake, and the government a 20 percent stake). But as Coakley (1999) explains, following the results of the study, De Beers withdrew from the project. Without private sector support, however, participation from donors such as the World Bank is unlikely.

This links to the issue of 'policy fatigue'. The Ghanaian Government spent most of the 1980s resuscitating its gold mining sector under the guidance of the World Bank, which culminated in the implementation of a revised mining law, the *Minerals and Mining Law* (PNDCL 153) in 1986, and the series of laws for small-scale gold mining mentioned above (PNDCL 217, 218 and 219). Curiously, despite having implemented a revised framework for small-scale gold mining, the government opted to continue allowing the now-defunct Mines Department to continue regulating all small-scale diamond mining activities outside of the GCD concession. When moves were being

made in the late-1980s to legalize ASM, the-then Chief Inspectorate of the Mines Department – the government agency that was in charge of awarding diamond-digging licenses, and which had been doing so since the early-1970s – insisted that the laws not be changed to accommodate diamonds, and that they focus solely on gold (Hilson & Clifford 2010). In what was possibly one of the poorest management decisions made by Ghana's mine regulators to date, the government permitted the Mines Department to legislate the artisanal diamond sector *independently* of the central regulatory framework for mining. As Hilson and Clifford (2010) explain, the decision would cause a number of problems, the most significant being delayed decisions on diamond-digging licenses due to the same plots of land being awarded by the Mines Department to prospective diamond miners as the Minerals Commission was awarding to prospective licensed small-scale gold miners. Perhaps most significantly, by allowing the Mines Department and GCD to operate in their own regulatory enclaves, artisanal diamond mining would be heavily overlooked in the host of industry donor projects implemented over the past two decades, including the World Bank projects mentioned above; various UNIDO environmental projects; and a host of UNDP/DESA/DfID livelihoods studies (World Bank 1995; Babut et al. 2003; Labonne, Katsiaouni & Carnegie 2000). Akwatia was virtually excluded from the series of educational, land demarcation, licensing and technical assistance exercises that materialized from the millions of dollars earmarked for formalizing ASM under these, and related, projects.

3. Diamond Mining in Ghana: Organization and Re-Organization

The Ghanaian Government's prolonged lack of interest in developing the artisanal diamond sector is as bewildering as it is unexplainable. Why, despite the need for a costly overhaul of GCD's equipment, have policymakers turned their backs on diamonds when only 50 years ago, Ghana was one of the world's leading producers of rough? It would be understandable for the government to close operations because the concession was no longer viable but again, recent results reveal that alluvial tailings on the concession contain in the range of four million carats of diamonds (of 0.2 grade), and that in the Middle Birim and Lower Birim River, there could be upward of 14 million carats of proven diamonds.¹⁶⁵ Communications with senior policymakers in Accra suggest that at the time of CAST's takeover, the country's politicians were concerned about developing Ghana for Ghanaians, and therefore sought to hold on to as many potential state assets as possible. If, indeed, this was the case, it ran counter to the shift in policy focus taking place in the gold mining sector at the time – namely, the intention of developing large-scale projects by attracting foreign investment. It is, however, rather likely that in seizing control of the GCD mine, the Ghanaian Government believed it was making a move that was in the best interest of the nation; and, given the company's diverse portfolio at the time, including a wealth of interests elsewhere in West Africa, CAST management probably put up little resistance.

But the move turned out to be ill-fated

because of the government's failure to conceptualize the magnitude of the technical, managerial and logistical challenges at hand: as explained, there was a dearth of skills in the country at the time. It also appears that policymakers vastly overestimated their negotiating position. Although endowed with rich reserves of diamonds, Ghana remains a relatively small player in the diamond industry. The context under which decision took place in many respects mirrored the ill-fated move made by former Jamaican president Michael Manley in the late-1970s to extract more revenues from alumina companies operating in Jamaica through the implementation of a bauxite levy. With bauxite ore being a fairly ubiquitous geological occurrence in the Caribbean, the move would lead many international companies to turn their interests to countries such as Guyana and Suriname.

When the Ghanaian Government did elect to solicit the involvement of the private sector to get GCD back on its feet, it became an issue of who to turn to. Unlike gold mining, a sector which comprises hundreds of mining and mineral exploration companies headquartered in a number of different countries, the diamond industry has relatively few players, a situation brought about by De Beers' extended monopoly. Mining giants BHP Billiton and Rio Tinto only started to mine diamonds relatively recently. The former began in 1998 at its Ekati mine in Northern Canada. The latter has only two projects – Argyle (Australia), which

165. <http://www.modernghana.com/news/293265/1/saving-ghanas-diamond-industry-is-disinvestment-th.html> (Accessed 24 December 2011).

opened in 1985 and produces mainly low-quality stones, and Murowa (Zimbabwe), where operations commenced in 2004. In the mid-1980s, when the Ghanaian Government first entertained the idea of forging a partnership with a private company to revitalize GCD, there were even fewer prospects, the likes of Mard Gold heading a relatively small list. Whilst the government would eventually accept that in order to free itself completely from the shackles of GCD, it would have to be willing to transfer the reins fully to a private sector company, it still struggled to find a suitable buyer. The view here is that the 'hands-off' attitude of policymakers or the complete rollback of the state, a necessary prerequisite to luring foreign companies to develop other mineral sectors such as gold, copper and bauxite, would – quite ironically – work *against* the government in its efforts to resuscitate diamond mining in Ghana. Diamond production and marketing chains are far more vertically integrated than those of other minerals, and with the crackdown in the late 1990s on blood diamonds, and the launch of the KPCS in 2003, a government willing to rid itself of all sectoral responsibilities may have discouraged potential investors looking for security.

The Ghanaian Government, therefore, is now faced with a 'Catch-22' situation: sitting on a prized resource but without the technical expertise to develop it. Moreover, its unwillingness to deviate from its priority target of developing the gold mining sector has likely contributed to further deterioration of the diamond sector; the lack of action suggests that policymakers have accepted this fate. For the people of Akwatia and other populations who have grown dependent upon diamond mining for their livelihoods, however, it has been

a tumultuous 30 years, marked by prosperity, prolonged suffering, and more recently, renewed hope.

3.1. *Critical reflections on the policy treatment of Ghana's 'secondary' mining industry*

For over 400 years, gold has been the main mineral extracted in Ghana. The territory comprising present-day Ghana was referred to by Europeans as the 'Gold Coast', in reference to its abundance of gold resources. The British officially established the 'Gold Coast Colony' in 1821, again, based on the predominant economic activity – gold mining – taking place there at the time. Gold has therefore been at the heart of Ghana's development strategies for centuries.

Diamond mining, on the other hand, was a twentieth century phenomenon. In Ghana, at no time did it ever pose a threat to overtake gold as the country's primary extractive industry commodity. Being a 'secondary' mining industry can put populations at a serious disadvantage during troubled economic times, as Akwatia has shown. Much like secondary mining industries elsewhere (such as artisanal gold mining in Sierra Leone and Liberia, and small-scale diamond mining in Guyana), Ghana's artisanal diamond mining sector developed relatively autonomously, its low priority on the national development agenda enabling it to flourish with minimal interference from bureaucrats. At an early stage post-CAST, the government rapidly transferred control of the sector to a series of Lebanese, Sri Lankan, Indian and European merchants when it was realized that GCD could no longer issue

timely payments for the diamonds collected by the tributors on its concession. The dearth of reliable purchasing services at GCD would give rise to the 'Belgium Market' in the mid-1990s. At the turn of the century, the Belgium Market was a vibrant centre of diamond trade and commerce, located at the 'main junction' in Akwatia. According to the town's residents, and as indicated earlier, during the late-1990s and early-2000s, over 500 buyers would visit the Belgium Market every morning, selling and buying stones which would eventually find their way to Accra.

Though not heavily regulated, Ghana's diamond trade is controlled by a series of licensed (diamond) buyers. With the country's diamondiferous deposits being confined, geographically, to Akwatia and surrounding areas, it seems illogical for there to be tight regulations in place nationwide for the sector. An abundance of low-quality stones (although policymakers argue otherwise, less than 5 percent of Ghana's diamonds are of gemstone quality), combined with the vast distances of its diamondiferous region from national borders shared with Togo, Burkina Faso and the Ivory Coast, makes the issue of diamond smuggling – a problem plaguing countless other African countries – rather negligible.

The Precious Minerals and Marketing Corporation (PMMC) – a government-controlled unit established in 1989 that purchases gold from small-scale miners, and which oversees the management of diamond sales and exports – is charged with awarding licenses for diamond trading. The numerous indigenous 'buyers' in

possession of a 'green license', which are awarded by PMMC for a fee of $\text{¢}5$ ¹⁶⁶ (annual fee), are responsible for sourcing product and getting it to the Belgium Market. These licenses also permit an individual to trade within the market itself. The 'market license' or 'blue license', which costs $\text{¢}200$ annually, entitles individuals to buy diamonds from green license holders and to conduct business with licensed buying companies at Diamond House in Accra. These companies must first complete a series of applications for a license, which PMMC charges US\$500 to process and evaluate. If approved, the PMMC license fee, which is good for one year with the possibility for renewal, is US\$30,000.¹⁶⁷ Licensees must conduct all of their business at Diamond House, where they are provided a furnished office.

There is a downside to being a 'secondary' mining industry. In the case of Ghana's diamond mining sector, for its producers, the problem with the government virtually 'outsourcing' the management and control of the industry is that when a problem surfaces, there is no lifeline. This was evident during the recent crisis over Ghana potentially harbouring 'conflict stones' smuggled in from neighbouring Ivory Coast. The idea was discussed at length in a KPCS meeting in Gaborone in 2006. As Hilson and Clifford (2010) explain, diamond experts from the World Diamond Council visited Ghana on three occasions (5-9 December 2006, 16-19 January 2007, and 16-18 February 2007) to inspect the claims, which were initially made public by the UN. Although reluctant to do so, Ghana's policymakers did not put up nearly as much of a fight as it

166. US\$1 = 1.48 Ghana cedi (¢1), 30/05/11.

167. <http://www.pmmcghana.com/diamondexportandbuyprocedure.html> (Accessed 14 December 2010).



could have when asked to temporarily suspend exports of diamonds between 25 November and 5 December 2006, and 17 February and 7 March 2007 whilst experts conducted pre-shipment inspections of produce being stored at PMMC headquarters. These inspections likely scared the few foreign diamond merchants that were active in the country: not wanting to be embroiled in a potential blood diamonds scandal, many fled to other West African countries such as Liberia and Sierra Leone. More importantly, however, as Hilson (2010) explains, countless 'middlemen' and licensees in possession of diamonds at the time were forced to sell their stones, which few parties wanted to buy, at depreciated prices. This brought about significant hardship in Akwatia and surrounding areas. With the government unwilling to extend any support to both a defunct GCD and artisanal diamond mining sector, the town and the industry has since deteriorated.

Today, outside of the GCD concession there are only six *licensed* small-scale diamond miners; as of November 2010, only one was active. To facilitate the processing of licenses for small-scale mining, the Ghanaian Government has established eight district centres in area determined at the time to contain the country's highest concentrations of ASM activity: Tarkwa (Western Region), Akim Oda (Eastern Region), Bibiani (Western Region), Dunkwa (Central Region), Assin Foso (Central Region), Asankragua (Western Region), Bolgatanga (Upper East Region) and Wa (Upper West Region).¹⁶⁸ As explained, despite indications made in a recent US Geological Survey report (Chirico et al. 2010) that diamonds can be

found across Southern Ghana, apart from the occasional stone, deposits are fairly confined to the area around the River Birim (in and around Akwatia); any reserves found outside of this area are unlikely to be economical, and insufficient to justify securing a license. Only the Oda office, which services Akwatia and surrounding areas, is, therefore, likely to receive inquiries about diamond mining licenses. There are scores of unlicensed diamond miners found in areas surrounding Akwatia, including Kade, Asin Fosu and Akim Oda. All of the stones found in these areas find their way into the Belgium Market and eventually, Accra.

3.2. A Two-Step Approach to Reviving Artisanal Diamond Mining in Ghana

What can be done to revive Ghana's artisanal diamond mining sector? The government appears to have little interest in resuscitating the sector. But if it ever were to have a change in attitude towards diamond mining and fully recognized its potential economic contribution, a series of steps could be taken to get the industry back on track. As noted, over the past two decades, support-related schemes and extension programs have been launched specifically for small-scale gold mining – albeit with mixed results. Important lessons can be learned from these experiences.

An initial first step would be to extend support to artisanal diamond miners in the form of microcredit. In the small-scale gold mining sector, this has worked quite

168. On 4 January 2011, an eighth centre in Wa (Upper West Region) was opened.

effectively in the townships of Bolgatanga (Talensi-Nabdam) in the Upper East Region, Konongo in the Ashanti Region, and Bibiani in the Western Region (Hilson & Ackah-Baidoo 2011). The challenge with implementing microcredit services for ASM is multifaceted. Apart from few operators having a license, there are questions concerning land availability, how to ensure loan repayment, and the form which the loan should take. A poor knowledge of the dynamics of ASM operations has further hampered the process. But in the aforementioned three localities, there has been some success with implementing microcredit schemes for small-scale gold miners. Following the example of the Grameen Bank in Bangladesh, the Minerals Commission – through the Ministry of Finance – has put the onus of responsibility on small-scale gold mining groups to band together, identify their operational needs and to assemble a committee to ensure effective management and repayment of the loan. Though not without their problems, lending schemes have been implemented in each community; the Minerals Commission has made it known that loans will be made available to other ASM groups that demonstrate similar levels of commitment to repayment and responsibility.

Parallel schemes could be implemented in the Akwatia region with relative ease. One of biggest barriers in doing so is identifying and confirming where artisanal diamond mining groups are operating. This exercise, however, was initiated in 2008, when, as part of its commitment to the KP, the Oda office verified the location of all artisanal diamond mining groups in the Eastern Region and equipped them with ID cards. In fact, with the entire industry being legalized, a case could be made that

Ghana's artisanal diamond mining sector is in a much better position to receive microcredit support than its small-scale gold mining sector, in which the majority of activities occur outside of the legal domain. The microcredit schemes launched in Bibiani, Konongo and Bolgatanga were implemented to encourage people to band together and secure a license, the incentive being that if they did so, they could access a loan to acquire machinery and other mine inputs capable of increasing their yields. But in the artisanal diamond mining sector, groups already exist; and, most of them have licenses. Given the potential low-risk of administering loans to alluvial diamond miners, it is puzzling why the Minerals Commission has overlooked the issue entirely. Many diamonds in Ghana are highly inaccessible because they occur at fairly significant depths (a result of surface deposits having been exhausted). Excavators are needed to access these deposits but rents cost upward of US\$500 for a two hours' hire. Microcredit is badly needed if operations are to revive.

A second initiative that would help to revive Ghana's artisanal diamond mining sector quite rapidly is the construction of geological databases. An absence of geological information is a major reason why the government has failed to lure a buyer for GCD (largely unproven geology and the expectation that the company taking over will determine the concession's mineralization). As mentioned, work of this nature has already been done for small-scale gold mining across the country, beginning under the World Bank US\$25 million *Mining Sector Development and Environment Project*. It was explained that "The GS [Geological Survey] would organize teams consisting of a geologist, a



technical officer and labourers to delineate areas with favourable geological prospects where SSM concessions can be granted, and to work with the small-scale miners in delineating recoverable mineralization after a concession has been obtained" (World Bank 1995:27). Approximately US\$1.88 million was earmarked for the exercise. This work, as noted, has continued under the series of World Bank-funded NREG projects. In one of the more recent project documents, it is explained that the government will "continue to explore areas...with known mineralization that are suitable and can be set aside spe-

cifically for Small Scale Mining" (World Bank 2009:31). The exercise has been time consuming, costly and at times, ineffective. The government has been tasked with finding an appropriate consultant to carry out the prospecting work to identify suitable areas. It has then had to wrestle with competing large-scale mining and mineral exploration interests. But with diamonds being confined to only a small area of Ghana, a comparative geo-prospecting exercise would not be much of a financial outlay. The exercise could be coordinated from GCD headquarters and the Minerals Commission's office in Akim Oda.

4. Resilient Livelihoods: Coping with a Deteriorated Artisanal Diamond Mining Sector

How have the families in Akwatia and surrounding areas long dependent upon artisanal diamond mining for their livelihoods responded to the industry's deterioration? The difficulty, as indicated, is that the area is comprised of 'generational' miners, who, apart from possessing knowledge on how to extract diamonds, can do little else – or have to be trained on how to carry out other ventures profitably. This includes farming, an activity which, quite surprisingly, has virtually disappeared in Akwatia.

Before explaining how residents in Akwatia and surrounding areas have coped with the artisanal diamond mining industry's demise, it is instructive to underscore the desperate economic state many families now find themselves in. The KPCS review of Ghana's diamonds, in combination with the demise of GCD, has had a crippling impact on the assortment of buyers, merchants and miners that make up the country's complex and multifac-

eted diamond supply chain. Many who were in possession of stones when announcements of GCD's closure and suspensions on exports were made lost considerable sums of money: diminished investor confidence in Ghana's diamonds has decreased the value of its stones completely. How much interest, internationally, is there in Ghana's stones? There are countless reports in Akwatia of buyers and miners, unable to sell their diamonds for economic prices, having been forced to vacate their properties and abandoning their families.

Apart from outright migration to Accra and Kumasi (in search of work), residents have coped with the demise of the artisanal diamond mining industry in two ways. The first has been to 'coproduce' diamonds *and* gold. Whereas previously, this could not happen – at least, legally – unless in possession of both a *Diamond Digger's License* and a *Small-Scale Gold Mining License*, as will be explained,

because of key legislative amendments, both can now take place under one license. The second has been a complete 'branching out' into small-scale gold mining. Although the dynamics of the industry are markedly different, being sufficiently organized and mobile, Akwatia's tributors have managed to secure work in surrounding localities where small-scale gold mining is widespread, as well as in other regions of the country. Each 'coping strategy' is briefly examined in turn in this section of the paper.

4.1. Coproduction

The biggest challenge facing Akwatia's miners is finding ways to access diamonds below the surface. The consensus is that once the top 30-40 feet of soil, which is nearly exhausted of stones, is removed, there is another layer of diamond-rich soil that has not yet been harvested. Excavators have been used to remove this top layer but again, are extremely expensive to rent, the hiring costs being well out of the reach of most tributors.

One move which could help to revive Ghana's artisanal diamond mining sector is the mainstreaming of licensing, done specifically to simplify the licensing process for regulators. The *Minerals and Mining Act 2006*, which replaced the *Minerals and Mining Law* (PNDCL 153), established the Mines Department as the Inspection Division of the Minerals Commission. Importantly, this move effectively axed the *Diamond-Digging Licence*. With the Mines Department no longer being a separate organization, it became pointless to continue issuing licenses separately to both prospective diamond miners and gold miners. A prospective licensee must

take 10 copies of a site plan, a completed application form, and the relevant identification documentation (a photocopy of passport, company certificates if registering a cooperative, and pictures of group members) to the local district centre. These plans are then assessed by the office staff and then forwarded to the Small-Scale Mining Division of the Minerals Commission. The District Assembly publicizes the plans for 21 days.

The cost of securing a license, which has been argued to be a major deterrent for people operating legally, has not changed for some time. The Minerals Commission charges a license fee of ¢200 to lease a plot of land of up to 25 acres. An additional ¢40 is charged for processing, as well as ¢100 more for an EPA permit, which is little more than a checklist. Once these fees are paid, the prospective licensee must pay a ¢590 Inspectorate Division Mining Permit Fee. If the applicant is successful, the license is tenable for 3-5 years, with the possibility for renewal, and a stool rent of ¢5 per 25 acres must be paid annually.

With the diamond sector being in the deteriorated state it is in, it is unlikely that anyone would obtain a license for the sole purpose of extracting diamonds. But much like the GCD concession, in areas surrounding Akwatia and Akim Oda in the East Region, through to Assin Fosu in the Central Region, diamonds occur with gold. With gold being at record market prices and able to fetch significant prices even at the grassroots level, many miners are applying for licenses with the aim of extracting *both* gold and diamonds. A number of licensees are already producing both gold and diamonds (see Table 2, p. 100). In such cases, sales from gold have enabled licensees to acquire the

Table 2: Selected diamond/gold producers in the Eastern Region of Ghana

Name	Area (district)	Site	Size
Freedom Diamond Winners	Wenchi, Kwaebibirem District	Congo	600 people
Avemaria Mining Society	Kibi Apapam, East Akim District	Afiasa	400 people
Diewus Mining Group	Osino, Fanteakwa District	Dweneasi	45 people

equipment needed to access diamonds at lower depths. It is ironic that peoples' success in small-scale gold mining could help revive artisanal diamond mining in a country where the government has made a concerted effort over the past 30 years individualizing the regulation of both.

4.2. *Reestablishment as Small-Scale Gold Miners*

With so few 'transferable' skills, the residents of Akwatia and surrounding localities have struggled to find viable employment. Many, however, have found work in small-scale gold mining communities across the country: with the price of gold being high and new deposits being discovered in previously-un-mined areas of Ghana, the small-scale gold mining sector is growing rapidly, and with it, demand for labourers. The attractiveness is the interchangeable nature of the work. Gold mining is very different to diamond mining, featuring production processes, including the use of mercury and the application of nitric acid to amalgamate and purify gold, respectively. But many of the people who have moved from Akwatia are those engaged in fairly generic work, such as washing, hauling and digging. These tasks, though arduous, are fairly straightforward.

The most popular destinations are the 'virgin' small-scale gold mining areas of the country that have only recently been established and where the organizational

dynamics of activities are still evolving; these have proved to have the fewest 'barriers to entry' for migrating groups (see Table 3 for a list of some popular destinations). The author is currently carrying out research on livelihoods in two of these areas, each of which supports scores of people who have migrated from Akwatia for different reasons. The long list includes former GCD employees, tributors, buyers and illegal diamond mining operators. These two localities are Kobriso, which is located in the Eastern Region, and Talensi-Nabdam in the Upper East Region. The discussion below reflects briefly on preliminary findings from this research (see Table 3, p. 101).

In Kobriso, a town in West Akim District, a number of hardrock and alluvial gold deposits have recently been discovered. A company called The Great Motion Mining has three concessions in the area, and employs thousands of people, who are organized in gangs. In exchange for 'leasing' sections of the Great Motion Mining's concessions, these gangs pay a share of profits of mined gold to management, usually on a weekly basis. Kobriso is an attractive location for Akwatia's diamond miners because it is only 30-35 km away by taxi. The journey takes less than an hour, and for those who are unable to return at the end of work, there are scores of guesthouses and local hotels where they can lodge. Kobriso has a range of food shops, equipment repair centres and bars, which support the burgeoning gold mining population. Hundreds of dia-

Table 3: Examples of 'new' small-scale gold mining communities in Ghana

Locality	District	Region
Kobriso	West Akim	Eastern
Multiple	East Akim	Eastern
Bole	Bole District	Northern
Tongo	Talensi-Nabdam	Upper East
Japa/Wassa Akropong	Wasa Amenfi East District	Western

mond miners who have flocked from Akwatia to Kobriso have secured incomes which they have used to pay their debts, put their children in school, and hire farm hands to cultivate crops for household consumption. These people still reside in Akwatia, the majority commuting to Kobriso daily.

Talensi-Nabdam is a district in the north of Ghana – in the country's Upper East Region, as noted. Approximately 100 people have migrated to the booming goldfields outside of the district capital of Tongo over the past 10 years, in response to the decline of the diamond sector in Akwatia. These people have established what one miner described as a 'Mini Akwatia':¹⁶⁹ an entire section of houses has been secured by people who have migrated from Akwatia. The group manages a handful of pits; has brokered an ore-sharing arrangement with the concession holder; generally keep to themselves; and cook the foods popular in the south of

Ghana and speak their own language, the majority unwilling to learn local dialects. The vast distance between Talensi-Nabdam and Akwatia (two days' trip by road) makes regular travel impossible. The people consulted explained that on average, they return to Akwatia twice a year. But all continue to have homes in Akwatia, where their immediate families and/or extended families continue to reside. They transfer monies earned from gold mine work in Talensi-Nabdam to Akwatia regularly.

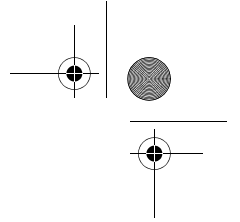
Whilst artisanal diamond mining is in a state of crisis in Ghana, the systematic 'branching out' of Akwatia's residents into artisanal gold mining both locally and in other regions of the country has facilitating an injection of finances to the financially-defunct township. These coping strategies must be acknowledged and carefully preserved at the policy level because at present, they are its only lifelines.

5. Concluding Remarks

For Ghana's diamond miners, it has been a turbulent three decades. During this period, Ghana's diamond mining sector has rapidly deteriorated due to a combination of factors, including the deterioration

of GCD, the country's flagship operation; the low level of priority the government has placed on developing the sector *vis-à-vis* small-scale gold mining; and the recent temporary suspension on exports of

169. Interview, miner, Talensi-Nabdam (17/08/10).

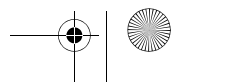
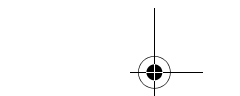
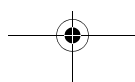


stones in response to concerns that Ghana was harbouring conflict stones smuggled in from neighbouring Cote D'Ivoire, which has diminished investor confidence in the country's diamond mining sector completely. Residents of Akwatia, the country's main diamond-producing locality, have suffered: poverty in the town is now acute. Whilst microcredit services and the identification of mineralized areas for prospective licensees could resurrect Ghana's diamond mining sector rather quickly, the government and donors appear uninterested in providing such assistance. The onus of responsibility, therefore, is on Ghanaians to fix the situation.

Can the problem be remedied? Whilst it may take some time, the view here is that conditions will improve. For the longest time, there was uncertainty over how Akwatia's people could secure funds to resuscitate their deteriorating town and re-enter their lives. Being a population of 'generational miners' whose farm skills have eroded, for the longest time, one of the few viable options was to migrate to Accra or Kumasi with the hope of securing employment in a factory or in the burgeoning informal services industry. But in 2006, Ghana overhauled its mining legislation, which, *inter alia*, mainstreamed small-scale mining regulations: small-scale diamond mining is now no longer regulated separately from small-scale gold mining. Concessions can therefore be secured with the aim of mining both com-

modities, which, as noted, is now taking place in some areas. At around the same time, the price of gold began to increase, and with it, Ghana's small-scale gold mining activities. There is now significant demand for labour in newly 'boomed' gold mining communities such as Bole, Talensi-Nabdam, Japa, West Akim and Wassa Akropong. Artisanal diamond miners who previously worked as diggers, haulers and loaders in Akwatia and surrounding areas, have managed to secure parallel work in these townships.

Importantly, these two changes have facilitated some inflow of capital back to Akwatia. Some shops have reopened and the general morale in the town is improving. Merchants and traders, whose lives were disrupted by the above mentioned changes, await patiently with their renewed ID cards for diamonds to begin flowing through the Belgium Market at rates seen a decade ago. Residents are aware that whilst surface diamonds have exhausted, there is an abundance of stones to be found at a 'second layer', some 30 feet below the surface. To access these diamonds, excavation equipment is needed, but no one has the funds to hire it at present. Whereas a year ago, a rapid revival of Akwatia seemed like a pipe-dream, the attitude shared by residents today is that it is only a matter of time before funds from gold mining begin to accumulate to the point where the artisanal diamond mining sector can be 're-activated'.



CHAPTER 5

THE ARTISANAL DIAMOND MINING SECTOR IN THE CENTRAL AFRICAN REPUBLIC: FORMALIZATION AND LIVELIHOODS

Marie LINTZER & Harrison MITCHELL

1. Introduction

The Central African Republic (CAR) is endowed with significant stores of natural resource, including diamonds – of which most are gem quality – timber and agricultural products such as coffee (Mbendi 2010). However, despite these resources, CAR ranked 159th out of 169 countries on the United Nations Human Development Index in 2010 (UNDP 2010) and the formally recognised diamond sector contributes less than 4% to the Gross Domestic Product (GDP) (Mbendi 2010). Social instability, which was particularly visible between 2005 and 2007 when violence erupted between the government and three armed opposition groups, a lack of good economic governance, a continuing deterioration of the system of security and justice, and undeveloped social capital are often quoted as reasons for this lack of development return on potential in CAR.¹⁷⁰

Moreover, research conducted at the end of 2010 by the International Crisis Group suggests that two rebel groups (the Union des Forces Démocratiques pour le

Rassemblement – UFDR – and the Convention des Patriotes pour la Justice et la Paix – CPJP) are currently active in diamond mining zones in eastern CAR and profit from diamond mining and trading (ICG 2010). This is something denied by government officials.¹⁷¹ However, further investigations need to be conducted to determine whether this exploitation and trade constitutes ‘conflict diamonds’ as defined by the Kimberley Process Certification Scheme (KPCS).¹⁷² What is clear from several sources, including the researchers’ own investigations, is that a significant amount of diamonds in CAR are produced informally and traded illegally. Although exact numbers are not available, it is estimated that approximately half of the diamond production is exported through informal channels (Levin & Hinton 2010).

This chapter examines different strategies and possibilities to strengthen the controls on artisanal diamond mining (ADM), while also providing a perspective for the improvement of livelihoods of artisanal

170. Communication of the government of the Central African Republic, 2008, Peace-building Commission CAR configuration.

171. Interview with national government officials, Bangui, November 2010.

172. Because the UFDR has signed peace agreements with the government, the diamonds it mines and sells are not “conflict diamonds” as defined by the Kimberley Process, that is “rough diamonds used by rebel movements or their allies to finance conflict aimed at undermining legitimate governments.” But this is not clear for diamonds traded by the CPJP (see ICG 2010).



Figure 1: Artisanal diamond mining zones in CAR

Source: ICG 2010

diamond miners and their communities. The study wants to try and better understand why government-led formalisation strategies are not always successful and contrasts these realities with the government's obligations under the KPCS to

increase internal controls over its ADM sector. It also tries to give pragmatic recommendations, grounded in local realities, on how to increase formalisation of mining activities and improve mining-related livelihoods.

2. The artisanal diamond mining sector in CAR

2.1. Background

CAR produces diamonds and gold and small tonnages of industrial minerals but its mineral industry is relatively small due to a historical lack of exploration and mining investment. The country has attracted little interest largely due to its remote locality and the fact that international exploration has been focussed on larger countries with proven reserves such

as Angola and the Democratic Republic of Congo (DRC). Like other diamond producing states, CAR suffered from the collapse in diamond prices in 2008-9. However, diamond production rose to an estimated 310,469 carats in 2009 valued at approximately USD 49.1 million at the point of export,¹⁷³ primarily sourced from alluvial deposits in the north-east (along the Kotto River) and south-west (along the Mambere and Lobaye rivers) parts of

173. BECDOR statistics, 2010, obtained at Bangui during the investigation.

Table 1: CAR's diamond production and export value from 2004 to October 2010, collected by the Control and Evaluation of Diamonds and Gold Office (BECDOR)^a

Year	2004	2005	2006	2007	2008	2009	2010 (until October)
Production volume (carats)	353,485	383,295	415,529	417,691	377,210	310,469	257,576
Export Value (USD)	51,797,217	61,729,814	61,173,414	62,773,803	49,995,452	49,113,303	42,947,996
Taxes (FFCFA)	1,705,053,391	1,544,333,218	1,959,996,173	1,785,286,966	1,331,878,850	1,398,624,077	1,290,525,618

a. BECDOR statistics, 2010, obtained at Bangui during the investigation.

Table 2: CAR's diamond production and export volumes according to the KPCS^a

Year	2004	2005	2006	2007	2008	2009
Production volume (carats)	348,205	382,756	419,528	417,711	377,209	311,779
Value (USD)	51,709,404	60,572,405	59,066,866	59,857,871	47,752,282	47,086,830
Export volume (carats)	349,451	382,756	415,526	417,711	377,210	402,679
Value (USD)	51,592,358	60,572,403	59,066,866	59,857,871	47,749,283	46,701,768

a. KPCS statistics, https://kimberleyprocessstatistics.org/public_statistics (accessed on 14/02/2011).

the country.¹⁷⁴ This contributed to 60% to the country's export earnings in 2009 (Mbendi 2010). The tables below summarise CAR's diamond production, export value and collected tax by the State in the last seven years.

The differences between BECDOR and KPCS production figures are insignificant and can be the result of measurement differences. However, it is worth noting the difference between the production and export volumes in 2009 according to the KPCS statistics. Export volumes are approximately one quarter higher than production volumes over that year, without any recorded diamond imports. Unless some diamonds were stock-piled from the years before – which is unlikely considering that 2009 is the only year

where there is an extensive gap between production and export – an explanation might be that diamonds from neighbouring countries entered informally CAR to be exported legally with a KP certificate.

An estimated 60,000 to 80,000 artisanal diamond miners¹⁷⁵ work in CAR. The total number of ADM beneficiaries (including indirect employment, induced labour and indirect beneficiaries) is estimated at 2.9 million people.¹⁷⁶ Considering that CAR's population does not exceed 4.4 million inhabitants (EIU 2010) these statistics suggest that more than half of the Central African population is involved directly in the mining sector or peripherally affected by it. In addition, ADM is key to sustaining a number of communities where diamonds are found

174. See figure 1 for a detailed map of artisanal diamond mining zones.

175. Interview with Sébastien Pennes, Director of PRADD programme, Bangui, November 2010. PRADD estimates 80,000 artisanal diamond miners, and official statistics from the Etats Generaux du Secteur Minier, 2003, estimate that there are approximately 70,000 artisanal diamond miners in CAR.

176. PRADD statistics, 2010. According to these statistics, the indirect employment (diggers, labourers, vendors) generated by artisanal mining equals about 400,000 people and indirect beneficiaries who are dependent on the activity, about 2,160,000 people. Due to lack of reliable data, commonly used multipliers of 2.5 and 2 for indirect and induced labour respectively, were reduced to 1.5 and 1.0.

as a substantial percentage of miners' incomes are spent in the communities where they live and work (Levin & Hinton 2010). However, livelihoods remain extremely fragile and highly dependent on artisanal diamond mining, as evidenced by the fact that certain diamond mining communities in the country required food relief for the first time when worldwide diamond prices collapsed (FAO 2010).

2.2. Legal framework

CAR's mining sector is regulated by the Mining Code,¹⁷⁷ which defines artisanal mining as "all activities by which a physical person of Central African origin, in an artisanal exploitation zone delimited in an area and depth to a maximum of 30 metres, extracts and concentrates mineral substances using non-industrial, manual tools, methods and processes that are limited in mechanisation" (Art. 1). A General Directorate for Mineral Resources, which is part of the Ministry of Mines, Energy and Hydrocarbons, implements the laws and policies regarding mining permits and processes requests prior to their submission to the government for approval (Mbendi 2010).

CAR's Mineral Policy gives the Government of the CAR a mandate to promote responsible artisanal diamond mining through measures including, but not limited to: licensing of artisanal miners and diamond mining cooperatives; registration of diamond collectors and buying/export houses; enforcing legal dealings through controlling agents (*Brigade minière*); maintaining records and database to document mineral production and trad-

ing; and supporting miners by enabling cooperatives to export directly, providing training to artisanal miners and providing other technical and material assistance (ARD 2007).

Artisanal miner can join the formal sector through three routes:

- Obtaining a *patente* (artisanal mining license) valid for one year, renewable without limitations, at a current cost of 46,850 CAR francs (FCFA) (USD 105), and operating within a designated artisanal mining zone (AMZ) (Art.64). It is worth noting that in reality none of the AMZ has been designated.¹⁷⁸
- Where miners wish to obtain a mining title outside of a designated AMZ, they must possess a *patente*, organise into a cooperative comprising at least ten licensed artisanal miners, and obtain an artisanal mining exploitation license (*autorisation d'exploitation artisanale*) issued by the Ministry of Mines for a current total cost of 703,500 FCFA (USD 1,580), valid for two years and renewable twice (Art. 66 and 67).
- Obtaining a prospecting license (*autorisation de prospection*) issued by the General Director of Mines for a period of one year, renewable once (Art. 62), at a current cost of 100,000 FCFA (USD 224).

In addition to artisanal miners' registration, the Mining Code also provides for collectors who buy diamonds from artisanal miners to obtain a license that is valid for one year, and renewable without limits (Art. 144). Additionally, collectors who are not Central African need to fulfil

177. Law No. 9-005 of April 29, 2009 relating to the Mining Code and accompanying mining regulations.

178. Interview with Sébastien Pennes, Director of PRADD programme, Bangui, November 2010.

the following conditions, stated in article 150 of the Mining Code:

- Having lived in CAR for at least 5 consecutive years
- Having invested at least FCFA 50 million (USD 100,390) into real estate in CAR
- Possessing at least FCFA 10 million (USD 20,078)

Similar types of conditions, with a higher

necessary amount of money available as capital and deposit, exist for buying houses (*bureaux d'achat*) (Art.154). Additionally, buying houses need to invest at least FCFA 350 million within the first three years of their operations into real estate. In practice, these measures are often not respected and formalisation remains low, especially at the artisanal miners' level. The reasons for this are discussed below.

3. The diamond supply chain

The internal trading chain in alluvial mined diamonds is opaque as trade is largely conducted informally. However, six main stakeholders can be identified with a specific role along the value chain and some with inter-dependent relationships.

The trading chain starts with diggers (*ouvriers*) who dig and wash diamonds on a specific area that belongs to an artisanal miner (also called a *chef de chantier*). Diggers are verbally held (informal agreement) to sell the diamonds that they find to artisanal miners who sponsor them by providing them with basic food and a fixed amount of money per week. This relationship is fairly typical, and can be seen in other ADM countries. In Boda, interviews with artisanal miners showed that they usually pre-financed diggers by giving in average between FCFA 5,000 and 7,000 (USD 10 to 13) weekly to a group of three to four diggers.¹⁷⁹

In turn, the same type of agreement exists

between the artisanal miner and either a middleman called *débrouillard* or a collector. The artisanal miner has an informal (verbal) contract to sell the diamonds that he finds to the collector or *débrouillard* who pre-finances him by giving him equipment and money per week. For instance, if the artisanal miner hires a water pump from the collector, the fees for this will be deducted from whatever revenue the artisanal miner generates.¹⁸⁰

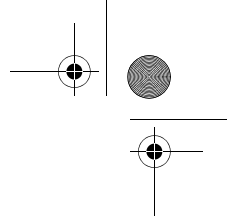
Not all artisanal miners deal with a middleman. They sometimes sell their diamonds directly to a collector or a secondary buying house located in the mining village which has not pre-financed them, or directly to a buying house in Bangui. Recent studies estimate that about 70% of artisanal miners sell to collectors, 20% to secondary buying houses and 10% to buying houses in Bangui.¹⁸¹

The *débrouillard* is not a legally defined actor of the diamond trading chain and the Mining Code does not recognise his

179. Discussions during a focus group with artisanal miners in Boda, November 2010.

180. Ibid.

181. Unpublished document shown to the authors, Research Institute on governance issues, November 2010.



existence. However, in reality, the *débrouillard* is often the actor who possesses a *patente* and serves as a convenient middleman between the artisanal miner who works in the mine and the collector who is based in villages. By maintaining a *patente*, the *débrouillard* performs a useful economic function to the artisanal mining community. Those artisanal miners who do not wish to pay for the expense of a *patente*, can simply use the *débrouillard's*, but only if they find diamonds of worth. In this way, they avoid what they see as an unnecessary capital expenditure at the outset.¹⁸² The *débrouillard* will buy the diamond at a higher price than other buyers and will deduct the cost of a *patente*.¹⁸³ Because *débrouillards* pay more, artisanal miners are reluctant to denounce them to the *Brigade Minière* which is tasked with controlling the diamond trade.¹⁸⁴ Finally, the *débrouillard* is seen as a useful middleman who uses his knowledge of the field to assist collectors who are often foreigners.¹⁸⁵

The collector sells their production to a secondary or primary buying house (*bureau d'achat*), which also pre-finances the collector.¹⁸⁶ Their agreement is, however, formal and collectors need to repay their cash advance every month. If they fail to do so, the buying house can seize the collector's goods.¹⁸⁷

In 2008, in an attempt to 'clean' the sector, the government closed all of the diamond buying houses apart from three buying houses currently operating in CAR: African Diamond Resources (ADR), BADICA and Sodiam.¹⁸⁸ According to GoCAR officials, the buying houses were closed because they did not invest into real estate in CAR within their first three years of operation.¹⁸⁹ However, according to collectors interviewed, political and economic reasons appear to have been at play in an attempt from the government to better control the market by maintaining profitable relationships with the buying houses left open.¹⁹⁰ The collapse in diamond prices in 2008-9 combined with these buying houses' closure had dramatic consequences on mining communities touched by sudden unemployment.¹⁹¹

Finally, before diamonds are being exported on international markets, the Control and Evaluation of Diamonds and Gold Office (BECDOR) values the diamonds and issue a Kimberley Process certificate. The BECDOR assesses the value of diamond parcels presented by the buying houses or collectors at the end of the month in order to determine the tax value estimated at 12% of the total value.¹⁹²

The figure below summarises the diamond trading chain in CAR as it happens in reality.

182. Discussions during a focus group with artisanal miners in Boda, November 2010.

183. Interview with regional PRADD collaborator, November 2010.

184. Interview with Brigade Minière agent, Nola, November 2010.

185. Interview with Sébastien Pennes, Director of PRADD programme, Bangui, November 2010.

186. According to local government officials, collectors usually sell their productions at about four times the price they paid to the artisanal miner, Interview, Boda, November 2010.

187. Interview with collectors in Boda, November 2010.

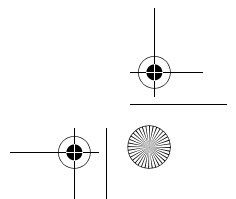
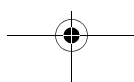
188. Interview with mines ministry official, Bangui, November 2010.

189. Ibid.

190. Interview with collectors in Boda, November 2010 and with the regional director of a buying house in Nola, November 2010.

191. Interview with Maguette Ndiaye – Food and Agriculture Organisation of the United Nations, Coordonnatrice Adjointe Programme D'Urgence, Bangui, November 2010.

192. Interview with Egide Mam-Ngana, BECDOR Chief Evaluator, Bangui, December 2010.



A FARMER'S BEST FRIEND? ARTISANAL DIAMOND MINING AND RURAL CHANGE IN WEST AND CENTRAL AFRICA

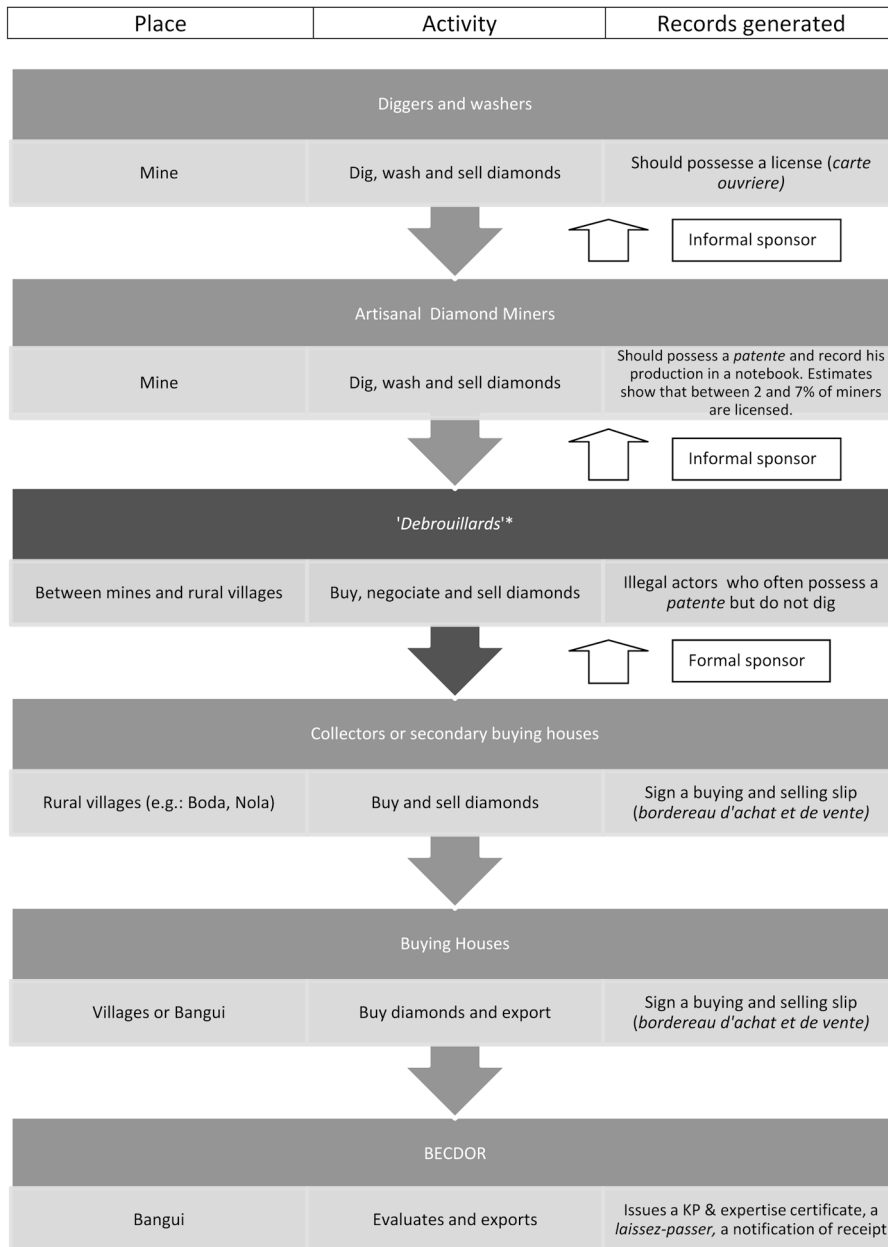


Figure 2: The diamond trading chain in CAR

* Débrouillards are not legally defined actors. This is why they are represented in red as they are not always part of the diamond trading chain.

4. The formalisation of the ADM sector in CAR

The effects of formalisation of the ADM sector in CAR can be positive to ensure that mining activity generates development benefits across the population rather than being used merely as a survival strategy. These benefits include: increased export revenues for the GoCAR, some rationalisation of the sector that can generate economic linkages and livelihood in mining areas, an increase in transparency in the diamond supply chain, and finally, enlarging the discussion around diamonds to include issues pertaining to labour practices, the environment and human rights more broadly (Hayes 2008, Garrett & Mitchell 2010).

Since 1962, 98% of diamonds in CAR are produced artisanally and 2% industrially (Mbendi 2010). Industrial mining companies have attempted to establish themselves in CAR to extract diamonds but failed mainly because of the alluvial deposits which make commercially viable extraction on an industrial scale difficult.¹⁹³ According to government representatives, in November 2010, one mining company started to explore diamonds along the Kotto River in the South-East of the country.¹⁹⁴

Formalisation (i.e. registration) can provide a legally recognised license to operate, which, for small scale operators means security of tender – a key priority for these operators, especially in a country like CAR where conflict over land issues and property rights are frequent.¹⁹⁵ However, artisanal miners need to be incentiv-

ised to join the formal sector and increased institutional support to miners should be entailed through the formalisation process. During the field investigation, the researchers found that artisanal miners were either ignorant of the law or had little interest in registering. They often considered joining the formal sector as a burden without any corresponding advantage because of the price of the mining license and the associated costs of bringing their activities to the attention of officials more likely to extract rents than assist their operations.¹⁹⁶

The following sections analyse more specifically the GoCAR's interaction with ADM and challenges to formalisation of the sector.

4.1. *The government and ADM interaction*

In some moves towards formalisation, the CAR government has implemented detailed mechanisms to monitor the internal diamond market from mine to export, through the Bureau d'Evaluation et de Contrôle de Diamants et d'Or (BEC-DOR), established in 1993 to oversee the internal diamond market and to value official exports (see section 'The diamond supply chain' for these details).

The CAR has also been a member since 2003 of the Kimberley Process Certification Scheme (KPCS) which aims to control the international trade of rough diamonds

193. Interview with diamond expert and consultant, Bangui, November 2010.

194. Interview with mines ministry official, Bangui, November 2010. Information confirmed in ICG 2010.

195. Interview with Sébastien Pennes, Director of PRADD programme, Bangui, November 2010.

196. Discussions during a focus group with artisanal miners in Boda, November 2010.

between international markets. The difficulty many countries face in monitoring the artisanal production of diamonds, combined with already weak government institutions, means that a significant portion of diamond mining activity remains outside of the oversight of the formal economy and that the true origin of diamonds presented for exports is often unclear.

In order to assist the GoCAR to fulfil its commitments to the KPCS and improve the incomes and living standards of miners and mining communities, the US Agency for International Development (USAID) launched in April 2007 the Property Rights and Artisanal Diamond Development (PRADD) initiative (Myers 2010). Box 1, p. 112, summarises the objectives and challenges faced by the PRADD project in CAR.

The government has also been trying to support the formalisation of the ADM sector by encouraging artisanal diamond miners to form cooperatives. Cooperatives are usually made of ten to twelve artisanal miners (Art.1 of the Mining Code) who decide to put their means together to maximise their efforts. The government has stated that they see cooperatives as beneficial for miners as they would be able to gather resources to invest in better tools and export their production directly abroad without selling it to a middleman (Art. 178 of the Mining Code). Cooperatives' diamond production is also less taxed (9%) than the diamond buying houses' (12%).¹⁹⁷

The PRADD project has been helping in

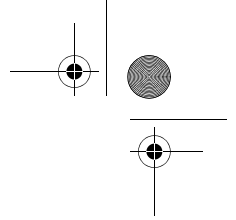
the creation of so-called 'pre-cooperatives' (e.g. Codemine in Loppo), in order to accustom miners to working together.¹⁹⁸ Given that the cost of a legal cooperative is prohibitive (FCFA 100,000 – USD 200 – for joining fees and FCFA 30,000 to 50,000 – USD 60 to 100 – for annual subscription fees),¹⁹⁹ PRADD has focused on persuading miners to work together in a system of pre-cooperatives, or credit associations, aiming at first creating savings to buy a license for every member. So far, four pre-cooperatives have been established in the Lobaye province. Each of them has ten members and, with a weekly individual contribution of USD 4 to 10, the four have consolidated an overall savings of USD 260. In addition to these pre-cooperatives, two of the PRADD agents based in the region (*Artisan Facilitateur Local* – AFL) have started a savings group currently totalling USD 60 (PRADD 2010a).

Past experiences of setting up profit-sharing artisanal diamond miners' cooperatives, and issues associated with it, show less than promising results, however. Research has shown that the model of income-pooling, profit-sharing miners' cooperatives that various governments are promoting invariably fails. Miners may work together in securing access to land or services, but have no wish to share potential profits from the actual exploitation of the resource with their peers. Therefore, in the CAR as in other countries, existing 'cooperatives' are in fact small mining companies with clear owner/employee structures, that are incorporated as a 'cooperative' in order to benefit

197. Interview with BECDOR Chief Evaluator, Bangui, December 2010.

198. Interview with PRADD regional chief of project, Nola, November 2010.

199. Kimberley Process Review, 2008, CAR; Interview with the president of a cooperative, Nola, November 2010.



♦ **Box 1: PRADD project – Objectives and Challenges**

The PRADD project in CAR aims to increase the amount of alluvial diamonds entering the formal chain of custody while improving the benefits accruing to mining communities through an approach of strengthening property rights. It helps artisanal miners formalise their customary property claims through a process of community validation intended to lead to formal, legal recognition. PRADD also aims to assist mining communities to diversify their sources of income through projects such as fishing (USAID 2010).

Even though the PRADD project has begun to show success in demonstrating an effective process to identify and formalise property rights in ADM zones, artisanal miners still face barriers such as a lack of sensitisation and incentive to purchase an annual license and a lack of diamond expertise to get a good price for their production.^a Participation in the formal economy therefore remains low.

A main challenge is the lack of official legal status of the property right certificate (*permis minier artisanal*) that PRADD has helped develop.^b This is partly explained by the existing conflicts between customary rights on the ground and property rights enshrined in the Mining Code. According to the latter, mining properties belong to the *State* (Art. 6). Consequently, artisanal miners are not legally allowed to become individual owners of their mining parcels. In other words, the State does not want to see artisanal miners become legal outside the State's competency.^c Additionally, as a capacity strengthening initiative rather than a direct financing of mining activities, the relationship between the PRADD project and GoCAR is not always fully understood.^d

Another challenge is the disinformation that is sometimes being circulated regarding the PRADD project by the other informal actors of the diamond trading chain. Informal collectors and *débrouillards* are concerned by the fact that by formalising artisanal miners, their role will not be necessary anymore. If artisanal miners have a license, other actors fear that they will not be incentivised to sell their production as quickly as possible to the first collector or *débrouillard* they encounter to avoid the Brigade Minière, therefore jeopardising their existence.^e

Finally, the PRADD project faces an issue of durability. The project will arrive at its term in 2011 and it is not sure whether USAID will continue to provide funding. Despite some positive results now, permanent changes take place over a long period of time. Prematurely ending the project could have a disruptive effect on their sustainability.

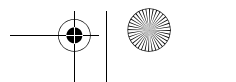
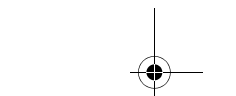
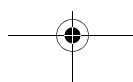
a. Discussions during focus groups with artisanal miners in Boda and Nola, November 2010.

b. Interview with PRADD official, Boda, November 2010.

c. Ibid.

d. Interview with Sébastien Pennes, Director of PRADD programme, Bangui, November 2010.

e. Interview with PRADD official, Boda, November 2010.



from government incentives such as direct access to the international diamond market (Blore 2008; Van Bockstael, Levin, Weinberg 2011).

Rather than attempt to change the unwillingness of miners to jointly exploit their claims, development efforts should accept this reality and concentrate efforts on areas where miners are willing to collaborate, such as services, information, know-how or community development (Blore 2008). Additionally, finding external funders to cooperate with abroad is not an easy task, especially when lacking original means to even set up a cooperative.²⁰⁰ Finally, criminals have often tried to set up fake or non-functioning cooperatives in order to launder inform.²⁰¹ The President of the Union of cooperatives' recent resignation after accusations of fraud illustrates the suspicion that undermines cooperation between actors.

4.2. Challenges to formalisation

The following challenges to formalisation of the ADM sector have been identified according to research conducted on the ground and in particular during discussions with artisanal miners.

◆ An inadequate system of licensing

In order to be considered legal, artisanal miners have to obtain official documents

that cost up to FCFA 58,850 (USD 132). Here is a list of documents and prices as in November 2010 required by the State:²⁰²

- *Patente* fee is FCFA 46,850 (USD 105)
- Production notebook is FCFA 2000 (USD 4.50)
- Minimum of five diggers' cards (*cartes ouvrières*) at FCFA 2000 (USD 4.50) each, which equals FCFA 10,000 (USD 22.50) in total.

Considering that an artisanal miner earns in average approximately USD 723 a year,²⁰³ the *patente* and other formalisation costs represent about 18% of the total artisanal miner's income. Artisanal miners claim that this amount is too high because of the uncertainty of diamond production levels.²⁰⁴ Many have, for instance, stressed that during the financial and economic crisis in 2008-9, the price of diamonds dropped considerably, therefore severely reducing their incomes. The *patente* and other costs represented in some cases about half of the artisanal miner's total incomes over a year.²⁰⁵ Thus, even though artisanal miners were able to cite the State's obligations that they need to comply with during focus groups organised in Boda and Nola by the researchers, all of them mentioned the difficulty to afford the license and the lack of incentives to do so.²⁰⁶

It is estimated that formalisation rates based on anonymous polls of a small sample of miners (around 230) vary from

200. In total, it cost 800,000 CFA (\$1,600) to set up a cooperative, including joining and membership fees to the national union; Interview with Sébastien Pennes, PRADD programme director, Bangui, November 2010.

201. Interview with Sébastien Pennes, PRADD programme director, Bangui, November 2010.

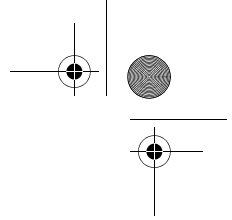
202. Discussions during focus groups with artisanal miners in Boda and Nola, November 2010.

203. Interview with Sébastien Pennes, PRADD programme director, Bangui, November 2010. For details about calculations, please refer Levin & Hinton 2010.

204. Discussions during focus groups with artisanal miners in Boda and Nola, November 2010.

205. Ibid.

206. Ibid.



5.6% to 12.1%.²⁰⁷ Government documentation notes an average of 1,100 miners with the *patente* in six out of seven diamond areas for 2009 and 2010.²⁰⁸ On this basis, it is estimated that between 2% and 7% of artisanal miners possess a license.²⁰⁹

Artisanal diamond miners will only obtain a license if they have the financial, technical, and personal capacity and incentives to do so. The benefits of legal operations must be greater than costs of licenses, rents, taxes and royalties (Hinton, Veiga & Veiga 2003). However, given the current costs for artisanal miners to enter the formal system, incentives seem relatively low.

Another impediment that was raised by artisanal miners as an obstacle to buying a license is its current limited set period validation from January to December. If an artisanal miner wants to buy a license in November, for instance, he will pay the same price as if he bought it eight months before, with his license still expiring in December. The reason for that is the obligation to stick to the finance act that goes from January to December.²¹⁰

◆ **The illegal trade**

According to diverse sources interviewed by the authors, including officials, mem-

bers of the civil society, police agents, private sector agents, and members of the international community, diamond fraud is an acknowledged phenomenon in CAR. Although exact numbers are not available, attempts to evaluate the amount of fraud have been made and it is possible to identify the different levels of fraud.

Estimates show that about 120,000 carats of diamonds are being traded illegally in average over a period of one year.²¹¹ Given that the diamond official production averages approximately 400,000 carats per year valued at USD 60.4 million,²¹² fraud would represent about a quarter of the production. However, it is generally considered that the quality of the diamonds traded illegally is considerably superior to declared diamonds.²¹³ In terms of price, it is estimated that fraudulent diamonds are sold 3.75 times the price of legal diamonds.²¹⁴ That would imply that approximately USD 68 million escapes the country fraudulently. Given the 12% total tax on diamonds, the government could face a shortfall of up USD 8.15 million with illegally traded diamonds.²¹⁵

Fraud mainly occurs at two different levels of the diamond chain of custody:

Fraud through diggers and artisanal miners: Artisanal miners who do not have a *patente* are considered to be working ille-

207. Interview with Sébastien Pennes, PRADD programme director, Bangui, November 2010.

208. Data from the Ministère des Mines, November 2010.

209. In 2009 and 2010, 950 and 1244 *patentes* were respectively sold out of a total of approximately 70,000 artisanal miners. Interview with Sébastien Pennes, PRADD programme director, Bangui, November 2010.

210. Interview with mines ministry official, Bangui, November 2010.

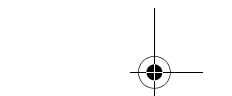
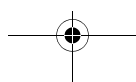
211. Unpublished document shown to the consultants, Research Institute on governance issues, November 2010. This information was confirmed during an interview with Sébastien Pennes, PRADD chief of party, Bangui, November 2010.

212. BECDOR statistics, 2000-2009, obtained in Bangui, November 2010.

213. Interviews mines ministry official, Bangui, November 2010.

214. BECDOR statistics, 2000-2009, obtained in Bangui, November 2010.

215. These calculations are only estimates.





gally according to the Mining Code. According to different interviewees on the ground, this creates an environment of fear in which the miner sells his production outside the formal chain of custody, i.e. outside the collector who sponsors him, making the transaction quickly and at the lowest possible price for fear of being caught by the Mining Police.²¹⁶ In most of these cases, artisanal miners sell their diamonds to collectors who do not have a license and do not fill in a buying/selling slip or to a *débrouillard* who is not part of the legal system.²¹⁷ Thus, some diamonds never even enter the formal chain of custody. Artisanal miners are incentivised to sell to another collector than the one who sponsors them because they often can negotiate a better price with a sponsor who has not already supported them financially.²¹⁸

Fraud through collectors and buying houses: Allegedly, there are high occurrences of fraud at this level.²¹⁹ Collectors are supposed to sign a buying/selling slip when buying diamonds from licensed artisanal miners. However, considering that more than 90% of artisanal miners do not have a license, collectors are not incentivised to fill in a buying/selling slip in the majority of cases.²²⁰ Another instance of fraud happens when collectors create 'fake' slips. For example, when he receives

two lots of diamonds of similar weight (e.g. one made of a single big diamond and another made of a few smaller ones), then he can easily declare only one of the lots. Most often, he declares the one with less value (i.e. with smaller diamonds). Police controls can hardly trace back the corresponding lots to the quantity of diamonds, thereby making it easier for collectors to trade the single big diamond in informal markets.²²¹

Considering the 12% tax rate on diamond exports, the highest in the region,²²² fraud also appears worthwhile for buying houses.²²³ According to interviews, smugglers often find ways to escape controls and sell their diamonds in Cameroon, Sudan and Chad, where they have internal contacts and are not subject to tax on diamond exports.²²⁴ Most diamonds smuggled overland cross the western border into Cameroon, where there is a strong illegal market.²²⁵ Smugglers include Central Africans and Cameroonians who ply the Doula-Bangui route, bringing goods to the CAR and taking diamonds out on the return journey (ICG 2010). According to interviews on the ground, women play an important role in that smuggling as they are subject to less control by police agents at the border.²²⁶ Diamonds are also allegedly hidden under cattle's skin. Smugglers likewise sell diamonds in Sudan,

216. Interview with Brigade Minière agent, Nola, November 2010. Confirmed in PRADD 2010a:15.

217. Interview with PRADD regional chief of project, Boda, November 2010.

218. Interview with local government official, Boda, November 2010.

219. Interview with Sébastien Pennes, PRADD programme director, Bangui, November 2010.

220. Interview with PRADD regional chief of project, Boda, November 2010.

221. Ibid.

222. Kimberley Process CAR review, 2008. The Democratic Republic of Congo taxes 3.25% and the Republic of Congo, 5%.

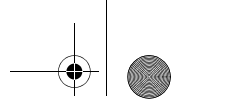
223. Interview with diamond expert and consultant, Bangui, November 2010.

224. Interview with PRADD regional chief of project, Boda, November 2010.

225. Ibid. Diamonds are also reportedly smuggled from Cameroon to CAR, based on interviews in Cameroon. At first glance this would appear to be inconsistent, however, one explanation might be that certain diamonds, particularly the most valuable stones, are smuggled, while mid-range diamonds are more easily absorbed by legal buyers.

226. Interview with PRADD regional chief of project, Boda, November 2010.





mostly in Nyala, the capital of South Darfur, and in Chad (ICG 2010).

Illegal exports from the CAR continue because inadequate controls elsewhere allow smugglers to sell the diamonds back into legal channels, either in producing countries where they are indistinguishable from local ones or in places where diamonds are cut, polished or traded, therefore no longer subject to the KPCS. Diamonds smuggled out of the CAR often find their way to Dubai, Bombay, Beirut or Tel Aviv (ICG 2010).

◆ **Lack of decentralisation and nepotism**

Local government bodies (*communes*) receive marginal returns to the mining activities in their regions.²²⁷ Local authorities have complained that the State Department of Mines has total control over the mining sector and does not delegate any powers to them.²²⁸ The statistics speak for themselves: there are only four regional mining authorities (at Berbérati, Bouar, Bria and Bangassou) over the entire CAR territory to implement the mineral policy at a regional level²²⁹. In the absence of decentralisation, the central government is able to maintain a grip over the entire mining industry. It is also worth noting that, as analysts agree and field research showed, almost all of the government officials involved in the mining sector belong to the President Francois Bozizé's ethnic group (Gbaya) and/or are related to him²³⁰. The Minister of Mines, Colonel Sylvain Ndoutingai, is, for instance, the President's nephew. When he

took power in 2003, Francois Bozizé removed from the Ministry the large majority of civil servants with mining expertise and replaced them with members of his own Gbaya tribe who were inexperienced in the business of government and largely lacking mining knowledge (ICG 2010).

The political control of the diamond sector makes it difficult to reform. Sources of revenue for the political elite being limited apart from the sale of diamonds, there is no strong incentive to change the status-quo and push for the formalisation of the sector, which would lead to a more accountable management of the sector. There is little hope across stakeholder groups that this situation is likely to change in the short-term,²³¹ even more so considering the re-election of President Francois Bozizé in January 2011.

◆ **Lack of police and sensitisation of artisanal diamond miners**

The majority of artisanal miners live far from urban centres where roads are absent and access difficult. This makes realistic oversight of the sector almost impossible. The lack of controlling agents does not make the task easier. In the Sangha-Mbaere territory, for instance, only five agents control the entire area of 35,855km², and they often borrow cars and motorbikes from collectors or buying houses to control their areas, which has implications for their independence and impartiality.²³² In addition to this lack of capacity, the absence of sensitisation pro-

227. Interview with local government officials, November 2010.

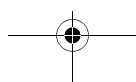
228. Ibid.

229. Kimberley Process CAR review, 2008.

230. Interviews with diamond experts and consultants, Bangui, November 2010, confirmed in ICG 2010.

231. Interview with local stakeholders, December 2010.

232. Interview with Brigade Minière agent, Nola, November 2010.





grammes from the government has been denounced on the ground.²³³ Artisanal miners usually do not see their interest in joining the formal sector and defend their work on the basis of customary law that recognises their property and mining rights.²³⁴ As mentioned by a few interviewees on the ground, a changed of mentality is needed on top of formal interventions.

In practice, police agents (*Brigade Minière*) typically erect control barriers for artisanal miners on the road between mining sites and villages. At these barriers they can seize their production if they do not have a license (which is the case in about 95% of the cases) and consider these diamonds as property of the State.²³⁵ Police agents also operate when a collector who sponsors an artisanal miner denounces him for selling his production to another collector.²³⁶ This repression is considered to be a fine for the artisanal miner who has not paid the *patente*. However, the police agent does not deduct the price of a license from the production he

seizes to compensate the artisanal miner and register him in the formal system. The artisanal miner does not receive anything back from his production if he is caught by the *Brigade Minière* and does not possess a license. As a consequence, artisanal miners fear these controls and try to sell their production as quickly as possible at any price so they have less chance of being caught by the *Brigade Minière*.

Overall, this punitive approach is counter-productive to an end goal of formalising artisanal miners, and, in fact, with other impediments such as the cost of licensing, this works to encourage the miners to operate outside the formal system. In other words, an enforcement approach alone creates fear of the system. It is in itself an insufficient approach to winning compliance from all stakeholders. Discussions with artisanal miners showed that they were expecting a protective role from the *Brigade Minière* and that the police's approach should also be compensatory and educative.²³⁷

5. Alternative livelihoods to artisanal diamond mining

Agriculture and forestry are key elements of the Central African economy, with the main export crop being coffee (Mbendi 2010). Subsistence agriculture remains the backbone of the economy of the CAR and the agricultural sector generates more than half of GDP (CIA 2010). However, agriculture has often been abandoned to mining, a more lucrative activity, and appears as a subsistence activity rather

than a source of income in mining zones. With the 2008 fall in diamond prices and the closing of many buying houses ordered by the government, this has led to disastrous consequences, including severe malnutrition, for mining communities which depend on mining and trade (FAO 2010). Artisanal miners' are unable to dig during the rainy season between May and November because the mines are filled

233. Discussions during focus groups with artisanal miners in Boda and Nola, November 2010.

234. Interview with PRADD regional chief of project, Boda, November 2010.

235. Ibid.

236. Interview with local government official, Boda, November 2010.

237. Discussions during focus groups with artisanal miners in Boda and Nola, November 2010.



with water, also contributes to keeping them in poverty. Efforts to diversify artisanal miners' income, along with increasing the benefit from diamond mining, would assist in the development of these communities.

5.1. *Artisanal diamond miners' living conditions*

Artisanal diamond miners in CAR earn in average approximately USD 723 a year in net income,²³⁸ which situate them just under the standard poverty measure of USD 2 a day. This situation can be partly explained by the dependency relationship that exists between artisanal miners and middlemen who take a percentage of their revenue throughout the mining and trading cycle. Miners rely on middlemen for pre-financing and marketing, meaning that they have no choice in whom to sell to. As a result they capture only a small portion of the value of the diamonds they produce and are tied to single purchasers who provide equipment but often purchase at below-market prices. This can translate into debt bondage, whereby miners struggle to repay loans or buy out the pre-financed goods. They have guaranteed access to resources but have no exit option (Garrett 2010).

The poor yield from diamond mining sees miners spending most of the surplus that they gain on food, drink and day to day goods rather than saving it or investing it in better equipment. With no banks or savings institutions in mining towns, there is no formal way of saving even if artisanal miners wanted to. Their isolation from market centres, often because of a

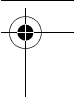
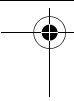
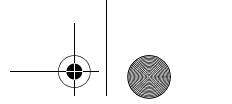
lack of transport infrastructure, also prevents them from access to selling points and contributes to maintaining them in poverty (ICG 2010; Garrett 2008).

Poverty is also generated by scarce access to basic social services such as education – on average 70% of the miners in CAR attained primary school level or have not formal education at all – and health. The hazardous conditions in which artisanal miners live and work make earning money all the more difficult. On top of accidents happening on mining sites because of a lack of reliable equipment, many miners and their families leave their villages to live in slums near the mines, where they are even more vulnerable to malaria and other diseases (Chupezzi, Ingram & Schure 2009, ICG 2010).

Despite these poor working conditions and low wages, artisanal diamond miners in CAR have been moving away from agriculture to mine diamonds, considered as a more lucrative activity. In almost all cases, however, subsistence agriculture remains an important activity for mining households. This type of situation has been described as 'demand-pull', meaning that people are subsisting adequately from farming but choose to 'branch out' because they believe diversified income portfolios will bring them greater economic returns (Maconachie & Binns 2007).

Given artisanal miners' current living conditions, it appears that favouring alternative livelihoods, defined as "creating legal obligations and economic incentives to transfer people out of a specific activity" (Siegel & Veiga 2010) is a promising solu-

238. Interview with Sébastien Pennes, Bangui, November 2010. For details about calculations, please refer to Levin & Hinton 2010.



tion to alleviate diamond miners from poverty. However, to redirect miners into other livelihoods requires capital, infrastructure and access to markets. Typically, the best hope of accumulating such capital can be found in diamonds extraction (Siegel & Veiga 2010). The focus of the government and the international community should therefore not be on providing alternative livelihoods to replace diamond mining but instead 1) to ensure that diamond mining is a profitable activity for miners and alleviate them from poverty (through formalisation, for instance) and 2) that they have *complementary* activities that help them survive shocks and stresses, and diversify their incomes.

5.2. Complementary activities to ADM

According to field research, it appears that those who have diversified into ADM from farming now view the former as their principal means of livelihood, and engage in the latter solely for subsistence purposes.²³⁹ There was no evidence of farmers marketing their products at ADM communities. Instead, miners themselves were involved into at least two other activities, in most cases agriculture, farming and non-timber forest product gathering (Chupezi, Ingram & Schure 2009). Miners are also involved in fishing, hunting, domestic craft industry and alcohol-making (palm wine).²⁴⁰ Agriculture often takes place on small areas and not further than 1km from villages and women are

generally more involved than men. The table below summarises PRADD findings on complementary activities to ADM, following a household survey conducted in November 2010 over a sample of 235 artisanal mining households in 19 villages of the province of Sangha-Mbaere and Lobaye.

Table 4, p. 120, summarises the investigation's findings as to what role each member of a mining family has regarding mining and complementary activities. It also shows the season at which each activity is happening. This is an important distinction to make because mining is not a full-time activity during the rainy season as rivers are often flooded and the expenses to mine outweigh the production potential.²⁴¹ Thus, even though complementary activities occur in both seasons, they are slightly more frequent in the rainy season. The rainy season goes from approximately May to October (in average 226 mm of rain) and the dry season from November to April (in average, 5 mm of rain).²⁴² The table represents the main trends observed based on a series of interviews with miners and will slightly vary from one family to another. Thus, for instance, women might sometimes be involved in mining activities but because their representation percentage is low in this activity (approximately 10% in the region visited),²⁴³ their role is not represented in the table for mining activities.

Findings of the researchers' investigation were confirmed by a study conducted in

239. Discussions during focus groups with artisanal miners in Boda and Nola, November 2010.

240. Discussions during focus groups with artisanal miners in Boda and Nola, November 2010.

241. Discussions during focus groups with artisanal miners in Boda and Nola, November 2010.

242. Republique Centrafricaine, Presidence de la Republique, <http://www.presidence-rca.org/main2/la-republique-centrafricaine/decouvrir-la-centrafrique/> (accessed on 10 January 2011).

243. This estimate was calculated according to discussions during focus groups with artisanal miners in Boda and Nola, where women were represented, November 2010.

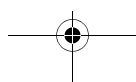
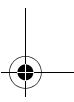
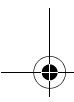


Table 3: Complementary activities to ADM and proportion of mining household practicing them (PRADD 2010b)

Activity	Proportion of households practicing income activities other than diamond mining
Agriculture	94.5%*
Animal Breeding	35.3%**
Petty Trade	59.1%
Salaried Work	0.9%
Other	0.3%

* Crop farming only, as only 0.2% does vegetable farming
** 25.0% practice fish farming

Table 4: Mining and complementary activities to ADM by family members and season

Activities/Member of the family	Father	Mother	Child	Season	
				Rainy Nov-April	Dry May-Oct
Mining	✓				✓
Agriculture:*	✓	✓	✓	✓	✓
– Cassava					
– Bananas					
– Corn					
– Coffee					
– Cotton					
– Tobacco					
Farming	✓	✓	✓	✓	✓
Trade	✓	✓		✓	✓
Hunting	✓		✓	✓	✓
Fishing	✓	✓		✓	✓
Palm wine making		✓		✓	✓
Gathering (cueillette)		✓	✓	✓	✓

* The agriculture focused mainly on cassava and bananas in the region visited but mining communities are also involved in the cultivation of corn, coffee, cotton and tobacco in other parts of the country.³

a. Interview with diamond expert and consultant, Bangui, November 2010.

the Sangha Tri-National Park landscape that showed that 93% of artisanal miners had other livelihood activities they carry outside mining (see Chupezi, Ingram & Schure 2009).

5.3. Opportunities

Diversifying diamond artisanal miners' income by promoting agriculture, fishing, farming and other activities reduces the

dependency on diamonds: non-renewable resources subject to a volatile international diamond market, as shown by the drop in prices in 2008. For both diamond and gold mining, which constitute 99% of mining activities in CAR, diversification of incomes appears as a priority not only in times of downturn to avoid starvation, but also in general times to reduce CAR's dependency on the sale of one commodity. Global financial and economic crises exposed countries such as CAR's eco-

conomic dependence on too few commodities and only one or two sectors. "Such dependence makes many countries vulnerable to fluctuations in commodity prices, demand and extreme weather events such as droughts and floods" (UN 2010)

Diversification may also be a necessary prerequisite to assist the formalisation of the diamond sector as it can help the independence of the artisanal miners and thus reduce the 'dependence relationship' that exists between the artisanal miner and a middleman, which in turn reduce incentives to fraud. With this in mind and with the goal to improve mining communities' living conditions, three initiatives have been encouraging diversification of incomes in CAR.

The Food and Agriculture Organisation of the United Nations (FAO) implemented a project between October 2009 and June 2010 regarding malnutrition in the Lobaye region, in particular in Carnot and Berbérati surroundings ("Projet OSRO/CAF/901/CHA Fourniture d'intrants agricoles a 4000 familles vulnérables affectées par la malnutrition dans les localités de Carnot et de Berbérati). The project aimed at providing tools, training and seeds to 4000 affected families (in total 20,000 people) to ensure a better agricultural output (FAO 2010). However, this project acted as an emergency relief initiative in response to the global financial crisis that affected the diamond market, rather than a long-term development project.²⁴⁴ No assessment study was conducted by the FAO so it difficult to appraise the impact of this inter-

vention other than local reports that it alleviated hardship.

The PRADD project also aims at improving mining communities' living conditions by diversifying miners' incomes. In Boda and its surroundings, four ponds have been created artificially to promote fishing and young fish reproduction. Women have also been trained in soap-making in Nola and fruit-trees were planted at Bos-soui, in the Lobaye region.²⁴⁵ Regarding fish farming, which appears to be a very popular intervention, a total of 18 fish ponds have been completed and 32 additional ones are under construction by rehabilitating mined out diamond sites (PRADD 2010a:11). Table 5, p. 122, summarises income generated by groups initiated by PRADD in its regions of intervention to diversify artisanal miners' income.

As shown in the table, providing training in activities other than mining – namely in soap-making, fish farming and agriculture – have helped creating an average of USD 6.4 monetised income per individual involved over a period of four months. Creating alternative – or more likely, complementary – livelihoods to mining can therefore help alleviate poverty.

The NGO Cooperazione Internazionale (Coopi) has also been intervening in the Lobaye region to boost agricultural production and indirectly diversify artisanal miners' income. The project focuses on improving livestock farming, seeds planting and reinforcing peasants' organisations.²⁴⁶ Results are still pending as the

244. Interview with official from the Food and Agriculture Organisation of the United Nations, Bangui, November 2010.

245. Interview with PRADD regional chief of project, Boda, November 2010.

246. Interview with COOPI Chief of project 'Reponse à la crise alimentaire', Bangui, November 2010.

Table 5: Income generated by groups initiated by PRADD (from July 2010 until October 15, 2010) (PRADD 2010a)

Type of association or activity	Total production	Total monetised income (USD equivalent)	Number of participants			Total monetised income per individual (USD equivalent)
			Women	Men	Total	
Soap-making groups	60 batches of soap	12	15	0	15	0.8
Fish farming groups	412 kg of fish	412	1	4	5	82.4
Agricultural groups	250 baskets of manioc	500	100	24	124	4
Total		924	116	28	144	6.4

project started in April 2010 and should be implemented over a period of twenty-two months, but this type of initiative is definitely encouraging to alleviate poverty in mining communities.

Given the early stage of the Coopi project it is difficult to give a full assessment of the diversification programmes being implemented. However, it is worth noting that there are no governmental programmes clearly addressing issues of diversification in the mining sector, as along the lines of programmes in countries such as Zambia or Botswana (Swedish Geological AB 2007; African Development Bank 2009). Artisanal miners themselves mentioned during focus groups in Boda and Nola the absence of governmental pro-

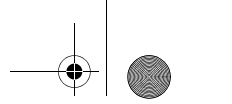
grammes regarding income diversification and stressed that they would be welcoming training programmes in soap-making for women and agricultural techniques.²⁴⁷ This could be, on one hand, a survival strategy for artisanal miners during a downturn and a more long-term development strategy to produce and trade a variety of goods. While government intervention and support might be welcome, given the problems of corruption elsewhere in the country, ensuring good governance may be a pre-requisite in building enabling environment for economic diversification. This involves designing and implementing policies to boost alternative sectors to mining and ensuring that they can be developed in an environment that allows them to flourish (UN 2010).

6. Recommendations

According to the KPCS review of CAR in 2008, the legal and regulatory framework of the Central African State met the KPCS requirements on paper. However, in practice, the characteristics of ADM in CAR, such as geographical spread and remoteness, make it particularly difficult for the government to effectively monitor and

regulate the sector. Combined with already weak government institutions and a strong political control of the diamond sector, this means a significant portion of ADM activity remains informal and the true origin of exports unknown. This requires a significant investment into oversight of the sector.

247. Discussions during focus groups with artisanal miners in Boda and Nola, November 2010.



The authors have not focussed extensively on the political economy of the diamond sector in this chapter. Nevertheless, it is worth further discussion. Exclusive control over the key institutions governing the sector by the President's ethnic group means that in reality, real reforms are unlikely given that these actors have an incentive to maintain the status quo which they benefit from. Without support from the Presidency it seems unlikely that any of the suggested reforms below will take place in any meaningful sense. Thus, winning this support should be the first priority.

The characteristics of attempts within CAR to formalise ADM mirror attempts in other developing countries:

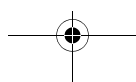
- Adequate scrutiny of diamonds at the point of export, but minimal scrutiny at point of origin. This is primarily due to the fact that it requires far fewer resources to monitor diamonds at the point of export, an important point for countries without capacity to monitor and regulate the sub-national trading chain.
- A nominal system of monitoring the supply chain, such as a chain of receipts or invoices, which in practise does not allow to identify origin with confidence.
- Attempts to assist the formalisation of sub-national traders, such as through the formation of cooperatives with the direct ability to export.
- Restriction of mining activities to CAR nationals.
- A fairly rigid attitude toward the regulation of diamond production and trade which does not correspond to the capacities of local or national government to enforce, nor the realities of the trade in practice.

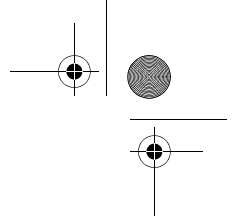
- It is unclear whether efforts to 'clean up' the industry are driven by the ambition to make the sector more efficient, or are part of a strategy to perpetuate the current order of political control over the diamond sector.

Like other developing countries, CAR's ADM sector sees a mix of de jure and de facto rule systems, which adjust according to actual needs and available resources in the sector. For example:

- For artisanal miners obtaining a license is currently viewed as an unnecessary and costly expense, as they view the risks of working unlicensed as too low. The informal sector has developed a workaround – the middleman (*débrouillard*) maintains a license, and deducts the cost of the license from his purchase of diamonds from the artisanal miner.
- Despite nominal restrictions placed on the activities of non-CAR nationals, the diamond trading sector remains dominated by foreigners with better access to external trade networks and the necessary capital to purchase diamonds. These actors tend to operate informally, particularly as their activities are often penalised within the formal trade.

As CAR has a potential problem with conflict diamonds from the East of the country, it would seem appropriate to suggest the GoCAR reviews its ability to monitor and regulate the sub-national trading chain, so to increase its capability to trace the origin of the goods. However, given the limited capacity and resources of the GoCAR and the unlikely increase in capacities resources in the short- to medium-term, it is uncertain whether the GoCAR would be able to show where dia-

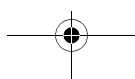
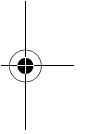
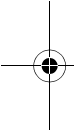




monds came from with sufficient confidence in the future, despite such traceability being a requirement for continued participation in the KPCS.

Key issues that the GoCAR needs to address are:

- Potential conflict diamonds in the east of the country
- A sophisticated informal production and trading system, which undermines attempts to formalise the trade
- Outdated legislation, or legislation which does not match the ability of the government to monitor, regulate and enforce
- Monopolistic control of the sector by a defined political elite related to the President, along with corruption and lack of capacity within government agencies
- Poor social and economic conditions of artisanal mining operators



CHAPTER 6

CONCLUSION

Steven VAN BOCKSTAEL & Koen VLASSENROOT

As the previous chapters demonstrate, artisanal diamond mining is often a key livelihood activity for Africa's rural population. Whether they are smallholder farmers who can no longer subsist on agriculture alone, unemployed youths who have migrated to diamond mining areas in the hope of being able to build a better future there, or demobilised combatants who experience difficulties reintegrating into society, artisanal diamond mining, is clearly a poverty-driven activity. Those that are attracted to the mining sector in the hopes of 'getting rich quickly', driven by what has been termed a 'casino-mentality', are sure to have revised those perspectives after a few weeks work. Instead, the continuing lure of the hard, and sometimes dangerous, labour that is artisanal diamond mining, is much more modest: more often than not, it is simply the most profitable livelihood that is available in rural areas.

Unfortunately, reliable information on artisanal mining is hard to get. This has made it difficult to accurately compare and better understand the interactions between mining and non-mining rural livelihoods, as well as wider changes in rural African societies. Nevertheless, in a diamondiferous region, community members not presently engaged in diamond mining, often express their wishes of doing so, out of the conviction that diamond mining offers is the most profitable activity available in their community. Even in places where artisanal diamond production is on the decline due to the

area gradually becoming mined out, as demonstrated in the chapter on Sierra Leone, diamond mining continues to play a key role in local livelihood portfolios. Given the extreme levels of poverty in most of rural Africa, easily accessible mineral resources will continue to attract miners, unless other and more financially attractive livelihoods should become available.

As for the continuing poverty affecting many artisanal mining communities, and the dominance of informal mining and trading practices that their respective governments are trying to counter, improving the livelihood benefits of artisanal diamond mining and increasing the degree of formalisation, are intimately linked. However, the lack of knowledge on the dynamics of artisanal diamond mining, and the way in which these diamonds are subsequently traded, has resulted in legislative frameworks that do not accurately reflect realities on the ground. Current formalisation efforts in many countries have seemingly reached their maximum capacity: artisanal miners that continue to operate informally, are unlikely to change their ways unless policy adjustments are made to properly incentivise them to do so.

One of the key features of artisanal diamond mining is the need for capital. Although some smallholder farmers are known to use excess food production to pay miners working on their claim, such self-financed mines operate only sporadically and often lay dormant due to lack of

funding. More serious mining operations however, require investments of up to several hundreds of US dollars, an amount that is unavailable to the overwhelming majority of artisanal miners. Especially in sub-Saharan Africa, this demand has been picked up by local diamond buyers. In return for taking the risk of providing miners with support (food for the workers, equipment when necessary, and depending on the arrangement sometimes a small amount of cash for the workers as well), these middlemen are granted exclusive buying rights to all the diamonds produced in a given mine. Apart from having access to capital and connections with diamond buyers in major cities, the middlemen also have a better understanding of the diamond value than the miners and their workers. This unequal relationship, and miners' recognition of their lack of bargaining power, often creates a climate of distrust: miners do not trust their middlemen to give them a fair price, and middlemen accuse miners of hiding diamonds from them in an attempt to sell them elsewhere. Although it is important to consider the economics of 'supporting', whereby the high degree of insecurity associated with artisanal-alluvial diamond mining means that prices offered to miners are the result of a balancing act in which profitable mines have to make up for non-profitable ones under the same middleman's control, there is no question that artisanal miners are often taken advantage of. One particularly extravagant example was told to one of the authors during a research trip to Liberia in April 2011. The year before, a local licensed miner (a widow, who had inherited her husband's claim) had recovered an almost flawless diamond of around 80 carats. As is common, word of this

extraordinary find quickly got out, and a bidding war started between diamond buyers. The woman however, was bound to sell the diamond to her supporter, who offered 20,000 US dollars. Since other buyers were offering prices up to 1 million US dollars, the woman naturally refused to sell for 20,000 USD. Ultimately, government authorities stepped in, and the supporter agreed to pay 500,000 dollars for the diamond. Although even 20,000 US dollars would amount to a fortune for the miner, the case clearly demonstrates how the lack of open competition among diamond buyers, inherently linked to the lack of independent sources of capital, has a detrimental effect on the potential development impact of artisanally mined diamonds. In essence, because of low returns, relatively high operating costs, and high license fees or informal taxation or corruption, miners are frequently stuck in a 'poverty trap'. Providing artisanal miners with microcredit could (while also incentivising professionalization among miners) give them a crucial advantage by reducing their dependence on existing support structures dominated by middlemen. Although some pilots have been conducted with artisanal gold miners (see Hilson and Ackah-Baidoo 2011) to date no similar initiatives have been undertaken with artisanal diamond miners. While providing microcredit to artisanal mining operations in general is difficult as it is, the insecurity associated with artisanal-alluvial diamond mining (as opposed to the relatively steady and predictable gains of artisanal gold mining), which explains why currently only those involved in the industry as diamond buyers are willing to take the financial risk, raises additional questions which require further research and experimentation.

Providing artisanal miners with diamond valuation training – or better yet, have government officials provide this free service as an incentive for formalisation – could improve their bargaining power. However, given many miners' poor educational background, they would be better helped by assistance in simple business management, and the setting up of communal credit and saving schemes, in order to empower them to gradually save their profits and thus reduce the current need for external capital, allowing them to break free of the grasp of the middlemen and have a better chance at securing a fair price on the open market. Although outside assistance will be needed, for example through local NGOs, given the alluvial nature of diamond deposits, and the big importance that is given to 'chance' and 'fortune', artisanal diamond miners are fierce individualists. Any evolution of organisational structures should come 'from below', and not be forced upon by outsiders, or artificially created through promises of funding.

In this regard, it is rather unfortunate that some governments have spent so much attention to the creation of cooperatives. As argued in a previous publication of this research project (Blore 2008), existing diamond mining cooperatives cover usually many things at the same time, but they are rarely true cooperatives, in the income-pooling/profit-sharing sense of the term. Most if not all existing diamond mining cooperatives are in effect small businesses, with an owner and employees, despite government efforts to promote traditional income-pooling, profit-sharing cooperatives. This is not incidental, but rather a crucial element explaining why such 'cooperatives' have continued to exist,

whereas other 'true' cooperatives have consistently failed.

Although such government incentives have, in some cases, had a positive (but unplanned) effect on the much-needed professionalization of the artisanal diamond mining sector by providing a framework for the establishment of domestic small-scale mining companies that are officially registered as cooperatives (such as in the CAR), such policies have seemed to mainly help those who already largely possessed the capacity needed to help themselves. Owners of and participants in such 'cooperatives in name only' are usually already formalised miners, and the overall effect on formalisation levels seems to be negligible.

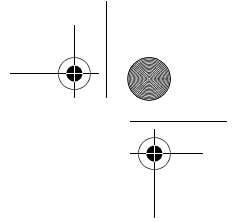
While middlemen will continue to play a crucial role in the artisanal diamond mining sector, government attention has remained almost exclusively focused on individual miners and workers. As was argued in the chapter on the DRC, a more efficient way of formalising artisanal production would be to shift the focus of formalisation efforts from the individual 'digger' to the 'miner' or head of the mining operation, as some countries have already done. Nevertheless, as many miners receive financial backing from diamond buyers, this means they can not be correctly considered to be independent entrepreneurs, as is the interpretation of most legislative frameworks on artisanal mining. If supporting middlemen do not stress the need for formalisation, miners working for them would have little incentive in acquiring the required paperwork. Recognising the crucial role of middlemen as financial backers to artisanal miners, and putting more effort in monitoring their activities will likely have a greater

impact on formalisation levels than targeting individual miners, if these are not able to conduct mining operations out of their own means anyway.

Another thorny issue regarding the lack of formalisation, is the high cost of annually renewable mining licenses in many countries, especially given the subsistence nature of many artisanal mining operations. Indeed, as the chapter on the DRC points out, miners may have already paid a significant portion of their income in 'informal taxation' on behalf of various government officials. When, added to this, miners see no clear benefits to formalisation and are aware of the lack of government capacity to adequately enforce the relevant legislation, it comes as no surprise that only the most visible and professionalised artisanal mining operations are fully operating as part of the formal economy. Lowering license fees is therefore a crucial pre-requisite if current formalisation levels are to be increased. Furthermore, an analysis of the relevant fiscal regimes in various artisanal mining countries has clearly shown that a substantial lowering of license fees would result in applications for mining licenses from people who could previously not have afforded this. Additionally, overall tax revenue for the government would have been raised significantly as well (Levin & Hinton 2010). The universal image of diamonds as a symbol of luxury and wealth easily lead to misconceptions about artisanal diamond mining. Most artisanal diamond mining operations operate on secondary or alluvial deposits, which are usually not commercially viable for industrial extraction. Given the unequal dispersal patterns of such diamond fields, which are difficult to predict even for experienced geologists, a significant

proportion of artisanal miners operate on claims that, even for fairly inexpensive artisanal mining, are sometimes barely profitable. While current prices for mining licenses may seem justified to government officials when taking into account annual income of artisanal miners (the total cost associated with formalised artisanal mining in Liberia for example, comes close to double the average annual income), most miners can simply not afford to pay the fees for a (in their view, redundant) mining license in a single instalment, especially those operating in areas where the occasional diamond recoveries can barely cover the required investment. For the overwhelming majority of artisanal diamond miners, the activity remains a poverty-driven one.

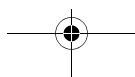
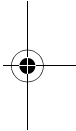
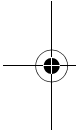
The lack of government capacity too, is an important element explaining why current formalisation strategies have stalled. Laws that are passed without proper attention to not only the realities of artisanal diamond mining and trading, but also the reality of a government apparatus that is often lacking capacity, are destined to remain hollow words on paper. This lack of governmental capacity goes both ways: not only is the government incapable of adequately monitoring and enforcing compliance with the relevant regulatory frameworks, it is also incapable of delivering on any promises it might have made miners regarding the benefits of formalisation. In Liberia for example, an initially promising formalisation campaign stalled after it became obvious that the government not only lacked the capacity to coerce miners into compliance and sanction those who continue to mine informally, but also did not have the resources to make good on its promise to increase general welfare in diamond mining com-



munities in return for formalisation. Although Liberia's small diamond sector barely generates enough revenue for the government to 'break even' with its Kimberley Process requirements, the complete lack of reciprocity in the relation between artisanal miners and the government can be observed in other countries as well. The DACDF in Sierra Leone is one example of how a small percentage of diamond tax revenues find their way back to the mining areas. Other, more indirect efforts to enhance the credibility of governmental taxation and licensing could also have a positive effect on levels of formalisation, such as the provision of certain services by local government officials to formalised miners. These can be related to tenure security, as Shawn Blore's chapter in this volume has explored, but can also be relatively minor advantages. As miners' first point of contact with government authority, perceptions of local government officials are often negative: these are viewed as corrupt, or only there to extract money from miners. Increasing anti-corruption efforts and better capacitating these local officials so they can act as independent observers, for example by giving miners independent advice (in general terms) on the quality of recently recovered diamonds, can go a long way in restoring the credibility of public institutions.

A formalisation strategy that is oriented towards reducing barriers to entry such as high license fees, that is dedicated to incentivising artisanal miners to formalise rather than trying (and failing) to coerce them into doing so, and recognises the crucial role of supporting middlemen in deciding whether or not to mine legally, should have an optimal chance of going forward where current formalisation efforts have halted. Ultimately, such a strategy will depend on its usefulness to artisanal miners. It will also need to be closely integrated in wider development efforts as well as anti-corruption and capacity-building efforts in national and regional public institutions. There is an urgent need for more flexible rural development policies that are multidimensional and recognise artisanal (diamond) mining as a key rural livelihood in order to foster an enabling environment for miners to improve and secure their livelihood portfolio. Unlike the revenue from the mined resources, the license fees and associated expenses from artisanal miners will unlikely become a great source of tax revenue for the government. Artisanal mining itself, however, does hold significant development potential, offering income diversification for many ordinary people. Encouraging that should yield higher returns for the society at large.





REFERENCES

- ADE 2009. *Diagnostic du secteur minier du Cameroun*
- African Development Bank 2010. *Economic Diversification Support Loan: Botswana Appraisal Report*.
- ARD 2007. *The Mining Sector in Central African Republic with a Focus on Information Collection and Management Systems and Procedures*, Unpublished Report.
- Babut (M.), Sekyi (R.), Rambaud (A.), Potin-Gautier (M.), Tellier (S.), Bannerman (W.), Beinhoff (C.) 2003. Improving the environmental management of small-scale gold mining in Ghana: a case study of Dumasi. In: *Journal of Cleaner Production*, 11, 2, 215-221.
- Banchirigah (S. M.) & Hilson (G.) 2010. De-agrarianization, re-agrarianization and local economic development: re-orienting livelihoods in African artisanal mining communities. In: *Policy Sci*, 43, 157-180.
- Binns (J.A.) 1981. *The dynamics of Third World food production systems: an evaluation of change and development in the rural economy of Sierra Leone*. Ph.D. Thesis, Centre of West African Studies, University of Birmingham.
- Binns (J.A.) 1982. *The changing impact of diamond mining in Sierra Leone*. Research Papers in Geography no. 9, University of Sussex, Brighton.
- Blore (S.) 2008. Artisanal diamond miners cooperatives: what are they good for? In: Vlassenroot (K.) & Van Bockstael (S.) (eds.). *Artisanal diamond mining: perspectives and challenges*. Ghent, Academia Press.
- Blore (S.) 2009. *Guyana's diamond tracking system: a model for artisanally mined diamonds*. Ottawa, Diamond Development Initiative.
- Bryceson (D. F.) 1996. De-agrarianization and rural employment in sub-Saharan Africa: A sectoral perspective. In: *World Development*, 4, 1 97-111.
- Bryceson (D. F.) 2002. Multiplex livelihoods in rural Africa: recasting the terms and conditions of gainful employment. In: *Journal of Modern African Studies*, 40, 1, 1-28.
- Campbell (B.) 2003. *Factoring in governance is not enough: mining codes in Africa, policy reform and corporate responsibility*. Minerals Energy – Raw Materials Report 18(3), pp 2-13.
- Campbell (G.) 2004. *Blood Diamonds*. Basic Books: New York.
- CAPAM s.d.. *Point sur l'état des techniques de commercialisation en cours des produits de l'artisanat minier*.
- CASM – Communities and Small-scale Mining 2009. *Small stories: 12 stories about small-scale mining*. Washington DC, CASM.
- Chambers (R.) and Conway (G.) 1992. *Sustainable rural livelihoods: practical concepts for the 21st century*. IDS Discussion Paper 296. Institute of Development Studies: Brighton.

- Chirico (P.G.), Malpeli (K.C.), Anum (S.), Philips (E.C.) 2010. *Alluvial Diamond Resource Potential and Production Capacity Assessment of Ghana*. US Geological Survey Report 2010-5045, US Geological Survey, Virginia.
- Chupezi (T.J.), Ingram (V.) & Schure (J.) 2009. *Study on impacts of artisanal gold and diamond mining on livelihoods and the environment in the Sangha Tri-National Park landscape, Congo Basin*. CIFOR, IUCN
- CIA – Central Intelligence Agency 2010. *CIA World Factbook 2010*.
- Coakley (G.J.) 1999. *The Minerals Industry of Ghana*. US Geological Survey, Virginia.
- Collier (P.) & Hoeffler (A.) 2005. Resource rents, governance and conflict. In: *Journal of Conflict Resolution* 49, 4, 625-633.
- DDI – Diamond Development Initiative 2008. *Standards & Guidelines for Sierra Leone's Artisanal Diamond Mining Sector*
- Dietrich (C.) 2002. *Diamonds in Central African Republic*, Occasional Paper 8, PAC-IPIS
- EIU – Economist Intelligence Unit 2010. *Central African Republic profile*
- Ellis (F.) 1998. Household strategies and rural livelihood diversification. In: *Journal of Development Studies*, 35, 1, 1-38.
- Ellis (F.) 2006. Agrarian change and rising vulnerability in rural sub-Saharan Africa. In: *New Political Economy*, 11(3), pp. 387-397.
- Even-Zohar (C.) 2003. *Financial Constraints Study*, June 2003.
- Fanthorpe (R.) & Maconachie (R.) 2010. Beyond the crisis of youth? Mining, farming and civil society in post-war Sierra Leone. In: *African Affairs*, 109/435, 251-272.
- FAO 2010. *Final report*, OSRO/CAF/901/CHA.
- Fox (S.) 2009. *OPACITY: A Socioeconomic Study of Diamond Mining in South-Eastern Cameroon*, ISP Collection. Paper 728
- Garrett (N.) 2010. *Mining as a source of growth*. Washington DC, The World Bank
- Garrett (N.) & Mitchell (H.) 2009. *Trading Conflict for Development*. DFID, LSE, CRG
- Garrett (N.) 2008. *Artisanal Cassiterite Mining and Trade in North Kivu: Implications for Poverty Reduction and Security*. CASM.
- Garrett (N.) & Lintzer (M.) 2010. *Research snapshot on the mechanisation of artisanal diamond mining in the DRC*. Unpublished paper – RCS, Project Consult
- Gberie (L.) 2005. *A Dirty War in West Africa: The RUF and the Destruction of Sierra Leone*. Hurst and Co.: London.
- GCD – Ghana Consolidated Diamonds Ltd. 1999. *A Brief Profile of Ghana Consolidated Diamonds, Ltd*. Company Document.
- Hayes (K.) 2008. *Artisanal and Small-Scale Mining and Livelihoods in Africa*, Common Fund for Commodities.
- Hayes (K.) & Van Wauwe (V.) 2009. *Microfinance in Artisanal and Small-Scale Mining*, Background papers, 9th Annual CASM Conference

- Hayward (F.) 1972. 'The development of a radical political organization in the bush: A case study of Sierra Leone'. In: *Canadian Journal of African Studies / Revue Canadienne des Études Africaines* 6, 1, 1-28.
- Hentschel (T.), Hruschka (F.), Priester (M.) 2002. *Global Report on Artisanal and Small-Scale Mining*. International Institute for Environment and Development – Mining, Minerals and Sustainable Development project (MMSD).
- Hilson (G.) & Potter (C.) 2003. *Why is illegal gold mining activity so ubiquitous in rural Ghana?*. African Development Bank
- Hilson (G.) 2002. Small Scale Mining and its Socio-Economic Impact in Developing Countries. In: *Natural Resources Forum*, 26, 3-13
- Hilson (G.) 2009. Mining and Rural Development: The Trajectory of Diamond Production in Ghana. In: Vlassenroot (K.) & Van Bockstael (S.)(eds.). *Artisanal Diamond Mining: Perspectives and Challenges*. Ghent, Academia Press
- Hilson (G.) 2010. 'Once a Miner, Always a Miner': Poverty and Livelihood Diversification in Akwatia, Ghana. In: *Journal of Rural Studies* 26(3): 296-307.
- Hilson (G.) & Ackah-Baidoo (A.) 2011. Can microcredit services alleviate poverty in African small-scale mining communities? In: *World Development* (accepted for publication). DOI: 10.1016/j.worlddev.2010.10.004.
- Hilson (G.) & Clifford (M.J.) 2010. 'A Kimberley Protest': Diamond Mining, Export Sanctions and Poverty in Akwatia, Ghana. In: *African Affairs* 109(436): 431-450.
- Hinton (J.), & Levin (E.) 2010. *PRADD project – Comparative study: legal and fiscal regimes for artisanal diamond mining*.
- Hinton (J.), Veiga (M.), and Veiga (T.) 2003, "Women and artisanal mining: gender roles and the road ahead". In: Hilson (G.) (ed.), *Socio-economic impacts of artisanal and small-scale mining in developing countries*, Balkema publ., Rotterdam.
- ICG – International Crisis Group 2010. *Dangerous little stones: Diamonds in the Central African Republic*, International Crisis Group, Africa Report No. 167.
- IMF 2010. *Growth and Employment Strategy Paper*. Washington DC, International Monetary Fund.
- Jonsson (J. B.) & Fold (N.) 2011. Mining 'from below': taking Africa's artisanal miners seriously. In: *Geography Compass*, 5, 7, 479-493.
- Keen (D.) 2005. *Conflict and Collusion in Sierra Leone*. James Currey, Oxford.
- Kesse (G.O.) 1985. *The Mineral and Rock Resources of Ghana*. A.A. Balkema, Rotterdam.
- Kimberley Process 2008. *Rapport de la visite d'examen en République Centrafricaine*
- Labonne (B.), Katsiaouni (O.), Carnegie (J.). 2000. *Poverty Eradication & Sustainable Livelihoods: Focusing on Artisanal Mining Communities*. United Nations Department of Economic and Social Affairs (UNDESA), Project RAF/99/023, New York.
- Le Billon (P.) & Levin (E.) 2008. Development and peacebuilding: artisanal and industrial diamond exploitation in 'post-conflict' countries. In: Vlassenroot (K.) & Van

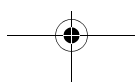
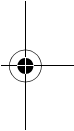
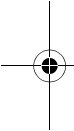
- Bockstael (S.) (eds.) 2008. *Artisanal diamond mining: perspectives and challenges*. Ghent, Academia Press, 190-208.
- Le Billon (P.) & Levin (E.) 2009. Building peace with conflict diamonds? Merging security and development in Sierra Leone. In: *Development & Change*, 40, 4, 693-715.
- Levin (E.) & Turay (A.B.) 2008. *Artisanal Diamond Cooperatives in Sierra Leone: Success or Failure?* Ottawa, Partnership Africa Canada.
- Lubamba (J.-B.) 2007. *Etude filière diamant sur les conditions de vie et de travail des creuseurs artisanaux de diamant de Mbuji-Mayi*. Kinshasa, CENADEP.
- Maconachie (R.) 2008. 'New agricultural frontiers in post-conflict Sierra Leone?: Exploring institutional challenges for wetland management in the Eastern Province'. In: *Journal of Modern African Studies*, 46, 2, pp. 235-266.
- Maconachie (R.) 2009. Diamonds, governance and 'local' development in post-conflict Sierra Leone: Lessons for artisanal and small-scale mining in sub-Saharan Africa? In: *Resources Policy* (34), pp. 71-79.
- Maconachie (R.) 2010. 'New spaces' for change?: Diamond governance reforms and the micro-politics of participation in post-war Sierra Leone. In: *Public Administration and Development*, 30 (3), pp. 191-202.
- Maconachie (R.) & Binns (T.) 2007. 'Farming miners' or 'mining farmers'? Diamond mining and rural development in post-conflict Sierra Leone. In: *Journal of Rural Studies* (23), pp. 367-380.
- MSI – Management Systems International 2004. *Integrated diamond management in Sierra Leone: a two-year pilot project*. Report prepared for assistance of the United States Agency for International Development, Washington, DC.
- Manyacka (E.) & Nguempjoug (D.) 2010. *Monographie de l'exploitation minière artisanale dans le département du Lom et Djerem*, CED
- Mbabazi (P.), Maclean (S.), Shaw (T.) 2002. Governance for reconstruction in Africa: challenges for policy communities and coalitions. In: *Global Networks*, 2, pp. 31-47.
- Mbendi Information Services 2010. *Central African Republic Economy: Overview*.
- Mbendi Information Services 2010. *Diamond Mining in Central African Republic: Overview*.
- Mbendi Information Services 2010. *Mining in Central African Republic: Overview*.
- Mbikayi (F.) 2007. *Rapport de l'étude diagnostique du secteur minier en République Démocratique du Congo: filière diamant*. Kinshasa, GAERN.
- MMSD – Mining, Minerals and Sustainable Development (2002). *Breaking New Ground: Mining, Minerals and Sustainable Development*. Earthscan Publications for IIED and WBCSD, London.
- Ministry of Mineral Resources 2005. *Details of policy measures relating to small scale and artisanal mining and marketing of precious minerals*. Mines Division, Ministry of Mineral Resources, Freetown.
- Ministry of Mineral Resources and Political Affairs (MMRPA) 2007. *DACDF Payments and Artisanal mining Licences 2007*. MMRPA: Freetown.

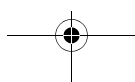
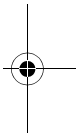
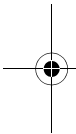
- Ministry of Mineral Resources and Political Affairs (MMRPA) 2008. *DACDF Payments and Artisanal mining Licences 2008*. MMRPA: Freetown.
- Ministry of Mineral Resources and Political Affairs (MMRPA) 2009. *DACDF Payments and Artisanal mining Licences 2009*. MMRPA: Freetown.
- Mitchell (H.) 2010, A more formal engagement: a constructive critique of certification as a means of preventing conflict and building peace, PCNRM, Vol. 1
- Myers (G.) 2010. *USAID programme brief: Land tenure and property rights in CAR*.
- Nyame (F.K.) & Danso (S.K.) 2006. 'Socioeconomic, environmental and policy implications of alluvial diamond mining in the Birim diamondiferous field, eastern Ghana'. In Hilson (G.) (ed.). *Small-Scale Mining, Rural Subsistence and Poverty in West Africa*. PracticalAction Publishing, UK, pp. 219-226.
- PAC – Partnership Africa Canada 2006. *Diamond Industry Annual Review, Sierra Leone 2006*. The Diamonds and Human Security Project, Partnership Africa Canada, Freetown, February 2006.
- PAC – Partnership Africa Canada 2005. *The failure of good intentions*. Ottawa, PAC.
- PAC – Partnership Africa Canada (2006a). *The lost world: diamond mining and smuggling in Venezuela*
- PAC – Partnership Africa Canada (2006b). *Triple Jeopardy – Triplicate forms and triple borders: controlling diamond exports from Guyana*.
- PAC – Partnership Africa Canada 2007. *Diamond Industry Annual Review: Republic of Angola*.
- PAC – Partnership Africa Canada 2008. *Diamonds and human security: annual review 2008*. Ottawa, PAC.
- PAC – Partnership Africa Canada 2009. *Diamonds and Human Security: Annual review 2009*.
- PACT 2010. *PROMINES Study: Artisanal mining in the Democratic Republic of Congo*.
- Peters (K.) 2006. *Footpaths to Reintegration: Armed conflict, youth and the rural crisis in Sierra Leone*. Unpublished PhD thesis, University of Wageningen, 2006.
- PRADD 2010a. *CAR Quarterly report, October 2010*
- PRADD 2010b. *CAR Household survey, November 2010*.
- Richards (P.) 2005. To fight or to farm? Agrarian dimensions of the Mano River conflicts (Liberia and Sierra Leone). In: *African Affairs* 104, 417 (2005), pp. 571-590.
- Rosen (D.) 1974. *The Kono of Sierra Leone – a study of social change*. Mimeo paper to Kono Road Project. Fourah Bay College, Freetown.
- Ross (M.) 2003. Oil, drugs and diamonds: the varying roles of natural resources in civil war. In: Ballentine (K.) & Sherman (J.) (eds.). *The Political Economy of Armed Conflict: Beyond Greed and Grievance*. Lynne Rienner Publishers, Boulder and London, pp. 47-70.
- Siegel (S.) & Veiga (M.) 2009. Artisanal and small-scale mining as an extralegal economy: De Soto and the redefinition of 'formalization.' In: *Resources Policy* (34), pp. 51-56.

- Siegel (S.) & Veiga (M.) 2010. 'The myth of alternative livelihoods: artisanal mining, gold and poverty'. In:
International Journal of Environment and Pollution, Vol, 41, Nos.3/4.
- Smillie (I.) 2000. *Getting to the heart of the matter: Sierra Leone, diamonds and human security*. *Social Justice* 27(4), pp. 24-31.
- Smillie (I.), Gberie (L.) & Hazleton (R.) 2000. *The Heart of the Matter: Sierra Leone, Diamonds and Human Security*. Partnership Africa Canada: Ottawa.
- Sousa (R.), Veiga (M.) et al. 2010. Policies and regulations for Brazil's artisanal gold mining sector: analysis and recommendations. In: *Journal of Cleaner Production*.
- SKI/NMJD – Street Kids International and Network Movement for Justice and Development 2010. *One day I will do something else: realizing the potential of Sierra Leonean youth*. Street Kids International, Network Movement for Justice and Development and Diamond Development Initiative, February 2010.
- Swedish Geological AB 2007. *Mining Sector Diversification Programme, Zambia*
- Temple (P.) 2005. *Improving the effective use of the Diamond Area Community Development Fund (DACDF)*. Report by the Integrated Diamond Management Program (IDMP) for submission to the Government of Sierra Leone High Level Diamond Steering Committee (HLDSC). Management Systems International: Washington, DC.
- Temple (P.) 2008. Diamond sector reform in Sierra Leone: A program perspective. In: Vlassenroot (K.) & Van Bockstael (S.) (eds). *Artisanal Diamond Mining: Perspectives and Challenges*. Ghent, Academia Press, 234-252.
- Temple (H.) 2006. *Livelihoods Report*. Unpublished DfID Report, 2006.
- Tsikata (F.) 1997. The vicissitudes of mineral policy in Ghana. In: *Resources Policy* 23(1-2): 9-14.
- UN Office of the Special Adviser on Africa and NEPAD-OECD Africa Investment Initiative 2010. *Economic Diversification in Africa*
- UNDP 2008. *Poverty and Social Impact Assessment and Strategy Formulation on Artisanal Diamond Mining Reform in Liberia*. UNDP – Diamonds For Development Programme.
- UNDP 2010. *Human Development Index, 2010*, accessible at: <http://hdr.undp.org/en/statistics/>
- UNDP 2006. *Rapport sur la pauvreté rurale au Cameroun*
- UMU – United Mine Workers Union 2007. *Report: UMU-SL Grassroot Diggers Union Project – Workshop, Daru Town, Kailahun District, Daru Community Centre, Daru Town, Monday 26th to Tuesday 27th February 2007*.
- UMU – United Mine Workers Union 2009. *Report: Grassroot Diggers Union Project – Workshop, Matotoka, Tane Chiefdom, Tonkolili District, Tane Community Centre, Matotoka Town, Friday 23rd to Saturday 24th January 2009*.
- USAID 2010. *Draft Artisanal Mining Policy for Sierra Leone. Creating an Enabling Policy Environment in Sierra Leone* (CEPESL), USAID.
- USAID 2010. *PRADD in the CAR*.



- USGS – United States Geological Survey 2009. *2009 Minerals Yearbook: Cameroon and Cape Verde*. <http://minerals.usgs.gov/minerals/pubs/country/2009/myb3-2009-cm-cv.pdf> (accessed on 15/05/2011)
- Van Bockstael (S.), Levin (E.) & Weinberg (R.) 2011. *Property rights and artisanal diamond development (PRADD). Feasibility of direct marketing of artisanal diamonds from Liberia and CAR to the USA*. Washington DC, USAID – Tetra Tech ARD.
- Veiga (M.) & Hinton (J.) 2002. Abandoned artisanal gold mines in the Brazilian Amazon: a legacy of mercury pollution. In: *Natural Resources Forum*, 26.
- World Bank 2010. *Cameroon Mining Sector Assistance, Project Information document*.
- World Bank 1995. *Staff Appraisal Report, Republic of Ghana, Mining Sector Development and Environmental Project*. World Bank Report No. 13881-GH, Industry and Energy Operations, West Central Africa Department, Africa Region, World Bank, Africa.
- World Bank 2009. *Program document for Second Natural Resources and Environmental Governance Development Policy Operations*. World Bank, Washington DC.
- WWF 2007. *Assessment of the mining sector and conservation in Congo Basin*
- Yengoh (G.), Tchuinte (A.), Ato Armah (F.), and Odoi (J.), 2010. Impact of prolonged rainy seasons on food crop production in Cameroon. In: *Mitigation and Adaptation Strategies for Global Change*, Vol. 15, No. 8, 825-841
- Zack-Williams (A.) 1995. *Tributors, Supporters and Merchant Capital: Mining and Under-development in Sierra Leone*. Edwin Mellen Press: London.





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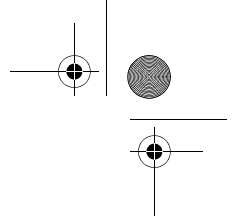
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