Artisanal diamond mining

Perspectives and challenges

Edited by

Koen Vlassenroot and Steven Van Bockstael

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Preface

As Belgian Minister of Foreign Affairs, I attach great importance to good governance in natural resource management. Without questioning the sovereignty of each state, I am of the opinion that each country has to take its own responsibilities.

Everyone knows that natural resources are the driving force for development if the extraction of those resources is done in a fair and transparent way, controlled by governments and in partnership with local communities. History as well as current situations show that there is a need for more transparency in natural resource management.

During the presidency of the UN Security Council in June 2007, Belgium convened a debate amongst UNSC members on natural resources and conflict, which broadly recognised that a much more coherent and consistent UN approach to natural resource management is essential for the organization's role in peace, security and development activities. Following this UNSC debate, the Belgian government continued working to address links between natural resources and conflict internationally, with a particular focus on Africa.

This international study on artisanal diamond mining is one of the initiatives taken by the Belgian government to strengthen transparency and promote monitored and legal exploitation and trade of natural resources, and is indicative of the importance Belgium attaches to the Kimberley Process. The study is conducted by the Central Africa Programme of EGMONT, the Belgian Royal Institute for International Relations. Its overall goal is twofold: to examine different strategies and possibilities to strengthen internal controls in artisanal diamond producing countries; and to examine how diamond diggers could get more benefit out of the diamonds they daily dig out of the ground.

As you well know, the Kimberley Process Certification Scheme (KPCS) has proved remarkably successful, to the point that the vast majority of production and international trade of rough diamonds are moved through official Kimberley channels. The success of this Process depends completely on the actions of its participants because the Kimberley Process (KP) as an international certification scheme for rough diamonds will *only* be/and stay credible if all KP Participants have established internal systems of control designed to eliminate the presence of conflict diamonds in their producing, exporting and importing chains.

In other words, internal controls are the key to the Kimberley Process' effectiveness. The Moscow declaration on improving in-

ternal controls has gone a substantial way towards elucidating standards for improvement of internal controls over alluvial diamond production. However, definition of standards and controls is only one part of the challenge. The bigger concern is how to effectively ensure adequate implementation of those controls on the ground. This became clear in 2006, when the lack of well-organized and implemented internal controls in some countries caused a serious threat to the integrity and effectiveness of the KPCS.

It is with these concerns in mind that the Belgian government deemed it interesting to set up this international study on artisanal diamond mining. I am convinced that this study will steer and guide alluvial and artisanal diamond mining countries in their efforts to fully implement the rules, standards and recommendations of the KPCS. Moreover, I believe that this study provides concrete steps and elements towards more effective internal controls over the alluvial diamond sector, which could help this sector to move towards becoming a driving force for development.

H.E. Karel De Gucht
Minister of Foreign Affairs, Belgium

Preface

The importance of artisanal and small-scale alluvial diamond production in the Kimberley Process cannot be overemphasized. Governments of countries artisanally producing diamonds have recognised that his sector has the potential to contribute significantly to the national economies and the world diamond market. It is estimated that artisanal and small-scale diamond mining produces 25 per cent or more by value of the world diamond production, 60 per cent of African and South American production, and that the sector employs millions of people.

The objectives of the KP Working Group on Artisanal Alluvial Diamond Production (WGAAP) is to promote concrete steps towards more effective internal controls over alluvial production and trade in alluvial diamonds in order to guarantee that only diamonds produced and traded in accordance with national legislation and standards of the KPCS can be exported.

The working group on artisanal alluvial diamond production is facing many constraints to effectively implement the Moscow Declaration's recommendations on the challenge of controlling artisanal/alluvial production. These constraints need to be addressed by WGAAP, governments, the diamond industry, donor agencies, NGO's, local communities and indeed the artisanal and small-scale miners themselves.

This study therefore, goes a long way in providing solutions to some of the most pertinent problems that artisanal alluvial diamond producers face. This study is the result of the Egmont Institute's contribution to the WGAAP through its work on artisanal and small-scale diamond mining in Africa and South America.

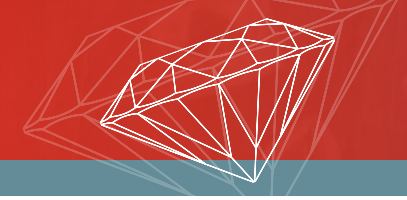
The contents of this study were earlier presented at a validation workshop, which was held on September 16 and 17 in South Africa. The recommendations of this study are intended for the governments of diamond producing countries, but the results from the research will prove very useful not only for governments, but also for researchers, the diamond industry, NGO's, associations of artisanal and small scale miners, and development agencies.

I would like to take this opportunity to thank all those who have made this publication possible. In particular, I would like to extend special thanks to Central Africa Programme of Egmont - Belgian Royal Institute for International Relations, all the authors who contributed to the various chapters of this volume, and the members of the WGAAP.

The successful development of artisanal and small scale mining calls for efforts and technical assistance from international organizations, donors, the diamond industry and civil society. It is therefore imperative to reflect on the conclusions and recommendations presented in this study. It is my sincere hope that this will be of great use to all the WGAAP countries, and the mining communities themselves.

Paulo Mvika (Angola)
Chair, WGAAP – Kimberley Process

Contents



Abbreviations and acronyms

AADM – Artisanal Alluvial Diamond Mining
ADMS – Alluvial Diamond Mining Scheme
ADPA – African Countries Diamond Producers Association
AMP – African Mining Partnership
APP – Areas of Permanent Preservation (Brazil)
ASCORP – Angola Selling Corporation (Angola)
ASM – Artisanal and small-scale mining
AZM – Artisanal Mining Zone (DRC)
BRGM – Bureau de recherches géologiques et minières
BYE – Berbérati-Yokadouma-Enyele
CAPAM – Cadre d'appui et de promotion de l'artisanat minier (Cameroon)
CAR – Central African Republic
CASM – Communities and Small Scale Mining (World Bank)
CAST – Consolidated African Selection Trust (Ghana)
CDC – Chiefdom Development Committee (Sierra Leone)
CEEAC – Communauté Economique des Etats de l'Afrique Centrale
CEEC – Centre d'Évaluation, d'Expertise et de Certification des substances minérales précieuses et semi-précieuses (DRC)
CEMAC – Communauté Economique et Monétaire de l'Afrique Centrale
CENADEP – Centre National d'Appui au Développement et à la Participation Populaire
CMOO – Compagnie Minière de l'Oubangui Oriental
CMP – Core Mineral Policy (Sierra Leone)
CMRRD – Commission for the Management of Strategic Resources, National Reconstruction and Development (Sierra Leone)
CO – Certificate of Origin
COOPEMG – Cooperativa dos Pequenos e Médios Garimpeiros (Brazil)
COOPERGAC – Cooperativa de Garimpeiros de Coromandel (Brazil)
COOPERGADI – Cooperativa de Garimpeiros de Diamantina (Brazil)
COOPRODIL Cooperativa dos Produtores de Diamantes de Juína (Brazil)
CSD – Corpo Especial de Fiscalização e Segurança de Diamantes (Angola)
CSO – Central Selling Organization (De Beers)
D4D – Diamond for Development Programme (UNDP – Government of Liberia)
DACDF – Diamond Area Community Development Fund (Sierra Leone)
DDI – Diamond Development Initiative
DFID – Department for International Development (UK)
DIAMANG – Companhia de Diamantes de Angola (Angola)
DIPAM – Diamond Policy and Management Program (Sierra Leone)
DMA – Diamond Mining Australia
DNPM – National Department of Mineral Production (Brazil)
DSSMC – District Small-Scale Mining Centre (Ghana)

DRC – Democratic Republic of the Congo
ECOWAS – Economic Community of West African States
EITI – Extractive Industry Transparency Initiative
ENDIAMA – Empresa Nacional de Diamantes de Angola (Angola)
FAA – Forças Armadas Angolanas (Angola)
FAZ – Zairian Armed Forces (DRC)
FDI – Foreign Direct Investment
FEAM – Fundação Estadual de Meio Ambiente (Brazil)
FLO – Fair Trade Labelling Organisation
FOMAL – Federation of Mines Association of Liberia (Liberia)
FSC – Forestry Stewardship Council (USA)
GCD – Ghana Consolidated Diamonds (Ghana)
GDD – Gold and Diamond Department (Sierra Leone)
GEMAP – General Economic Management Assistance Plan (Liberia)
GGMC – Guyana Geology and Mines Commission (Guyana)
GoDRC – Governement of the Democratic Republic of Congo
GoSL – Government of Sierra Leone
GW – Global Witness
HLSC – High Level Steering Committee on Diamonds (Sierra Leone)
IBAMA – Brazil's Federal Environment Agency
IDI - International Diamond Industries
IDMP – Integrated Diamond Management Project (Sierra Leone) [funded by USAID]
IDP – Internally Displaced People
IEF – Instituto Estadual de Florestas (Brazil)
IGAM – Instituto Mineiro de Gestão das Águas (Brazil)
IMF – International Monetary Fund
KP – Kimberley Process
KPCS – Kimberley Process Certification Scheme
LGCA – Local Governance Capacity Assessment (Liberia)
LSM – Large-Scale Mining
LKI – Lazare Kaplan International (Angola)
MDG – Millennium Development Goal
MIBA – Société Minière de Bakwanga (DRC)
MM – Ministry of Mines (DRC)
MMO – Mines Monitoring Officer (Sierra Leone)
MMR – Ministry of Mineral Resources (Sierra Leone)
MPLA – Movimento Popular de Libertação de Angola (Angola)
MRU – Mano River Union
MSI – Management Systems International
NACE – National Advocacy Coalition on Extractives (Sierra Leone)
NEPAD – New Partnership for Africa's Development
NGO – Non-Governmental Organisation
NMJD – Network Movement for Justice & Development (Sierra Leone)

OCB – Organização das Cooperativas Brasileiras (Brazil)
OCC – Office Congolais de Contrôle
OTI – Office of Transitional Initiatives (Sierra Leone)
PAC – Partnership Africa Canada
PASAD – Projet d'Appui au Secteur Artisanal du Diamant (Central African Republic)
PDA – Peace Diamond Alliance (Sierra Leone)
PIU – Public Information Unit of the Ministry of Mineral Resources (Sierra Leone)
PLG – Permissão de Lavra Garimpeira (Brazil)
PMI – Public Mining Institutions
PMMC – Precious Mineral Marketing Company (Ghana)
PMMT/PMMU – Precious Minerals Monitoring Team/Unit (Sierra Leone)
PPP – Public Private Partnership
PRADD – Property Rights and Artisanal Diamond Development
PRSP – Poverty Reduction Strategy Paper
PSIA – Poverty and Social Impact Assessment (Liberia)
RSA – Rapid Social Assessment (Liberia)
RUF – Revolutionary United Front (Sierra Leone)
SASMIP – Service d'achat des substances minérales précieuses (DRC)
SAESSCAM – Service d'Assistance et d'Encadrement du Small-Scale Mining (DRC)
SLDC – Sierra Leone Diamond Company
SLIEPA – Sierra Leone Investment and Export Promotion Agency
SLST – Sierra Leone Selection Trust
SME – Small and Medium Enterprises
SMI – Société Minière Intercoloniale
SODEMI – Société pour le Développement Minier (Côte d'Ivoire)
SODIAM – Sociedade de Commercialização de Diamantes de Angola (Angola)
SSM – Small-Scale Mining
TAC – Termo de Ajustamento de Conduta (Brazil)
UNAMSIL – United Nations Mission in Sierra Leone
UNCTAD – United Nations Conference on Trade and Development
UNDP – United Nations Development Programme
UNECA – United Nations Economic Commission for Africa
UNIDO – United Nations Industrial Development Organisation
UNITA – União Nacional para a Independência Total de Angola (Angola)
UNMIL – United Nations Mission in Liberia
USAID – United States Agency for International Development
USGS – United States Geological Survey
UWAMA – Mabuki Diamond Miners Association (Tanzania)
W&CA SURF – Sub-regional Resource Facility for West and Central Africa
WDC – World Diamond Council
WGAAP – Working Group on Alluvial and Artisanal Producers
WB – World Bank

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This project could not have been carried out successfully without the help of several people. The editors gratefully acknowledge the generous and patient support of Henk Mahieu and Karla Basselier of the Belgian FPS Foreign Affairs, who commissioned this study to Egmont. Karla in particular deserves special mention for providing support to the project on an almost daily basis.

Particular acknowledgement is made of the support of the members of our Steering Committee, in particular to Jon Hobbs, Mark Van Bockstael, and Alex Vines, who haven been particularly active in sharing with us their expertise and valuable comments.

We are equally very indebted to the chair of the WGAAP, Mr. Paulo Mvika, for giving us his full cooperation and the opportunity to exchange views with the working group's members, as well as for allowing us to present our report to all Kimberley Process participants.

Not to be forgotten of course, are the authors of the different chapters, who sometimes had to cope with some very strict deadlines, as well as all of those who participated in our validation workshop, and everyone who shared their knowledge, experience, and enthusiasm about the development potential inherent in artisanal diamond mining. In particular, we would like to thank H.E. A. Kpandel Fayia, Dorothée Gizenga, Estelle Levin, Muzong Kodi and Jean-Baptiste Lubamba.

Not to be forgotten are our colleagues at Egmont's Central Africa Programme, who were there from the beginning, often provided us with new insights from a different perspective, and who did an amazing job in the editing process of the study: Jean-Christophe Hoste, Hans Hoebeke, and Thomas Stevens.

And last but not least, we are particularly grateful to the British Department for International Development and CASM for having financially supported one of the key studies in this book, thanks to the efforts of Steering Committee member Jon Hobbs, who is also the chair of CASM.

Steven and Koen
Brussels, October 17th 2008

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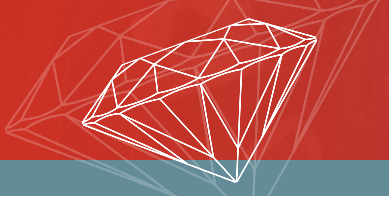


Setting the scene: Perspectives on artisanal diamond mining

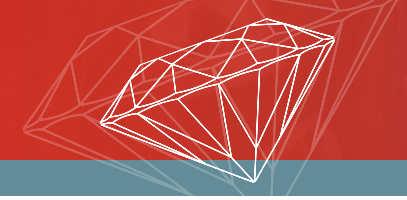
Steven Van Bockstael and Koen Vlassenroot

Introduction: Responding to 'conflict diamonds'

In 1998, the world's attention was drawn to the role diamonds (and oil) played in the long-lasting Angolan civil war, which started even before the country's formal independence from Portugal in 1975. That year, a British NGO, called Global Witness, published a report in which they showed how the rebel UNITA movement had been financing itself through the trading of diamonds, and how this continued throughout the 1980s and beyond (GW, 1998). Similar reports about the role of diamonds in the Sierra Leone civil war (Smillie, Gberie, Hazleton, 2000), a series of NGO campaigns, and an infamous UN report now known as the *Fowler Report*, followed suit. The so-called 'conflict' or 'blood' diamond was born. To the four C's that define a diamond's worth (clarity, cut, color, carat), a fifth was now added: the C of conflict.

The international diamond industry, highly dependent on the positive image of their product as a symbol of love and endurance, recognized it faced a serious challenge. The prospect of diamonds being seen as "a rebel's best friend" (Olsson, 2006) was a potential PR-disaster. The worries of the industry were echoed by Nelson Mandela and Botswanan president Festus Mogae, who publicly pointed out the importance of diamonds for the Southern-African economies, and the harm that would be caused by a possible consumer boycott (Bone, 2004).

The diamond industry, famed for its discretion, was faced now with a need to transform itself into an open and transparent business. The first major step in this direction was taken in the town of Kimberley, the historical centre of the South African diamond industry, in May 2000. Diamond producing countries, representatives of the diamond industry and civil society were invited by the South African government to discuss conflict diamonds, and what could be done about them. It was the start of the 'Kimberley Process', which was support-



ed by UN General Assembly resolution 55/56 of December 2000, and led to the signing of the Interlaken Declaration two years later, creating the Kimberley Process Certification Scheme (KPCS). The Interlaken Declaration called for the implementation of a global certification regime for rough diamonds, enabled through national legislation in participating countries, in order to discriminate between legal (clean) and illegal (and possibly 'conflict') diamonds (KP, 2002).

Today, ten years after the first NGO report on conflict diamonds, the brutal wars in Angola, the Democratic Republic of the Congo (DRC), Liberia, and Sierra Leone have ended. These countries entered into a post-conflict reconstruction process, including political reform, economic reconstruction and the promotion of sustainable development. Conflict diamonds are not yet a problem of the past though. Significant production is still continuing at the Bobi-Séguéla and Tortiya sites in rebel-held Côte d'Ivoire (although the importance of diamonds for the *Forces Nouvelles* is rather limited), and the smuggling of these diamonds to its neighbouring countries – some of which are not KPCS-participants – continues to worry the Kimberley Process, the UN, and human rights activists all over the world. The Kimberley Process, however, cannot stop or prevent resource-fuelled wars on its own. More is needed to consolidate post-conflict reconstruction and peacebuilding. It is in this context that this study on artisanal diamond mining has to be situated. Based on thorough analysis, by key experts, it aims to examine how this sector can contribute to sustainable development and peace.

For the past decade, a lot has been written about the causes of 'resource wars', as they have sometimes been called, and about the particular role of diamonds in financing rebel groups and armed militias. In particular the writings of Paul Collier, an Oxford-based economist and former director of the World Bank's Development Research Group, have been very influential. Collier's analysis suggested that civil wars such as the one in Sierra Leone did not start out of opposition to an authoritarian or undemocratic political system, nor out of resentment towards unfair social and economic circumstances, but simply because some could gain personal profit out of it (Collier 1999, Collier & Hoeffler 2002). Of course, war is about power, about wealth, about resources, or about another (not necessarily more just) way of sharing the aforementioned. But viewing these laments as being either a function of 'greed' or of 'grievance', without leaving any room in between, all too easily leads to oversimplification and inaccuracy. It tends to neglect the complexity of war economies, and ignores critical issues that can have devastating effects if left untouched during reconstruction efforts.[1]

The policy implications of this debate are thus very significant. It tells us to be very wary

1 It is not the purpose of this introductory essay to offer an in-depth criticism of Collier's analysis, but it is important to point out that his thesis has come under a great deal of criticism in the past. See, for instance: Cramer, 2002; Fidler, 2002; Marchal & Messiant, 2002; Nathan, 2005.

of simple and quasi-mechanical answers to difficult questions, such as how to reconstruct post-conflict societies, and how to promote sustainable development and peace in war-torn regions. It also tells us that, as a mechanism of conflict prevention, the KPCS cannot stop conflict altogether. It can, to a certain degree, prevent future rebel movements from using diamonds to finance their activities, which in some cases can prevent them from growing beyond unarmed dissent. However, peace is more than just the absence of war, and the danger exists that we uncritically or unknowingly reproduce or leave pre-war social structures and root causes of societal conflict untouched, with the risk of having to start all over again some years later. Therefore, additional and well designed efforts are needed to prevent dormant conflicts reigniting. With regard to diamonds, this necessitates that specific attention be given to those regions where diamonds are mined artisanally. If properly regulated, artisanal mining represents a possibility for change, growth, and sustainable development, and thus has the potential to significantly reduce the risk of conflict.

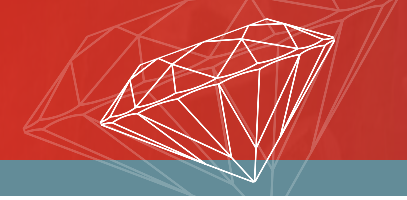
Artisanal (diamond) mining

Locating the sector

Broadly speaking, the term artisanal and small-scale mining (ASM) refers to the mining activities of small groups (whether integrated into a cooperative or not) and individuals, who use little basic mechanized equipment. Artisanal diamond mining (ADM) predominantly occurs in Africa, where it is usually part of the informal sector, existing in what Bayart has called *le pays réel,* rather than the *le pays legal*.

Governments deal with these issues in a widely differing manner: in some countries, ASM is completely forbidden whereas in other countries specific provisions exist within national legislation to support ASM activities (although sometimes only entailing small-scale mechanized mining). The terms 'artisanal' and 'small-scale mining' are often used interchangeably (as will be the case in this study) since, apart from the obvious distinction, a generally agreed upon set of criteria to distinguish between them does not exist.

In many developing countries, artisanal and small-scale mining plays an important economic role. Given the informal nature of the activity, and the generally weak capacity of local governance structures, specific numbers are hard to come by, however. Communities and Small-scale Mining (CASM), a multi-donor initiative based at the World Bank, estimates that between 13 and 20 million men, women, and children from over 50 developing countries are involved in ASM activities. In addition, up to 100 million people are more or less dependent on this sector for their livelihoods. These numbers continue to rise, a growth which is expected to continue in line with the rising prices for natural resources as part of the growing demand of emerging economies. Resources that are being mined in this fashion include all sorts of gemstones, gold, industrial minerals and coal (CASM, 2008).



Artisanal mining is an activity that requires a lot of physically demanding work, depending on the amount of mechanization. This form of mining is also not very efficient, in exploitation as well as during the processing. This means that recovery percentages are not as high, although these can be elevated by using some mechanical processing equipment. It also means that artisanal mining is often responsible for environmental degradation. This is especially the case with gold mining, which frequently uses toxic mercury. Working conditions in the mines are poor as occupational safety and health care are very limited, and the income generated often verges on what is abstractly described as 'extreme poverty'. The latter is related to the sub-economical nature of many alluvial deposits, but is also accounted for by the specific structures of the ASM diamond value chain.

The organisation of ADM

The artisanal diamond sector is organized in a highly complex manner. It is not 'chaotic' as is often suggested, but has its own logics and structures, which can differ from region to region. Generally speaking however, the basic structures are similar in many countries. The diggers are obviously the ones doing the hard labour, after which the gravel they unearth is washed by others. These are usually guarded by a watcher, in order to prevent theft of gravel, diamonds, or equipment. Diggers and washers are the people situated at the lowest level of the value chain. Depending on the arrangement, they see very little return, and are, together with disempowered groups such as women and children, the most vulnerable people in artisanal mining. When mining is done in river beds, divers are frequently employed. As this is the most dangerous job in ADM, they usually earn substantially more than common diggers.

Higher up the value chain are the miners. When diggers are not working on their own or are not self-organised in a 'gang', the miner supervises mining activities, and deals with license-holders/local chiefs, or supporters (these can also perform the function of miners themselves). These supporters are crucial to artisanal operations. They financially support diggers/miners, most of them hoping that their clients will then in turn come to them with the diamonds they find. Considering the fact that formal agreements are the exception, trust and a sense of obligation are essential to these unstructured relationships, which are subject to the specificities of client-patron relationships in general. Apart from food, equipment, and money, supporters may also provide other benefits to their clients, allow them a percentage (pre-agreed or not) of the diamond's wealth, or a portion of the gravel that is mined.

Deception is a common issue in these relations, as is the obligation to pay bribes or all sorts of 'taxes'. Lack of knowledge, social protection and financial capital (this is particularly the case for diggers) easily allow for exploitation and duping by those higher up in the value chain, with illicit mining further increasing the power of shady businessmen. Miners and diggers do have some sense of leeway though, as

they can cheat their supporters, or do business with multiple supporters at once, increasing their independence and making them less tied than is sometimes suggested. Also, as with other historical examples of client-patron relationships, socially linking yourself to wealthier and more powerful members of your community is often more than a simple business calculation but instead a deliberate strategy designed to strengthen livelihood assets and reduce vulnerability to shocks, at the cost of sacrificing a degree of personal independence.

This form of organisation is not intrinsic to artisanal diamond mining, but rather the result of a historical process and a combination of political, cultural, and socio-economic elements. Different forms of organisation that strengthen the bargaining power of miners and diggers exist today (as will be demonstrated in the chapter on Brazilian 'garimpeiro' cooperatives), and have existed in the past. Long before the consolidation of South Africa's diamond mines by Cecil Rhodes, some kind of 'digger democracy' existed among white South African diggers. Members of 'digger committees' were elected by their peers, and defended the interests of their community in clashes with landowners. They insisted on the right to mine wherever they wanted, after the payment of a license fee, and managed to place a limit on the number of claims one man could hold, in order to protect small diggers and to prevent big mining companies from taking over. However, it also had a xenophobic element, in that they feared competition from black diggers and were determined to restrict their mining activities (Meredith, 2007). Nevertheless, it shows that diggers can unite successfully, without having to give up their independence. Of course, the main difference with the current context in many countries is that there were no discussions of claims or ownership: it was clear who owned what, and the diggers were mainly interested in having a single voice to express their interests.

Easy to loot and smuggle, and their damaging socio-economic impact

A special concern with regard to artisanally mined diamonds is their high degree of 'lootability', making the small but precious stones easy to mine, stash away and smuggle, thus allowing them to be used relatively easily for funding rebel movements (Lujala, Gleditsch, Gilmore 2005; Ross 2003). Illicit cross-border trade is particularly important, whether this happens because official prices are too low in one country, because an overvalued currency and high inflation depress the effective price, or simply because traditional trading routes are being used. Apart from encouraging miners and diggers to join the formal economy, which is key in trying to 'solve' the ASM diamond equation, international cooperation between neighbouring countries can prove very helpful. Harmonizing taxes is one way of doing this, by directly tackling one of the main motivations for smuggling.

Tackling cross-border smuggling is an even more daunting task when a diamond mining

zone is intersected by national borders. As can be concluded from the chapter written by BRGM in this study, given the often porous nature of African national borders, and the fact that artisans regularly move from one side of the border to another, cooperation between the national governments involved is essential. A very interesting example of this dates back to the pre-Kimberley days, when the presidents of the Central African Republic and the Republic of Congo signed an agreement to jointly develop the mining resources in their border regions. An area of 26,320km2 was delimited for this purpose. The initial agreement was signed by presidents Sassou-Nguesso and Patasse on the 25th of February 1998, but the plan was eventually abandoned.

Mining activities also cause great stress to the social fabric of mining areas. A highly-mobile population, many artisanal miners are economic migrants, from both within and beyond a country's borders. Conflicts frequently erupt between artisans, local communities, and the authorities. In Madagascar, illicit sapphire diggers have come into conflict with the local Bara community, who regard the diggers as desecrators of sacred lands. Diggers have also come into conflict with government authorities for mining inside the Isalo National Park: among diggers, the belief had spread that the best sapphire deposits were located inside the Park, that this was the reason why it was a National Park in the first place, and that the director (who had to be transferred after repeated death threats) personally knew the location of the biggest and best deposits (Duffy, 2005).

In many artisanal mining communities, the quick gains associated with 'rushes' have given rise to a number of socio-economic problems, such as lack of attention to children's education and the disintegration of existing social structures and norms. The frivolous spending culture in mining areas, rooted in the fact that very few people value money because one day they have nothing and the next they are 'rich', often leads to conspicuous consumption on alcohol, drugs, and prostitutes, which further accounts for the spread of HIV/AIDS in these communities.

Artisanal mining can also have a detrimental impact on non-mining sectors of the economy. Often cited is the agrarian decline of Sierra Leone during the APC years (1968-1991), usually linked to the homogenisation of the economy around diamonds, and dependence on imported rice. However, relatively little academic attention was devoted to understanding how small-scale agrarian producers have reacted to demands for food on a micro-level, particularly in the diamond mining areas. In the case of Sierra Leone, it became apparent that mining and agriculture dovetailed, with mining being undertaken in the dry season and farming being dominant in the rainy season. Field research in the 1970s already has shown that the stereotypical view of a negative impact of diamond mining on farming, was actually far from the truth. Farming communities were producing large crops of food for sale to the miners and diggers, reinvesting their earnings in their homes, families, and in the expansion of cash crops. They had adapted to mining activities, and had been gearing their production strate-

gies towards satisfying demands in the mining areas, which stimulated the development of periodic markets (Maconachie & Binns 2007a).

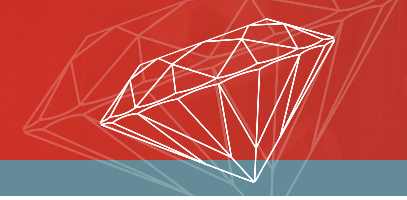
Recent research has also suggested that, despite the dislocation effects of the civil war, many of the links between mining and farming have been sustained, including the seasonal mobility. After the war, the numbers of part-time miners in farming communities had noticeably increased, as many people saw mining as the only hope of financing the reconstruction of their livelihoods (Maconachie & Binns 2007a). Such persisting linkages, with farmers responding rationally and spontaneously to the demand of food from mining populations, point at the local capacity of diversifying livelihood options and could play a pivotal role in rebuilding the local economy by strengthening the economic capital of rural households. Effectively controlling the mining and marketing of artisanal diamonds could further guarantee the channelling of a higher proportion of the benefits to these communities.

An opportunity for development

As the previous example indicates, despite important challenges, ASM nevertheless inhibits the potential for wealth creation and the provision of a livelihood to millions of people, enabling them to survive in difficult circumstances, and often leading to the development of surrounding communities. With regard to diamonds, this challenges the stereotype of artisanal diamond miners/diggers as young, male, economic migrants (and probably ex-combatants) inspired by greed and the 'casino' mentality. Advocacy groups have sometimes reverted to rather Hobbesian descriptions of the artisanal mining communities, essentialising their subjects as potentially dangerous rebel thugs, ready to turn to violence once again. Research in Sierra Leone's diamond mining areas has shown that this stereotype does not apply to the majority of people active in the sector, who are using ASM as a way of building social, financial, and physical capital. For them, it is a rational strategy for coping with a high-risk environment in a weak local economy with few viable livelihood options (Levin, 2005). By providing work to a large and uneducated working force, ASM is thus responsible for security and income, lowly as it may be, to populations that are otherwise stuck in unemployment and thus marginalized in the formal economy (BRGM, 2005).

State responses

Due to the often informal nature of ADM, which is making meaningful taxation a difficult task, revenue-concentrating modes of exploitation such as industrial mining in combination with trade monopolies were often presented as the best ways of ensuring government rents and sustaining political stability (Le Billon, 2008). But while highly 'lootable' resources such as diamonds have played their well-known roles in civil war, in non-conflict situations, they actually end up producing more widespread benefits for local people than do 'unlootable' commodities (Ross, 2003).



Although in most countries, ADM originated as an illicit activity, mining booms can also be a direct result of specific policy changes. In Tanzania, for example, the government ended the State Mining Company's monopoly in the late 1980s, allowing everyone to register a claim and sell minerals, including diamonds. It also liberalised currency controls, making mining more profitable. The outcome of these reforms was a remarkable expansion of the mining sector, increasing the number of large mining companies and artisanal and small-scale mining operations as well as the number of claim holders. Further, the reforms stimulated growth in mineral settlements and towns, and promoted auxiliary service activities. This boom has also given rise though to the usual tensions between mining companies, communities, and artisanal miners, as well the social and environmental issues that have come to be associated with (artisanal) mining (Kulindwa, Mashindano, Sechambo, Sosovele, 2003; Phillips, Semboja, Shukla, 2001). In addition, it has been suggested that the institutionalization of mineral titles conceals social and power relations within mining communities that could perpetuate unequal access to resources (Fisher, 2007).

In the former Zaïre, in a move specifically aimed at 'combating clandestine exportations' by growing numbers of artisanal miners, the artisanal exploitation of gold and diamonds was liberalised in November 1982 (Journal Officiel de la République du Zaïre, 1982). Combined with the ending of the De Beers diamond export monopoly one year earlier, a 'rush' quickly followed, and the number of *comptoirs*, where diamonds were sold, rose dramatically from two to sixteen in the space of one year. Although it is unclear how many diamonds were still being smuggled out of the country, diamonds accounted for 47.9 per cent of the total value of Zaïrean exports in 1996. It is estimated that about 70 per cent of these were mined by *creuseurs* (Thibanza & Thsimanga, 1985; Misser & Vallée, 2001; Dietrich, 2002).

Although a formalisation of the artisanal sector includes a potential increase in government revenue, the current non-measurable impact is already more than considerable. Indeed, for many communities, artisanal mining is the only available livelihood that stands between them and destitution. Compare this, for example, to the situation in a wealthy country such as the United States: outside of the quiet town of Murfreesboro, Arkansas, diamonds were discovered in 1906. A diamond rush quickly followed, and the tent city of Kimberly (!) was set up between the town and the diamond field. Today however, nothing remains of the tent city, and in 1949 part of the diamond field was first opened to the public, which was welcome to search for diamonds in return for a small fee. The state of Arkansas bought the land in 1972, and the 'Crater of Diamonds State Park' is now a tourist attraction, with fields regularly being plowed to bring diamonds to the surface, and with park staff providing free identification and certification of diamonds found by these one-off diamond diggers (Crater of Diamonds State Park, 2008).

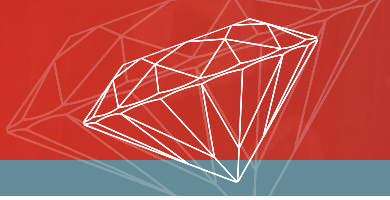
Given the enormous numbers of people involved in artisanal and small-scale mining, governments are becoming increasingly aware of the sector's importance as a means of poverty alleviation and sustainable development. They are formally recognizing the sector more and more, and are attempting to provide facilitating environments, encourage rural development, and diminish the negative aspects surrounding the sector. However, such efforts remain problematic, especially at the local level, and many miners have little faith in the ability or commitment of their governments to provide assistance.

Growing attention from other actors

Similarly, during the past 10 years, ASM has begun to appear on bilateral and multilateral donor agendas and assistance programmes, consistent with the global shift towards poverty alleviation (Hentschel, 2003). Notable in this aspect is the multi-donor CASM initiative, which aims to be an instrument for coordinating experience, exchanging information, and channelling funds for ASM-related development activities. Since ASM encompasses a very broad spectrum of economic, social, environmental, and security issues, it allows for a multitude of entry points for policy (such as income generation, combating corruption and increasing transparency, institution building, conflict prevention) and can be a conduit to address a broad range of developmental concerns. At the forefront of these, are the Millennium Development Goals (MDGs), which can all be directly connected to artisanal mining. Not surprisingly therefore, CASM organised a conference in 2005 specifically devoted to how ASM can help achieve the MDGs (CASM, 2005).

This is not to say that ASM has been all but ignored until very recently. Previous interventions in the ASM sector were mostly the work of geologists dealing with specific issues though, as opposed to the more holistic development approaches being developed/implemented today. For example, before the term 'conflict diamond' was coined, the French geological survey BRGM was busy supporting artisanal diamond diggers in the Central African Republic (1996-1998), trying to improve efficiency and promoting new methods and techniques (BRGM 1999, 2004).

In other words, the present concern for artisanal mining is an issue that has only recently come to the attention of a broader public. This is even more so for artisanally mined diamonds, which for a long time, it can be argued, were as discreet as the industry that traded them. Aside from some specific monographs, such as Peter Greenhalgh's (1985) economic history of West African diamond mining and trading, Alfred Zack-Williams' (1995) social history of artisanal mining in Sierra Leone, and some specific academic papers, relatively little has been written about artisanal diamonds, especially from a developmental perspective. The widespread story of how diamonds helped finance and prolong conflicts in the developing world was what really brought the diamond industry into the spotlight, by means of popularised books,



BOX 1 - THE DIAMOND DEVELOPMENT INITIATIVE

Of particular interest has been the foundation of the Diamond Development Initiative (DDI) in 2005. The DDI aims to bring governments, NGOs, and the private sector together to tackle the social, political, and economical problems of artisanal diamond mining, with the clear goal of optimizing the beneficial impact this can have on miners and their communities. This by "drawing development organisations and more developmentally sound investment into artisanal diamond mining areas, to find ways to make development programming more effective, and to help bring the informal diamond mining sector into the formal economy". In 2006, the DDI published a very influencing report on the artisanal diamond industry of Sierra Leone, with a particular focus on revenue flows. The report examined how diamonds amassed wealth, travelling from the mine to the point of export, with the aim of trying to find out why these prices change so rapidly, and what could be done to ensure that the actual diamond diggers benefit more from this wealth. The authors listed a number of reasons why diamond diggers did not earn nearly as much as they might. These included but were not limited to local economic stagnation (capital flight, homogenization of the economy around diamonds, absence of alternative livelihoods) and the frequent duping of diggers (lack of diggers' ability to negotiate fair prices, large disparity of expertise of the different parties in the value chain, necessity of trust, unequal justice system promoting dishonesty) (Levin & Gberie, 2006). More recently, the DDI published a 'Standards and Guidelines' document, detailing specific information for Sierra Leone government officials, foreign investors, donors and local and international civil society organizations on how to interact with the Sierra Leonean ASM diamond sector, fitting into DDI's long term plans for development and better returns to artisanal diamond mining communities (DDI, 2008). The DDI is planning to publish a similar document relating to ASM diamonds in the DRC.

movies, and more specialised research papers. Although this literature evidently discussed artisanal diamonds (since it was precisely these that were 'conflict diamonds'), attention seemed to be directed mainly towards the wartime human rights abuses and the effects of the famed 'resource curse'. Only quite recently has academic research begun to appear that deals directly with artisanal diamond mining as such, and the impacts and developmental implications of this kind of activity.

Other than that, most research on artisanal diamond mining has been carried out by NGOs and independent researchers. A very influential report, jointly published by Global Witness (GW) and Partnership Africa-Canada (PAC) in 2004 put the spotlight on what they called "the potential for change in the artisanal alluvial diamond fields of Africa". Diamonds have been responsible for growth and development in countries such as Botswana, Namibia, and South Africa, and the report argued that governance reforms could accomplish similar feats in Angola, the DRC, and in Sierra Leone. It pointed to the huge obstacles to such reforms such as the high levels of corruption, bad governance practices, and particularly the vast mark-ups that occur when the diamond first leaves the sieve of the digger, leaving him with

just enough to survive while those above him in the economic pyramid gather enough to live comfortably (PAC & GW, 2004). Notable also have been the 'Diamond Industry Annual Review' reports commissioned by Partnership Africa-Canada (PAC). Often in cooperation with local civil society, PAC started this project in 2004, with the aim of "examining the diamond industry in the three countries most affected by conflict diamonds: Sierra Leone, Angola, and the Democratic Republic of the Congo", and more specifically to enable comparisons and benchmarks in order to measure progress from year to year.

'Fair trade' and 'development' diamonds ?

A recent development has been the idea of 'fair trade' diamonds. Although some minor retail companies market their diamonds as being conflict-free, produced in an environmentally sound context or without contributing to human rights violations and child labour, these diamonds are almost always mined in industrial mines outside of Africa. Some of these companies even go on to claim that their (non-African) diamonds are also helping African development, by earmarking a few percentages of the profits for funding NGOs and development initiatives. The actual impact of these charity donations is questionable, and the whole idea begs the question why diamonds from, say Canada, are supposed to be better for African development than supporting and formalizing Africa's own ASM diamond sector. Referring to the aggressive branding of 'bloodshed free', or 'pure' diamonds, Le Billon argues that the lasting effects of the campaign associating diamonds with violence (a far broader category than 'civil war'), "may not be ethical consumption, but rather a strong dystopian vision of Africa and legitimated position for large 'reputable' (western) companies over smaller local and regional African operators" (Le Billon, 2006).

Far more interesting however, is the prospect of *third-party certified* 'fair trade diamonds', similar to well known existing commodity labelling schemes such as 'fair trade' coffee. This label could carry with it a warranty that the diamond in question was produced at an artisanal mining site where certain standards of environmental and working conditions were met. The added marketing value of these diamonds could be translated into a slightly higher price, giving consumers a guarantee that this will directly benefit the mining communities themselves, for instance through the setting up of special development funds, transparently managed by elected representatives of the associated communities. If successful, this could then create a snowball-effect by providing clear incentives to non-associated mining communities towards self-organization and compliance with national legislation, in the hope of joining the scheme. It could do away with the massive mark-ups of middlemen, and by keeping the majority of the diamond value inside the country, it could trigger the development of a more heterogeneous economy. Transfair USA, the US member of the Fairtrade Labelling Organisation (FLO), is currently investigating

the possibility of fair trade certification for diamonds, be they mined artisanally or industrially. (Transfair USA, 2008).

In a similar move, a number of diamond companies, both on the mining and on the retail side, as well as jewellery manufacturers have also begun to get engaged with 'development diamonds', either on a joint or individual basis. A recently published study for the Madison Dialogue, a cross-sector initiative of private companies and civil society organisations seeking to promote sustainable development and verified sources of gold, diamonds, and other minerals, provides an overview of this multitude of smaller and larger initiatives (Hund, 2008).

It is of the utmost importance that these initiatives aimed at improving government oversight over artisanal miners, at supporting artisanal diggers and miners or at creating true 'development diamonds', are incorporated into broader development and poverty reduction strategies. Otherwise, this would expose an inherent paradox: if these initiatives succeed in creating islands of prosperity in seas of destitution, ASM will simply become even more popular, reducing the net effect to zero. This is an important issue, especially in countries that are still in a post-conflict reconstruction process. Artisanal diamond mining can only prove to be a sustainable livelihood if it is one of many drivers of development and growth. Restoring agricultural production and other alternatives is of utmost importance to allow people to leave an overcrowded ASM sector, and enable them to choose their preferred livelihood. The success of one sector is therefore dependent on the successful development of other, interlinked, alternatives. There is a further reason why this is particularly important. Unlike in the world of marketing, diamonds are not forever. As with all natural resources, it is a finite one, and economies must be prepared to offer alternatives to former artisans in the near future. This of course varies largely from country to country, but it is something that must be taken into consideration. In Sierra Leone, for example, traditional artisanal mining areas are showing a decrease in productivity. This forces people to mine deeper to yield satisfactory results, involving greater risk and investment. In time, this will lead to consolidation of Sierra Leone's ASM diamond sector into small-scale mechanized operations, as the viability of artisanal mining will decline. Diggers and small-time miners will be squeezed out of the changing industry over time, looking for yet unexploited mining areas or for other livelihoods (Levin, 2005).

The Kimberley Process and artisanal/alluvial diamonds

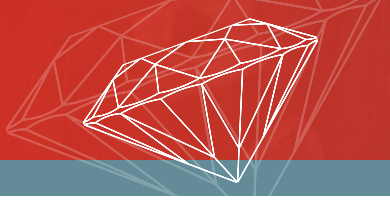
The success of the KPCS depends largely on the actions of its participants. The Kimberley Process has a number of minimum requirements, to which each participant must adhere. These requirements are incorporated by the participants and codified in their national legislation. To ensure that no potential conflict diamonds enter the legitimate diamond trade, each participant is responsible for controlling

the exploitation and/or trading of rough diamonds in its territory. When diamonds are exported, participant countries issue a standardized KP-certificate authenticating the origin of the diamonds contained in the package. In other words, internal controls are the key to the KP's effectiveness.

This study deals with the difficulties that some countries encounter with regard to their internal controls. These difficulties are mainly geological in nature, but are further confounded by political and socio-economic issues that are themselves closely related. Introducing and maintaining strict internal controls is fairly easy to implement in countries where diamond mining is undertaken by large companies working on kimberlite deposits, as is the case in Botswana for example. However, in countries where diamond mining takes place in alluvial diamondiferous fields and where diamonds are spread over a large area, controlling exploitation and verifying the origin of diamonds is anything but obvious. Mining for diamonds in these areas is often a sub-economic activity, and (more or less easily controlled) large-scale mining companies are therefore absent. Instead, these areas are home to artisanal and small-scale mining (ASM) endeavours.[2] More often than not, these miners (and their miner bosses and supporters) operate outside of the formal economy, making government oversight a very difficult task. In addition, artisanal diamond mining is mainly a poverty-driven activity. Large numbers of people are digging for diamonds because it is often the only livelihood available to them. To put it bluntly, there is no sense in trying to stop people from mining, if that is one of the only options they have to keep alive, even more so when everyone knows that the chance to escape poverty lies just a few metres beneath their feet. For instance, when the UN sanctioned embargo of Liberian diamonds created additional hardships for those trying to make a living with diamond mining, many shifted to artisanal gold production, which rose markedly during that period (UNSC, 2002).

Related to that, many nations in which ASM diamond mining occurs have recently witnessed brutal civil wars, and are in the process of reconstructing their societies. The state, therefore, is relatively weak, and has often not the capacity needed to enforce relevant legislation. Even in countries that have not witnessed protracted conflict situations, state capacity remains alarmingly weak, especially when the mining takes place in remote locations. In addition to these difficulties, national borders intersect a number of diamondiferous areas. These transborder mining areas pose yet another set of problems, such as increased incentives for smuggling (whether or not through trading routes that are centuries old), especially when taxes are lower on the other side of the border, as well as the crossborder movement of artisanal miners and diggers, driven by poverty and the hope of a better life.

2 While artisanal diamond mining usually takes place on alluvial diamond deposits in which large-scale mining companies have little interest, some kimberlite deposits are also being exploited in an artisanal fashion, for example the MIBA-concession in the DRC.



BOX 2 - THE CASE OF SIERRA LEONE

The case of Sierra Leone is a good example of how good governance, or the lack thereof, is of fundamental importance in making artisanal mining a formal part of the economy. Quite soon after diamonds were first discovered in 1930, a few bad harvests prompted people to start mining. This mining was illegal, because the colonial government had just granted the Sierra Leone Selection Trust (SLST) a 99 year monopoly on diamond mining, thinking this was the best way to maximise government profits and to counter informal indigenous mining. Government and SLST efforts did not manage to stop artisanal mining however, and by the 1950s illegal digging and dealing were increasingly interpreted by local people as acts of resistance against colonial and corporate domination. When it became clear that these illegal activities could not be suppressed, the SLST surrendered its country-wide monopoly (while maintaining exclusive access in some areas) and in 1956 the Alluvial Diamond Mining Scheme (ADMS) was implemented. Though far from perfect, the ADMS did manage to legalize and decriminalize artisanal production. After independence, artisanal mining continued to be conducted in a mostly legal fashion, until Siaka Stevens' APC (All People's Congress) government took office in 1968. The APC's autocratic rule led to the government Gold and Diamond Office (GDO) to start discriminating against indigenous miners in the early 1970s, in favour of APC-linked Lebanese dealers. Undervaluation of stones gave miners an incentive to start selling their diamonds outside of official channels, while those that chose to remain within the law transferred the cost down the chain, paying diggers less and encouraging them to find better paying options. Smuggling rapidly increased, and illicit mining soon became the norm again (Greenhalgh, 1985; Levin, 2006).

It is with these concerns in mind, and knowing that conflict diamonds are by definition mined in an artisanal fashion, that in November 2007 a new working group was created inside the Kimberley Process: the Working Group on Artisanal and Alluvial Production (WGAAP). The WGAAP was the natural evolution of an already existing (ad-hoc) subgroup of the Working Group on Monitoring charged with addressing the challenges facing alluvial producers. The new working group was specifically mandated to ensure the effective implementation of the Moscow Declaration on improving internal controls over alluvial diamond production, adopted at the 2005 Moscow Plenary meeting of the Kimberley Process. The Moscow Declaration firmly acknowledged the importance of ASM diamond mining, stating that it fully endorsed *"the finding of the subgroup that effective internal controls in alluvial mining areas are crucial to the overall effectiveness of the KPCS in preventing conflict diamonds from entering the legitimate diamond trade"*. In order to promote concrete steps toward more effective controls, the Moscow Declaration went on to identify a number of key recommendations to ensure traceability of production from mine to export, to regulate the mining itself, to regulate the trade in ASM diamonds, to tackle illicit cross-border trade, and to encourage artisanal miners to move into the formal economy (Kimberley Process, 2005, 2007). This last issue is particularly important, since there has to be a clear advantage for miners and diggers

to do this. To them, everything works just fine the way it is now. It is up to the government to provide them with incentives to join the formal economy.

At the Gabarone Plenary in 2006, where the recently published report of the UN Panel of Experts on Côte d'Ivoire (which claimed that Ivorian 'conflict diamonds' were being introduced in the legitimate diamond trade by way of Ghanaian KP-certificates) was extensively discussed, it became clear that the lack of well-organized and implemented internal controls in some countries caused a serious threat to the integrity and effectiveness of the KPCS. These concerns prompted the Belgian Federal Public Service of Foreign Affairs, Foreign Trade and Development Cooperation to commission a scientific study on artisanal diamond mining.

The Egmont Artisanal Diamond Mining Project

This study was commissioned to the Central Africa Programme of Egmont, the Belgian Royal Institute for International Relations. Two main and closely connected objectives were being decided upon: to examine different strategies and possibilities to *strengthen internal controls in artisanal diamond producing countries*, and at the same time examine how people at the lowest levels of the pyramid (the thousands of diamond diggers working in the murky mining pits, as well as their communities), could benefit more from the riches they daily dig out of the ground, thereby *encouraging the positive role that ASM can play in driving rural development*. The aim of this research project was to illustrate and analyse the complexity of the sector, without trying to reinvent the wheel, but by building on existing as well as specially commissioned research from experts in the field, and to develop concrete and operational policy recommendations for international development institutions, donors, and national governments. The research project did not have a specific regional focus, although it should be noted that over 90 per cent over world artisanal diamond production originates in Africa, this also being the continent where the positive effects of a well organized ASM sector would be most noticed.

Several issues, although important, are not specifically addressed in this study, including gender and child labour. Nevertheless, the authors do not want to neglect the fact that a large number of women are directly or indirectly involved with artisanal (diamond) mining: as miners, as supporters, as providers of all sorts of services in mining communities. Since inequities in political power, distribution of income, capital assets, and access to education and information have resulted in the increased susceptibility of women to chronic poverty, enhancing the role of women in artisanal mining is not to be overlooked when drafting reform strategies (Hinton, Veiga, Beinhoff, 2003). A similarly vulnerable group is children, who often work as diamond diggers. The International Labour Organization is active towards 'keeping minors out of the mines', in the context of its work to stop the worst forms of child labour.

The two case studies in this report dealing with actual interventions in the ASM diamond sector, have been chosen specifically because the projects discussed have concluded (the IDMP) or have been going on for quite some time (D4D). Of course, these are not the only international initiatives dealing with organizing artisanal miners, nor are these limited to nations in which 'conflict diamonds' have played a role in sustaining devastating civil wars. USAID, for example, is currently sponsoring a pilot project in Guinea and the Central African Republic. The 'Property Rights and Artisanal Diamond Development' programme (PRADD, or DPDDA in French) is trying to strengthen internal controls and improve poor working conditions by strengthening property rights, thereby trying to put an end to insecurity and enforcement of prices by middle-men, and incentivising *chefs de chantier* (miners) to maintain legally proscribed production records, making enforcement of this legislation a less arduous task for government officials. The project was launched in April 2007, and is being implemented in three pilot zones in the southwestern region of the country. In the first year, a participatory rural appraisal was conducted, as well as surveys on miners and mining sites. A property rights claims registry was developed, and linked to production information in a GIS-database. These claims will be validated with the respective communities in the second year of the project. A workshop organised in Banankoro, the center of Guinea's principal ASM diamond zone organised in May 2008 marked the official start of the pilot project (USAID, 2007; ARD, 2008). And in Tanzania, the widely known Mwadui Community Diamond Project is being implemented. A cooperation between the Tanzanian Government and De Beers, which is still in its early stages, the project aims to improve the mutual understanding and cooperation of artisanal mining communities, and the De Beers-run Williamson Diamond Mine located nearby. The project will allow artisanal diggers from selected local communities access to the Williamson claim. Diamonds that are found can be sold to De Beers, where the first estimate of the value will be paid to the people selling the diamonds. When these diamonds are then sold by De Beers, the difference between the true and the estimated value of the diamonds will be put into a community-managed development fund. The project is nearing the completion of its preliminary phases, and is almost ready for implementation. However, De Beers intends to sell the Williamson mine to another mining company. The consequences of this deal for the Mwadui Project are as yet still unknown[3].

The organisation of the study

In the following chapters, the outcomes of Egmont's research project will be presented. The different parts of the study aimed at improving internal controls through the formalisation of artisanal diamond mining, and the providing of support to local artisanal mining communities. We are convinced that the same

3 Personal communication with De Beers

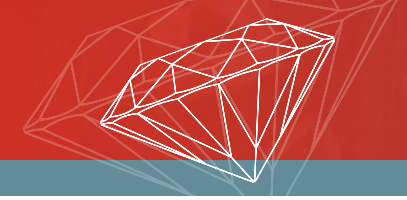
measures which are expected to strengthen the implementation of the Kimberley Process (and thus prevent diamonds from financing armed rebellions in the future) have the potential to also empower artisanal miners and diggers, increasing the already significant contributions of artisanal mining to local rural economies, and establishing artisanal mining as a recognised part of the international diamond industry. The different components of the study were undertaken by expert consultants, working on behalf of Egmont, who coordinated their research agendas. Preliminary results have been shared with a group of international experts, researchers, and representatives of the WGAAP at a special validation workshop held in South Africa, on 15-16 September 2008. It is on the outcomes of these discussions, that our conclusions and recommendations have been based.

As indicated before, transborder mining zones present an added difficulty for countries wishing to enhance their internal controls. In *chapter two*, this phenomenon is analysed in detail by the French geological survey BRGM, which provides us with an overview of how geological realities are intersected by man-made realities such as political borders, and the problems this leads to, including smuggling ad poor government oversight. The issues at hand are further illustrated by a case study on the Berbérati-Yokadouma-Enyele zone, which straddles the borders of three countries: the Central-African Republic, Cameroon, and the Republic of Congo.

Following this general geological overview, *chapter three* deals with one example of such a transborder mining zone: the Kwango/Lunda Norte zone in respectively the DR Congo and Angola. Written by Filip De Boeck, a professor of Anthropology at the Catholic University of Leuven (KUL) who has several years of experience doing field research in the Congolese diamond zones, the report provides us with an anthropological account of the influx of Congolese garimpeiros into Lunda Norte, and of the large-scale smuggling of these diamonds, which turned a town like Kahemba into a bustling trading place. Nowadays, Kahemba seems to be slipping back into increased poverty, and many Congolese are leaving the region to (re-)join their relatives in Angola, working in the mines, or trading petty commodities. Largely reliant on local testimony, the article thus describes the evolution of these mining and trading communities, and the significant impact that the ease of smuggling, and the later crackdowns, have had on their livelihoods.

The particular relationship between artisanal diamond mining and the Kimberley Process is further analysed in chapter *chapter four*. Written by Mark Van Bockstael, the current Chair of the KP's Working Group of Diamond Experts, this chapter analyses the options governments have for tracing artisanally mined diamonds from mine to point of export, and deals with the economic dynamics of artisanal diamond mining.

Chapter five specifically deals with the Latin-American artisanal diamond mining



sector. The Latin-American cases differ markedly from their African counterparts, and one of these differences is probably the most important issue of all: the kind of wages that can be earned from artisanal mining. Written by Shawn Blore, an independent researcher and journalist who has widely published on conflict diamonds and has visited many artisanal diamond producing countries, the chapter is based on a statistical analysis of data from the Brazilian and Guyanan governments, with the aim of identifying the 'mark-ups' that occur high in the value chain, determining whether the amount of profits has outgrown the boundaries of fairness and ethical business conduct. Venezuela was not included in this survey for methodological issues. Because of the fact that the Bolivarian government provides very cheap petrol to organized miners and diggers and diesel fuel accounts for a major portion of the cost of artisanal diamond mining, it would not be advisable or relevant to compare Venezuelan wages (with less charges deducted) with Brazilian and Guyanan wages.

Explaining the gap between theory and reality, the *sixth chapter* deals with the capacity of the state in Africa to actually implement legislation on the ground, and to effectively enforce this legislation. Written by the mining and sustainable development consultancy firm Wardell Armstrong (Kevin D'Souza and Emmanuelle De Pooter), the chapter focuses on state capacity with regard to controlling the mining of diamonds. Closely related to that, the *seventh chapter,* written by Nicholas Garrett, Estelle Levin, and Harrison Mitchel from Resource Consulting Service, takes up the issue started by Wardell Armstrong and considers the trading of artisanally mined diamonds. Based on a thorough analysis of the cases of the DRC and Sierra Leone, it offers suggestions on how to strengthen state capacities in controlling internal trade of diamonds.

In *chapter eight*, Shawn Blore discusses Brazil's highly successful diamond cooperatives, such as that in Diamantina. Taking into account the stories of failed cooperatives in Africa, Blore goes on to investigate why they seem to work in Brazil. It also discusses cooperatives in Venezuela, and suggests explanations for the lack of cooperatives in Guyana, although the diamond industry is dominated by Brazilian *garimpeiros*. The chapter provides some interesting food for thought with regard to future development programmes, suggesting that is not the cooperatives that have failed in Africa, but rather the way in which they were set up.

Chapter nine consists of a more general analysis of the options that post-conflict societies face in dealing with artisanal mining. Written by Philippe LeBillon, an Associate Professor at the University of British Columbia, and Estelle Levin, an independent researcher on the developmental aspects of artisanal and small-scale diamond mining, the chapter discusses the development and security concerns for the diamond sector. The chapter details how the artisanal diamond mining sector has been unduly identified as a major source of economic and political instability, and argues

for a reconsideration of the roles that industrial and artisanal diamond mining can play with regard to bringing growth and sustainable development.

In *chapter ten*, the focus is on the Ghanaian diamond industry. The chapter, written by Gavin Hilson of the University of Reading, details how the government-controlled GCD entered into agreements with artisanal miners, allowing them to mine on GCD concessions. The chapter also discusses the issue of smuggled Ivorian conflict diamonds, the threat of Ghana being 'dropped from the list' and the subsequent intensified controls by experts on behalf of the KP, and more importantly, what this has meant for Ghana's artisanal miners and diamond centres such as Akwatia.

The USAID-sponsored diamond sector reform in Sierra Leone, which was completed in December 2007, is analysed in *chapter eleven*. This long-running project, which was trying to radically reform the way artisanal diamonds are dug up and marketed, has long been seen as a typical failed development project. Paul Temple, former team leader of the project, provides us with a detailed overview of what went wrong, what went right, and why. *Chapter twelve*, written by Anna Van Nieuwenhuizen, focuses on the Diamonds for Development (D4D) project of the Government of Liberia and UNDP. Although the project has been around for quite some time, because of financial difficulties it has not yet reached the implementation stage.

Finally, a *concluding chapter* written by the editors will summarize the main findings, and integrate them with the recommendations of the Moscow Declaration, thereby encouraging more balanced recommendations, general in nature yet flexible enough to be easily adaptable to different contexts.

Transborder artisanal and small-scale mining zones in Central Africa: Some factors for promoting and supporting diamond mining.

Francis Barthélémy, Jean Michel Eberlé and Frédérik Maldan, BRGM[1]

Introduction

Despite the rising power of producing countries such as Canada or Russia, Africa remains the 'continent of diamonds'. In fact, Africa produced 74% of production historically and today contributes 53% of the world production of natural precious stones. Another distinctive point – more polemical – is that Africa has more than 85% of the world alluvial production, mostly artisanal. This mining activity is often located at the centre of regional conflicts in West Africa (Sierra Leone, Liberia, Côte d'Ivoire) or in Central Africa (the Democratic Republic of Congo or Angola).

However, the artisanal and small-scale mining (ASM), for the same reasons as all other artisanal mining activities concerned with resources of high cost but small volume, such as gold, sapphires or coltan cannot be reduced to a conflict-related activity. It also constitutes a development issue for disinherited populations, often on the borders of countries or in remote zones that are difficult to reach, poorly administered and thus prone to illicit practices. This situation is particularly exacerbated when the mineral zones straddle borders, thus differentiating the sectors where production is governed by practices and rules that are different because of the type of resources, the state of geological and mining surveys/reconnaissance, administrative rule as well as the historical background. In this chapter, this problematic will be illustrated using the ASM zone Berbérati-Yokadouma-Enyele (zone BYE) which covers an area of close to 133,584 square kilometres and straddles the borders of three countries: the Central African Republic (CAR)

1 in collaboration with L. Djama, Direction des Mines République du Congo, and J.S. Feigoudozoui and O. Matip, Direction des Mines Cameroun

(87,754 sq km), Cameroon (24,669 sq km), the Republic of Congo (21,121 sq km).

A first part will present the division of resources available as well as their type in the Central African context, in a zone covering Angola, the DRC, the Republic of Congo, the CAR, Gabon and Cameroon (see fig. 1). These case-studies make it possible to illustrate the diversity of situations that exist here: in the south, there are three of the world's principal producers both in volume and value; in the north, three countries with limited production can be identified (the CAR, Gabon and Cameroon). These last two countries with low but established production have only just started the procedure for membership of the Kimberly Process. Finally, to better understand the key factors of artisanal exploitation of alluvial resources in their regional context, as well as the necessary elements to be included in any trans-border approach, an historical panorama of the development of exports to the CAR will be presented.

In 2001, the three principal producing countries of this zone had a total alluvial production, estimated at 19,542,000 carats (Rombouts, 2001), which is approximately 82% of the world alluvial production of natural diamonds in volume. The respective part of each of these countries was 70 % for the DRC, 10 % for Angola 10% and 2 % for the CAR. For the three other countries, production outputs remain unknown. Figure 1 presents the situation of the principal trans-border zones as well as estimated alluvial production by volume and value in 2001.

The diversity of diamond resources found in this part of Central Africa is illustrated by the differences in quality of the extracted stones: the diamonds are mainly for industrial use in the DRC (US$ 30 average per carat) while the quality is mainly 'gem' in Angola (US$ 150 average per carat) and above all in the CAR (US$ 180 average per carat). The latter country has the particular characteristic of only having alluvial resources, which are exploited almost exclusively by ASM.

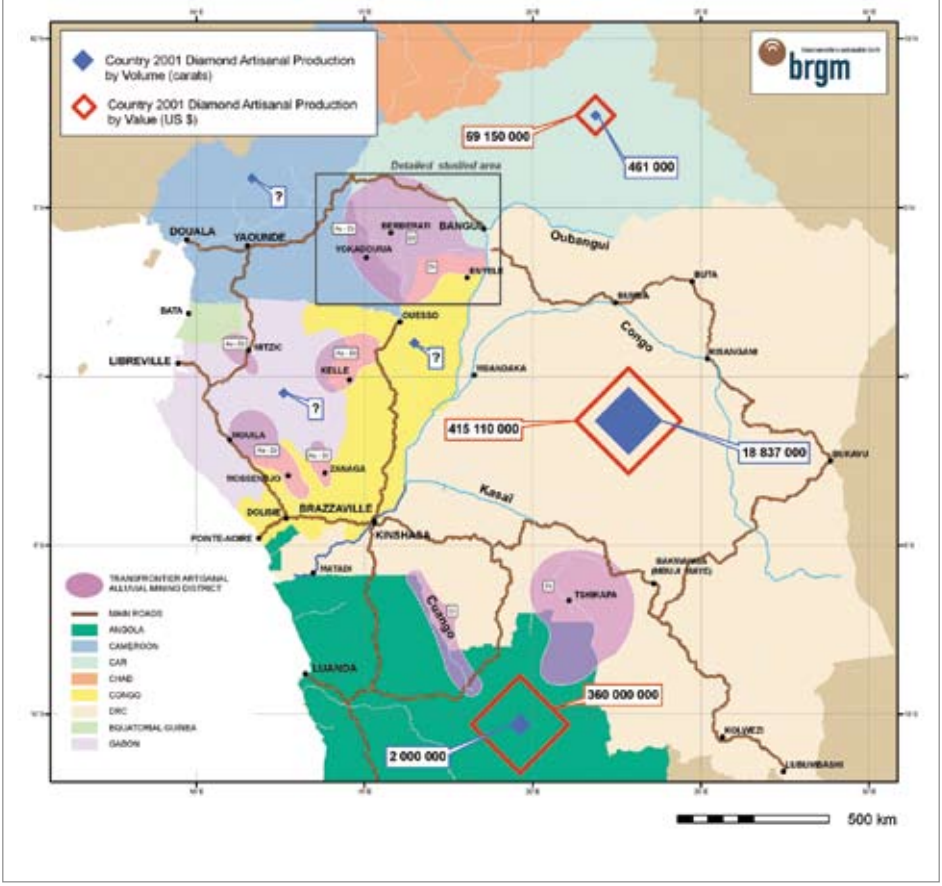
Distribution of types of diamond deposits in Central Africa

Diamond deposits in their geological context

Figure 2 presents the distribution of indications of diamonds (alluvial and primary) in their geological context in Central Africa. Several elements of control of these occurrences of diamonds can be noticed as we gradually 'zoom' in on the map:

- **Congo Basin:** the indications are found in a circle around this morphological mega structure, an arrangement that certainly is the result of the fact that the final sedimentary filling of this depression consists of sterile sediments but also because the flexure between the shelf and the basin is a good site for the formation of kimberlites (Bardet, 1970).

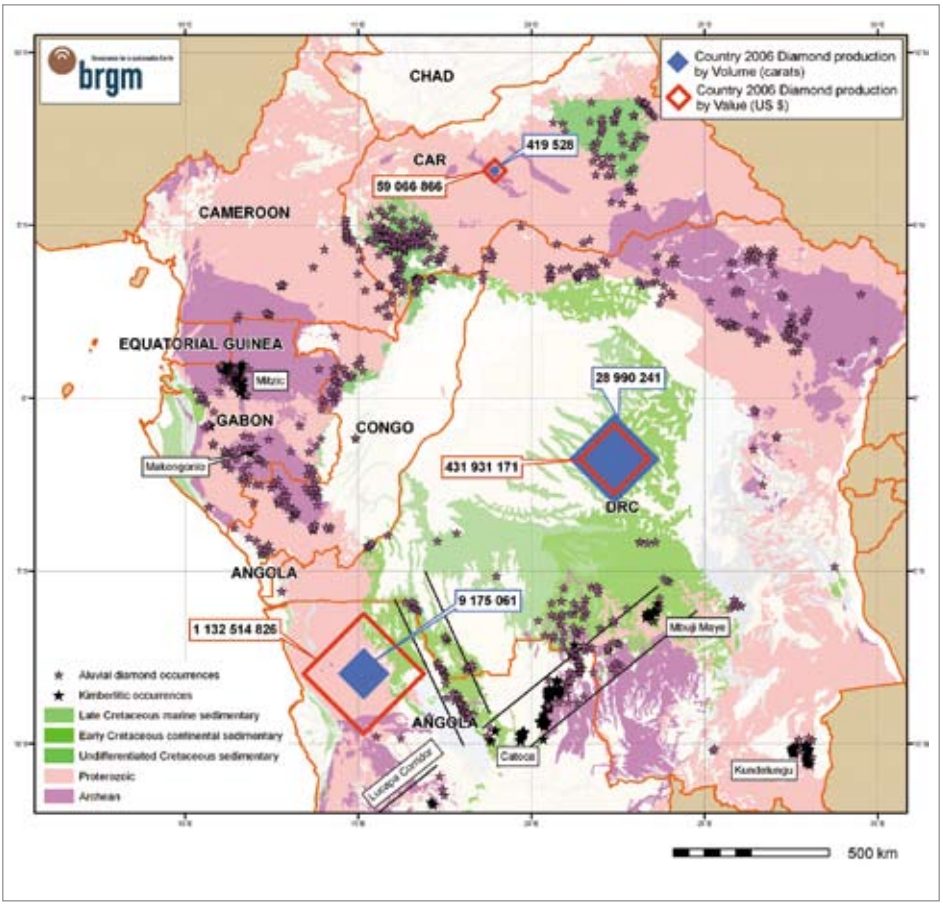
Figure 1: Division of trans-border alluvial mining diamond production in Central Africa
(source BRGM-SIG Africa)



- **Achaean and Proterozoic Areas:** there are several clusters of indications, in particular in the first mentioned that are the most ancient. Three clusters can be distinguished:
  (i) on the western edge of the basin: the Congo-Gabon-Equatorial Guinea-South Cameroon cluster including in particular the Mitzic and Makongonio zones,
  (ii) on the north-east edge of the basin: the DRC cluster and,
  (iii) on the southern edge of the basin: the Angola-DRC cluster, with a large alignment (Lucapa corridor) via Catoca in Angola and continuing as far as Mbuji-Mayi in the DRC.

These families of indications consist for the most part of diamonds that are

Figure 2: Distribution of diamond resources in Central Africa *(source BRGM-SIG Africa)*



found in alluvial deposits, but must be the product of fairly localised primary sources. This perspective is obvious when the diamonds are accompanied by minerals characteristic of kimberlites (magnesian ilmenite, pyrope garnet, Cr-diopside) and/or lamproites (pyrope garnet, magnesian chromifers). It is less obviously so when the diamonds are not specifically accompanied by the mentioned minerals, or in lesser quantities. But it must be remembered that the primary diamond deposits also include (c.f. fig. 3 simplified typology), apart from these classic deposits (kimberlites and lamproites), 'atypical' deposits that may consist of accumulations of diamonds of some quality, such as the ones that are exploited by artisanal miners/diggers in Ghana.

In the South, numerous classic deposits have been found in Angola and several in the DRC. In the other clusters, the situation is more complex. In the West, 'metakimberlites' are found in Mitzic (Gabon), dykes with a kimberlitic chemical composition, but transformed into talcschistes by metamorphism. Still in Gabon, but near to Congo, ultrabasic pipes are said to have been found near to the Makongonio plateau, but this information still needs to be confirmed. It is probable that future, prospecting will make it possible to identify other sources of atypical primary sources of diamonds.

In the East, the situation is less well known. Very recently, the zone was explored by De Beers after that mining company had searched in vain for the accompanying minerals in the DRC, the neighbouring country to the north. The results of this search in the DRC are not known.

- **Cretaceous Areas**: Several clusters of indications are linked to all cretaceous areas, including two to the north of the Congo Basin (West CAR and extreme Northern Congo, and Eastern CAR), and two to the south of the Basin (Cuango

Figure 3: Simplified typology of primary diamond deposits according to J.M. Eberlé

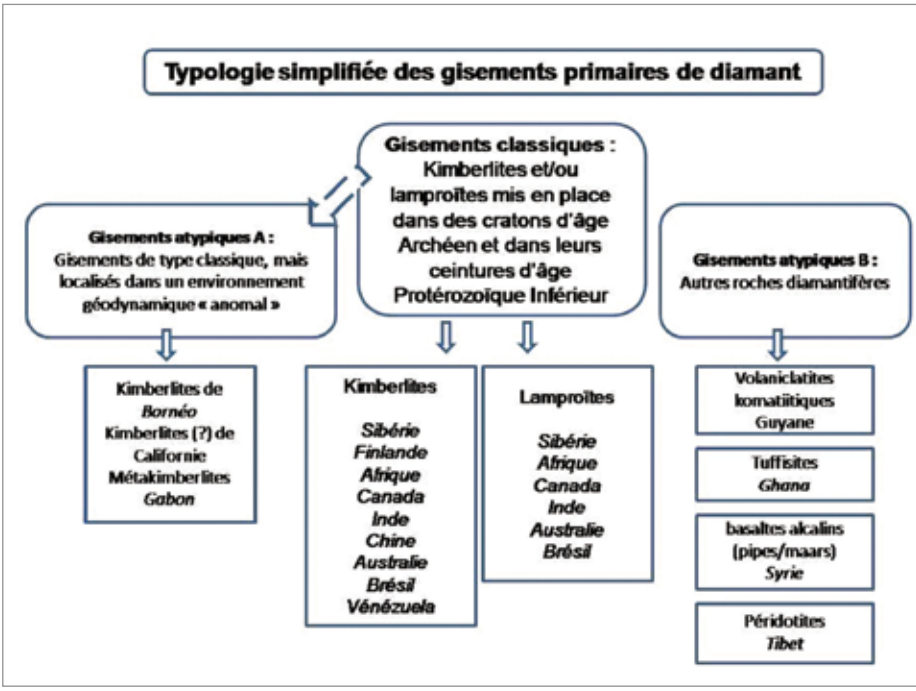


Table 1: Trans-border diamond producing zones in Central Africa				
Trans-border zone	**Country concerned**	**Border river**	**Alluvial resources**	**Total surface area (km²)**
Tshikapa	RDC-Angola	Tshikapa	Diamonds	114,650
Cuango	RDC-Angola	Cuango	Diamonds	31,327
Zanaga	Congo-Gabon	/	Diamonds & gold	8,214
Mossendjo-Mouila	Congo-Gabon	/	Diamonds & gold	35,178
Kelle	Congo-Gabon	/	Diamonds & gold	28,527
Mitzic	Gabon-Equatorial Guinea	/	Diamonds & gold	10,043
Berbérati-Yokadouma-Enyelé	CAR-Cameroon-Gabon	Mboumbe	Diamonds & gold	133,584

in Angola and Kasai in the DRC, and Bushimai or Mbuji-Mayi in the DRC). The first two are composed of occurrences of localised diamonds in or near to a series of sedimentary detritus and lacking in accompanying minerals. The deposits are also considered as alluvial deposits were the diamonds have been liberated by the sandstone detritus levels of Carnot (CAR West) and the sandstones of Moukka Ouaddah (CAR East). They are thus 'doubly secondary' deposits fed originally by primary sources of indeterminate type.

The indications and deposits of Cuango (Angola) and of Kasai (DRC) are equally alluvial deposits, but the origin of the diamonds is known and in these areas are accompanied by kimberlitic minerals: these are Cretaceous sandstones and conglomerates, and in one case as in the other, it is probable that fertile intrusions will be found. The indications and deposits of Mbuji-Mayi are of various types, alluvials more or less proximal, and even alluvials with a particular structure in the Bakwanga sector composed of large scale pipes surmounted by kimberlitic breccia sediments very widely spread and modified by layers of gravel.

The problematic of alluvial exploitation: alluvial deposits and their specificities

As we can see, primary deposits have only been identified and exploited in Angola and in the DRC. In the more northerly countries, alluvial resources are mainly exploited in an artisanal way. The primary deposits, considering the necessary investments for developing them, remain the privileged area of industrial producers. The exploitation of primary diamond deposits (kimberlite or lamproite) is related to ordinary mining exploitation of a mineralised body: usually in open-pit, more rarely underground. For alluvial deposits – or *placers* – exploitation is much more difficult to do for three essential reasons:

(i) often awkward shapes of economic concentration zones of diamonds and often bedrock of broken profile

(ii) thick overburden in relation to the thickness of the fertile levels (ratio sterile/gravel)
(iii) frequent irregularity of grade and of the granulometry of the diamonds

The last two difficulties will be found more often as preliminary exploration advances, and later on will depend on the choice of methods of exploitation. Finally, these exploitations will be vertical (live bed deposits or low terraces) or very near (high terraces) of the drainage, and their impact on the environment will be more direct and in any case, visible.

In these conditions, we can understand why it is difficult to set a boundary between deposits 'for artisanal miners/diggers' and deposits 'for industry'. Among other things it can be observed that:

(i) where the deposit is worked by artisanal miners/diggers, who are discouraged as soon as the grade falls and their work quickly begins to resemble an erratic juxtaposition of work rather than a systematic search,
(ii) where an industrialist wants to mechanise his production, his choices are often shown to be inadequate because of the poor assessment of the various constraints.

In the case of the CAR, the resources exploited are made up of alluvions which have a large variety of forms and thus of types of exploitation. It may be a recent alluvion situated in the bed of a watercourse under a sterile overburden of variable thickness, or of localised deposits outside of the lower bed in the alluvial plain (flat) and very often accessible under the phreatic table (water table). The terraces correspond to ancient alluvions often shelved and accessible under a thick sterile overburden.

The exploitation of these different types of deposits will necessitate the implementation of variable techniques: pumps to reduce the level of the phreatic table (water table), machinery to remove the sterile overburden and, of course, equipment for recovering the stones. So the exploitation of a deposit corresponds to economic criteria which are not

Table 2: Berbérati Yokadouma Enyélé Zone (BYE): principal characteristics

Zone	Surface area (km^2)	Country	Vegetation	Resources	Recognised collectors	Official Exportation
Berbérati	87,754	CAR	Forest & savannah	Diamonds	Yes	Kimberley Process (KP)
Yokadouma	24,669	Cameroon	Forest & savannah	Diamonds & gold	No	No KP
Enyelé	21,121	Republic of Congo	Forest	Diamonds	Mining operator	KP

understood in the same way by all actors, as well as criteria which can differ according to the characteristics of the deposits and therefore the technical means used, but above all in relation to the market conditions and the quality of the stones being found. As an indication, average grades of registrations of industrially produced alluvion in the 1970s were as follows: Côte d'Ivoire (Tortiya): 0.23 carats per cubic metre; Angola: 0.2 to 0.7 carats per cubic metre; Sierra Leone: 1.1 carats per cubic metre; Guinea: 0.17 to 0.62 carats per cubic metre; Ghana: 1.42 carats per cubic metres; DRC (Kasai): 0.82 carats per cubic metre. This large range of grades emphasises the problematic of the grade limit of exploitation that has to be used with prudence in the framework of artisanal production. The miner is never able to have a grade-oriented approach and even less so an economic-oriented approach when his horizons are short-term oriented.

Taking all these elements into account, we can see that alluvial exploitation remains the privileged domain of artisanal production, the more so because recovery of the diamonds is possible by rudimentary means.

The principle trans-border diamond producing zones in Central Africa

With the exception of Angola and the DRC, we have seen in the introduction that producing countries of this part of Central Africa are dependent on alluvial resources. Taking the distribution of these resources on the perimeter of the Congo Basin into account, more than seven production zones straddle the borders with a surface area of 361,523 square kilometres. The 'trans-border nature' of these resources is further exacerbated when the river marking the border has mineralised alluvions. What is the legal status of these alluvions excavated from the middle of the bed of a watercourse?

Another element that is all too often neglected, concerns the alluvial resources: diamonds are not, in most cases, the only resource contained in alluvions, and this exploitation is often associated with or combined with that of gold. Diamonds are a by-product for a quarter of the zones in question: Zanaga, Mosssendjo, Kelle and Mitzic, all around Gabon.

Table 3: BYE zone, chronological data and taxes

Zone	Year of discovery	Explorations carried out	Mining Companies	Proportional taxes (situation in 2008)	Internal dynamic of chain
Berbérati	1931 (Lobaye)	1931 to 1970	Yes	12 %	Financing by collectors
Yokadouma	1948-1950	1965-1966 1978-1985	No	8 %	Institutional support structure (CAPAM)
Enyelé	1970 (?)	None	Yes	7%	Financing by mining company

For these dual resource zones, we can easily imagine that all intelligent exploitation will wish to benefit from the exploitation of both products. In the case of the BYE zone, we see that benefiting from both makes necessary the implementation of specific techniques, considering the very different densities of gold and diamonds, and is rarely optimum even when it is done.

Example of the diamond producing zone Bérberati-Yokadouma-Enyele

Generalities

This trans-border zone includes the Berbérati zone in the CAR, Yokadouma in Cameroon and the Enyelé zone in the Republic of Congo. The principal characteristics of these three zones are presented in table 2.

The BYE zone is characterised by abundant rainfall, varying between more than 1500 mm in the southern part and 1400 mm in the northern part (Bouar), with the border between north and south zones being marked by equatorial forest and dense savannah from Berbérati, and a savannah of the Sudanese-Guinean type from Bouar. Even if the forest has been considerably reduced, its extent remains considerable south of Berbérati (see fig. 5). The equatorial forest, very little penetrated until the last twenty years, remained the domain of the pygmies with a density of population hardly superior to 1 inhabitant per square kilometre near Enyelé in the Republic of Congo compared with a density 5 times greater towards Berbérati. Forestry, which has grown considerably during the last 20 years (in particular in the Congolese zone of Likouala), is the reason for the creation of the road chain in the south of the BYE zone. The north is crossed by the major commercial route that links Bangui, the capital of the CAR, to the port of Douala via the towns of Bouar and Garoua-Boulai. Finally, this zone which corresponds to the triple point Congo-Cameroon-CAR, occupies a privileged situation on a major trade route in Central Africa: the economic route Douala-Bangui via which everything is supplied to the north of the Republic of Congo and the CAR and, transport in the other direction is permitting the export of all timber production from these zones (after a trip of 1,400 km).

Establishing the existence of diamonds in the zone: a slow process spread over almost 40 years because of difficult access conditions and the low population density

The presence of diamonds in the Berbérati zone was only established for the first time in 1931 by CMOO the *Compagnie Minière de l'Oubangui Oriental* (CMOO – Eastern Oubangui Mining Company), or almost 15 years after the first discoveries made in the eastern diamond zone of the CAR (Mouka Ouadda). There was then a wait of almost 20 years until the first indications were recognised

in Cameroon in the Yokadouma region by CMOO and the *Société Minière Intercoloniale* (SMI – Intercolonial Mining Company) and more than 40 years in the Congolese part (Enyélé zone), owing to clandestine operations carried out by diamond miners/diggers from the CAR who followed the advance of exploitation of the forest.

Still incomplete knowledge of the zone due to lack of systematic exploration work

Given the limited character of the exploration carried out, initially by private companies and later on by institutional organisations (UNDP in Cameroon), the extension of the zone that has a potential is not yet been completely defined. No new exploration has been carried out for more than 20 years (see table 3). In the Congolese part of the zone, the situation is even more simple: no exploration has ever been undertaken; the very low density of population having been a handicap from the start. The mining companies still active in the Berbérati zone or the Enyelé zone only capitalise on the earlier works or even on artisanal production.

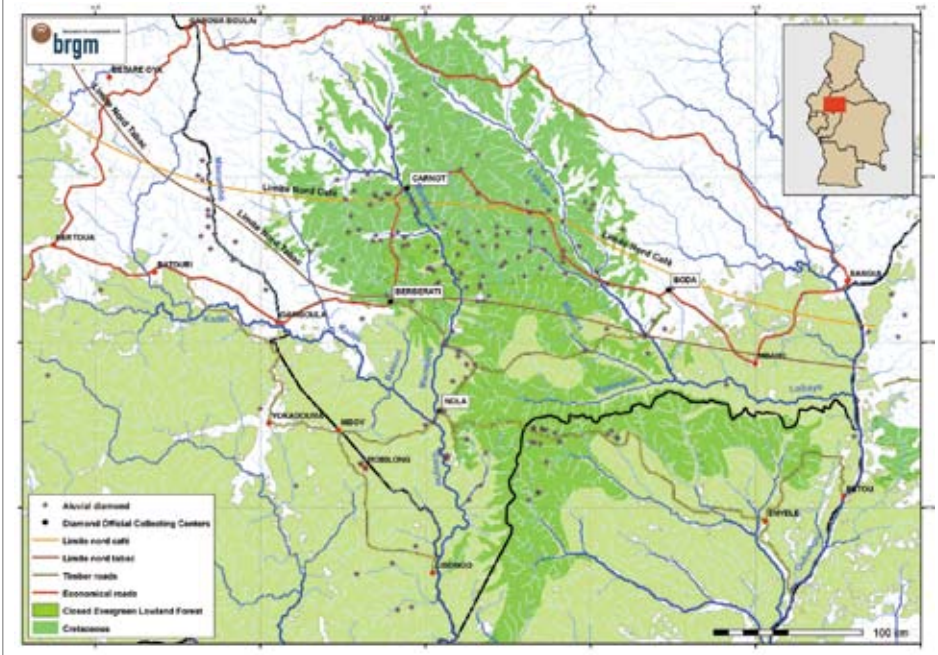
Organisation of local commodity chains

Albeit on different scales, existing commodity chains in the CAR as well as the Republic of Congo are similarily structured both in terms of organisation and in terms of regulation. The chain in the CAR represents the most successful organisation, with the coexistence of a population of rural diamond miners/diggers using traditional production methods with collectors mainly of West African origin (Senegal, Mali) who play a role of promoter as well as middle-man between artisanal miners/diggers and administration (see table 3). In the Republic of Congo, where activity is reduced and does not permit the setting up of such a chain, the presence of a mining company that disposes of a mining permit in the Enyelé zone was the occasion to settle and perpetuate the activities of the diamond miners/diggers of the CAR and Congolese-pygmies origins. In contrast, in Cameroon, the setting up of an institutional support structure for artisanal miners (CAPAM), especially concerned with all minerals and in particular gold and diamonds, has made it possible to organise the artisanal miners/diggers and to provide them with logistic and material support in inaccessible zones that are very scarcely populated (south-east Yokadouma). In the latter area, in the absence of patented collectors, this structure (which includes the buying the production of the diamond miners/diggers) has made it possible to provide a permanent 'outlet' for the production, even if in fact it seems that the finest stones are sent through commodity chains that are more efficiently organised than in the CAR. The fact that Cameroon has not yet joined the KP further handicaps the flow of stones onto the international market.

ASM and agricultural activities

It is often said that artisanal diamond or gold production tends to exclude other eco-

Figure 4: the trans-border Berbérati-Yokadouma-Enyelé diamond bearing zone



nomic activities, except of course, commerce in all its forms. In reality, in the heart of the BYE zone this statement needs to be nuanced. For instance, while diamond production and tobacco cultivation are incompatible because the tobacco harvest is at the end of the dry season, there is no incompatibility between gold and tobacco. As a result, tobacco is actively cultivated in the north of the Yokadouma (Batouri) zone where diamonds are only a by-product of gold. In this case, mining production even makes it possible to produce revenue during in-between periods. Elsewhere, as in that part of the zone that is belonging to the CAR, coffee production could survive because the picking was largely done by pygmies before the beginning of the high season for diamonds. ASM in the BYE zone constitutes a rural activity that remains for the most part a family affair and is practised in respecting the traditional equilibriums, even when the production sites bring together a large number of diamond miners/diggers (as many as 100 people). Gold rushes, with their succession of destabilising changes, hardly exist in the BYE zone.

ASM and gold panning: a duality that is too often neglected

In the north of the Cameroon part of the zone, alluvial sites of mixed resources are being exploited at present with coherent implementa-

tion of particular techniques for each resource (the Beke and Gbiti sectors on the right bank of the river Mboumbe). The procedure consists of putting the gravel through a sluice and recuperating the rejected material for sieving with a 2mm mesh sieve, which is the technique practised in the MBYE zone to recover diamonds. The heavy minerals trapped in the sluice are usually washed in a washing trough to recover gold. Despite the rudimentary character of the techniques used, the method is nevertheless effective. It should be noted that although the diamond miners/diggers easily adapt to this dual activity, benefiting from the recent and sudden rise of gold on the stock market, the ownership of the procedure proves to be trickier for the gold washers who must get used to the irregularity of income from diamonds.

Characteristic elements of the BYE trans-border zone

Disparities of exploration and therefore of development

The example of the BYE zone underlines the need for accurate knowledge of resources to direct activities, whether they have their origin in the artisanal sector or mining companies: the zones of Yokadouma and Enyelé are still largely unexplored and therefore awaiting economic development. The absence of minimal production still renders any implementation of a specific commodity chain problematic and will incite producers to direct the flow of production towards the zones where a fully operational chain exists.

Organisational disparities, specific to the level of development of the activity

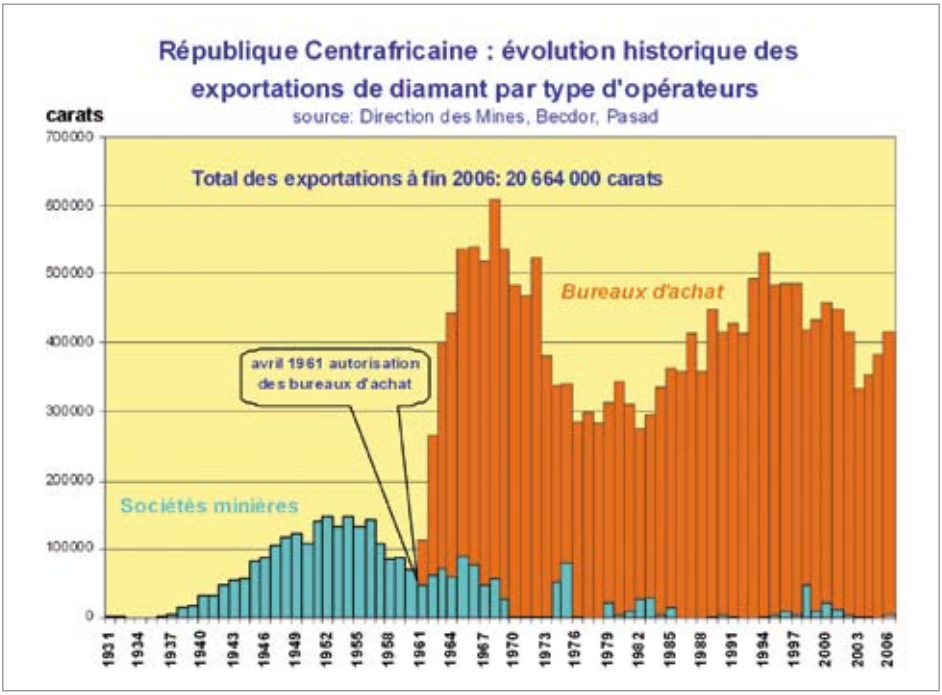
Despite this situation, the commodity chains are organised depending on the context in order to meet the primary needs of the artisanal miners/diggers (i.e. to make up for the absence of auto-financing capacity and ensure a market for the production). Downstream integration of chains could be observed in the CAR, upstream integration in the Republic of Congo and institutional support in Cameroon. In these two last cases, we do not have enough perspective to evaluate the long-term viability of these types of organisation, as these have been in existence for less than 4 years.

These various types of organisation do not yet meet the needs regarding the prospecting, the exploitation, and the deliverance of medical assistance – which are in fact pre-conditions for the development of the activity and the social acceptance of constraints imposed by law.

Disparities of taxation

Despite the attempts at fiscal harmonisation at regional level, there is still a taxation discrepancy of 5% between the Republic of Congo and the CAR.

Figure 5: Chronological review of diamond exports from the CAR



Elements militating for regional cooperation

Two elements should prompt the authorities of each country to put cooperation in place. First of all, the existence of border-rivers with mineral rich alluvions: Mboumbé between Cameroon and the CAR; Sangha between the CAR, Cameroon and the Republic of Congo. In addition, given the disparities of development, the absence of critical production threshold in certain zones makes the operational character of a specific chain difficult, the more so when diamonds only constitute a by-product.

The dynamics at work in the development of an artisanal diamond commodity chain in the CAR from 1931 to 2003

Artisanal production in Central Africa developed considerably after the Second World War. Two periods should be distinguished: during the colonial period, characterised by strict control of access to the resource, the mining companies played an exclusive role. After the independences of the CAR and Congo (DRC) in 1960, the authorisation of

diamond exploitation given to all citizens in these countries resulted in an important 'rush' to the diamond-producing zones.

The historical approach to exports and production in the CAR will illustrate the past impact of key actors such as mining companies, artisanal miners/diggers, collectors or institutions (see fig. 4). In the case of the CAR that currently has exclusively alluvial diamond resources, the duality between mining companies and artisanal miners/diggers will also be documented.

The epoch of mining companies in the CAR: 1931 to 1961

The first years of the 1950s marked the apogee of mining companies. The maximum production (147,104 carats) was attained in 1954. Since 1957, a rapid decline could be observed. From the 1960s, a marked rise (up to 91,794 carats in 1965), however, corresponded to an attempted re-launch of mechanised exploitation since 1964 by the creation of the *Syndicat des Grands Collecteurs* (Union of Major Collectors) that had the objective of discovering industrially dredgeable reserves in the main rivers. Faced with disappointing results following the first attempts in the Berbérati (Lobaye) zone with grades below 0.05 carats per cubic metre, this union closed down its activities in 1967. Since then, certain mining companies have initiated, alongside their main activity, support of artisanal miners/diggers who work on their permit, and are thus playing the role of collector. Since 1973, the bulk of commercial production by mining companies – in particular the 'high' productions registered in 1974-1975 – came from buying from artisanal miners/diggers,. The expulsion of companies in 1969 and between 1976 and 1978 explains the almost zero production of mining companies in this period.

Failure to reconstitute exploitable reserves

The exhaustion of alluvial deposits that have been exploited for a number of years is evidently the cause of the observed decline. The prospection activities were not able to compensate the scale of exploitation. Perhaps they have not been large enough, but above all they have not been directed towards new objectives, i.e. specific alluvial deposits made up of high terraces – which were wrongly reputed to have low grades – or of the 'flats' of the major collectors (Mambéré, Mbaéré, Lobaye and Koto). Another area of possible investigation would have been the 'secondary' deposits made up of conglomerate mineral levels or the 'primary' deposits made up of kimberlitic rocks.

Almost 40 years later, no primary deposit has yet been discovered in the CAR. What's more, in this type of deposit the concentrations encountered are rarely exploitable because of the lenticular and erratic character of the concentrations when they do exist.

Upstream commodity chain support to the artisanal sector: mining companies that get involved but do not continue

The setting up of support to the artisanal sector initiated by companies constituted to a new exploitation model that deserved to be developed because it offered reciprocal benefits to the partners.

The advantage for the diamond miners/diggers was threefold:

- effective technical support and therefore optimisation of output
- financing opportunities and logistical support
- development of production by professionals

For the companies, this allowed to canalise the majority of available mining reserves in return for limited investment. There was always a risk however, of a lack of loyalty and the misappropriation of a part of the production.

The beginning of the 1960s marked the end of a mechanical model of exploitation This model was confronted with difficulties regarding the renewing of exploitable reserves in a context of deposits with irregular grades.

The epoch of artisanal exploitation

The new mining policy, which was established since 1960, made possible the normalisation of artisanal activity that was directed for the most part into official channels from April 1961. In 1963, 4 purchasing offices existed which processed 328,404 carats, with an average value per carat of 6,460 CFA francs. This is a remarkable number when at the same time the average value per carat for the production of mining companies was no more than 4,066 CFA francs (Bardet 1974).

This important disparity may be explained in part by the limited technical means of the artisanal miners/diggers that do not always make possible the recovery of the smallest stones but also by a preferential targeting of activities in alluvion traps of small size but rich in large stones, this despite the difficult access conditions that are often dangerous.

Almost all of this production came from West Oubangui (Berbérati zone). It should be noted that the ASM extraction zones did not at all correspond to the zones of interest from mining companies at that time. The artisanal diamond miners/diggers were usually working on small watercourses with only small areas of alluvion and notably on deposits of gravel in the canyons or the 'potholes' that had not been thoroughly exploited by companies, often because of access difficulties. At the beginning of the 1960s, the number of these diamond miners/diggers may have totalled almost 50,000 individuals.

1961-1968: capitalisation of the heritage left by the companies, considerable increase in production

From 1961 to 1968, ASM production witnessed a considerable increase in volume following the liberalisation of the sector. Former employees of mining companies formed then the bulk of a new wave of artisanal miners/diggers who exploited deposits that have been deserted by these companies as they judged them industrially unprofitable. The former employees knew the places and the techniques of exploitation. The deposits were not totally exhausted and locally their grades were acceptable for an artisanal miner/digger.

1969-1978: Lack of access to new exploitable zones and penury of labour means regular falls in production

The fall in production registered from 1969 until the mid-1970s, with a minimum of 284,246 carats in 1978, has several causes:

- it corresponds to the exhaustion of the deposits that were easy to exploit and to the absence of prospecting activities
- it took place 20 years after the beginning of artisanal exploitation and may therefore indicate the end of an epoch and a difficult handover to the following generation since in the course of the 1970s, young people were more attracted by towns and cities than by rural areas.

1978-1995: downstream chain support to the artisanal sector and financing artisanal miners/diggers by purchasing offices and collectors gives new impetus to sustainable activity

The re-launch of production in the mid-1970s is due to the progressive establishment of financing support arrangements of artisanal activities by collectors often seconded by the purchasing offices. This system encouraged the diamond miners/diggers to work during a longer period of the year and also favoured the arrival of new artisanal miners/diggers tempted by the prospect of 'easy' gains. As a consequence, production went up from 284,246 carats in 1978 to 531,387 carats in 1994. In this period, C. Censier and J.C. Michel (1998) estimated the population of artisanal miners/diggers at about 80,000 and noted inter-regional migrations and indeed the return of town-dwellers in search of revenue.

A second favourable element was the fall in fiscal pressure. Between 1984 and 1994, export taxes dropped from 20 to 8 %. This measure was decisive in limiting fraudulent exports to neighbouring countries that had lower rates of taxation (leading to a sort of fiscal dumping).

In 1995, a devaluation of CFA franc caused and unanticipated negative impact to the sector. The months that followed the devaluation of the CFA franc were euphoric for the sector because the inflation was still at a low level and the value of the diamond fixed in dollars. The high infla-

tion registered after this initial positive effect, limited the activity in a mechanical manner as a result of the rise in costs of imported products (shovels, pumps) and the lack of injection of complementary finance by collectors.

1998-2003: impact of political troubles

The political jolts observed respectively from June 1996 to April 1998 and then between May 2001 and March 2003 were marked by low levels of exports: 419,967 carats in 1998 and 332,679 in 2003.

Determining factors of the dynamic of the artisanal commodity chain in the CAR

The sudden, and abundant production of good quality diamonds in the ASM sector has troubled observers: in 1968, the production attained 609,360 carats, which is nearly 10 times that of mining companies in 1960. In reality, artisanal activity held steady but exports reached a ceiling of about 400,000 carats per year, or 2/3 of the levels reached at the end of the 1960s. If fraud existed, the extent of which remains to be evaluated, this can not be the only explanation for the situation. A certain number of technical elements could explain this levelling off.

Accumulated export figures – amounting to 20,664,000 carats – shows that, since 1931, the artisanal production traded via the purchasing offices represent more than 84% of the total when that of mining companies only accumulated a little more than 14%. However, the record figure of 609,360 carats, reached in 1968, has never been attained again and artisanal production experienced a slow decline until the beginning of the 1980s with a minimum attained in 1975 at 279,894 carats. Since that date, the annual maximum attained has not exceeded 530,386 carats (in 1994), despite a steady augmentation in the number of people involved in the chain.

In this regard, it is symptomatic to note that growth took place in a context of increasing informalisation. It became more and more difficult to identify the population concerned and the exact number of artisanal miners/diggers. We could estimate that the artisanal miners/diggers have increased from 50,000 in the 1950s to 80,000 in the 1990s, and finally 60,000 according to the most recent estimates carried out by the BRGM and USGS. The last figure, apparently paradoxical, only reflects the upstream chain: if the number of people concerned has increased for part-time activities, the number of people involved more than 200 days per year has fallen back. A growing part of the population is involved in ASM activities but mainly as labourer paid by assignment or on a daily basis to prepare the worksites (removal of sterile overburden, construction of barrages, etc.)

All field reports show that production is falling considerably because access to the resources is getting more and more difficult. The

necessity of removing 30m of sterile overburden, before getting access to the gravel which is less than 0.5m in thickness is often frequent, particularly in the case of high terraces.

The principle elements that prove to be decisive for the ASM activity in the CAR are the following:

Limiting factor: the availability of mineral resources

The first limiting factor consists of access and availability of mineral resources. This is at the origin of the collapse of mining companies as well as of the loss of energy of artisanal production almost 10 years after its launch. It still smothers present-day artisanal activity, even if the export statistics do not allow us to realise the size of the phenomenon. The existence of resources is not in question, still the operators must be directed towards productive targets so that they can avoid or limit unproductive work.

Internal dynamic of the commodity chain: relations of downstream integration – the vital role of the collectors

Taking 'limited offer' into account, the financing role played by the collectors and the purchasing offices has been crucial for the continuation of the ASM activities despite the more and more difficult working conditions. Because of the insolvency of artisanal miners/diggers, they are key players in the future of the chain that assumes the entrepreneurial risk – sometimes with dramatic consequences (bankruptcies are not rare indeed).

Internal dynamic of the commodity chain: relations of upstream integration – the role of the mining companies

Another element that could constitute a dynamising factor is the support provided by the mining companies. While the experience in the CAR has never been maintained over long periods, ASM and industrial exploitation often prove to be complementary. Before the 1960s, artisanal miners/diggers, confined in their clandestinity were suspected, often rightly, of channelling fraudulently misappropriated production of mining companies, either directly after the washing process, or during ASM in concessions. In the CAR, as we have seen earlier, the authorisation of ASM granted in 1960 made it possible to put an end to – or to considerably diminish – the illegal flow of diamonds to neighbouring countries. At the level of exploitation, however, this 'boom' in ASM caused reverses for mining companies. The latter, already affected by the lack of labour, saw members of their most qualified staff disappear.

Regarding the access to resources, if certain concessions have been invaded causing disturbances of mining exploitation, complementarity between actors has been the rule in the majority of cases. For artisanal miners/diggers the zones of exploitation are difficult to mechanise because of difficulty of access,

the small size of the concentrations, their dispersion, or even a deep overburden; the mining companies on their hand need considerable means, financially as well as materially: barrages, diversion canals, water evacuation problems (pumping).

Internal institutional dynamic: the regulation

Two decisive elements of the regulation seem to have played a critical role:

- the regional tax harmonisation which has aimed to limit windfall effects and illegal flows to countries with lower taxation. However, the margin for manoeuvre in this area is limited by constraints linked to the structure of fiscal revenues of each state. The totality of taxes proportional to the value affecting the downstream diamond commodity chains was at 12% in 2006.
- the supervision/monitoring of the chain (e.g. production record books for the artisanal miners/diggers, purchase notes for the collectors, a mining brigade, etc.) However, the effective means of these controls have often been flawed and as a matter of consequence have limited their operational character.

Conscious since the beginning in the 1990s of the necessity of 'renewing' exploitable resources, the authorities of the CAR proposed an experimental support project for ASM. This project (PASAD) was financed by the *Caisse Française de Développement* (French Development Fund) between 1996 and 1998, in collaboration with the *Direction Générale des Mines* (General Directorate of Mines). It was orientated as a priority towards technical support respecting the chain's stability. It proposed to:

- Conduct prospecting campaigns around exploitation sites and to promote prospecting among the actors in the field.
- Recruit and train a team of technical agents destined to form the basis of a permanent future support structure for ASM.
- Conduct indispensable communication campaigns in order to persuade various actors to adopt the new methods and tools proposed.

It is however a pity that, because it did not continue after the experimental stage, the effects of such a project cannot be evaluated.

External dynamics

These external dynamics are connected either to the institutions, to the international monetary situation, or to market conditions. The institutions have played a decisive role in orienting the budgetary choices of the country but also, as we have seen, in initiating and financing the promotional activities of the sector. Among the external constraints that have proved to be negative, is the shock of the devaluation of the CFA franc, which because it was not anticipated by the commodity chain

actors, was not met with an appropriate reaction. Finally, it must be noted that in a general way production will always be impacted by the functioning of the chain's endorsement/approval and thus international market conditions. Some collectors have felt themselves obliged to trade some stones on the international market at conditions inferior to those they had negotiated at the time of purchase. When trading, availability of professional players who know the market situation is crucial.

Towards a balanced development process of trans-border zones

It does not seem illogical to offer a trans-border answer to a trans-border problem. In the case of diamonds of Central Africa, the countries concerned have to ensure that the diamond resources are exploited in an accountable and sustainable way and thus serve the economic and social development of their countries of origin. The implementation of such a project is much more ambitious than it seems. To start with, a convergence of views at political level must be achieved. Three priority actions that influence the other developments could be taken:

(i) Harmonise taxes/fiscal policy in order to avoid the destabilising effects of dumping. These fiscal policies could concern diamonds but also gold;

(ii) Share the efforts put into exploration by developing geological infrastructure in the trans-border zone. This could equally include geological maps with indications on potential deposits, which would help to direct the work either for the mining companies or the ASM.

(iii) Allow collectors and purchasing offices to exercise their role of financer and purchaser of artisanal production, avoiding as far as possible distortions of competition. Experience seems to prove that purchasing monopolies are not operational in the long-term; the number of purchasing offices must be compatible with the volume of predictable activity, however.

When these framework elements have been established three points will have to be resolved so as to ensure the activity in the long-term:

(i) Put in place commodity chain organisation to ensure traceability: cards for artisanal miners/diggers and collectors, forms (invoices etc.), registers…. One hazard has to be avoided though: controls induced should not also become reasons for granting unjustified tax collection-points.

(ii) Create support structures for artisanal miners/diggers in the crucial areas of orientation towards new resources, technical support and access to equipment. Dual exploitation of gold and diamonds should be facilitated when it is justified.

(iii) Monitor the relationships between artisanal miners/diggers and industrial operators in order to 'facilitate complementarities' while anticipating the risks of conflict.
(iv) Establish support structures in the social field – which is a condition for the social acceptance of the measures which have been set up and a development factor.

In the framework of the example considered, we could suggest to the countries involved (Cameroon / Republic of Congo / CAR) to undertake together an ambitious project that could be called 'Control and Development of the Exploitation of the Diamond Resources of Central Africa'. The structures of dialogue already exist: CEMAC (*Communauté Economique et Monétaire de l'Afrique Central* – Economic and Monetary Community of Central Africa) and CEEAC/ECCAS (*Communauté Economique des Etats de l'Afrique Centrale* – Economic Community of Central African States). Such a project would be an integrated project associating various specialists, such as engineers and technicians (geologists, gemmologists, miners, environmentalists), economists (micro-enterprise and/or cooperative specialists), and jurists (including tax specialists). Moreover it would be relevant to add a social component that would consider issues of social assistance, education and public health, to this technical, economic and fiscal element. Finally, it could be opportune to establish a dialogue platform between this project and equivalent structures that could deal with the exploitation and preservation of the timber resources of the tropical forests.

Diamonds without borders: A short history of diamond digging and smuggling on the border between the Democratic Republic of Congo and Angola (1980-2008)

Filip De Boeck

Introduction: diamond traffic between Kwango and Lunda Norte[1]

This chapter will deal with the diamond exploitation in the Angolan province of Lunda Norte and the traffic of diamonds between Angola and the Democratic Republic of Congo (DRC) (especially the southern areas of the Kwango district, in Bandundu province, and more in particular the administrative zones, called *territoires*, of Kahemba and Kasongo-Lunda). Although many of the activities described here may also be observed in other areas along the Congolese border with Angola (in the Lower Congo, for example, or on the Angolan border with the Kasai region), this analysis will only deal with the impact of diamond traffic on local life in the southern part of the Kwango district. The first part of this chapter provides a brief overview of the recent history of diamonds in this area. The second part will deal with the actual situation in the territory of Kahemba, and discuss the possible implications of new developments, most notably the recent interest of international mining corporations in this border zone.

Over the past three decades the borderlands between the Congolese administrative zones of Kahemba and Kasongo Lunda and the Angolan province of Lunda Norte were most central in the dollarisation, informalisation, criminalisation and globalisation of local, and indeed even national and interna-

1 The data presented in this chapter derive from extended field research in a number of Lunda villages in the territory of Kahemba (1987-1989, 1991, 1994, 1997, 2007) and sustained contacts with related communities in Kikwit and Kinshasa over the past twenty years.

tional, economies (cf. De Boeck, 1996, 1999a/b, 2000, 2001). As early as the colonial period, the Belgian colonisers suspected the existence of large diamond deposits in the Kwango area[2], but the Congolese independence arrived before systematic and formal exploitation could start. Later studies confirmed the presence of vast quantities of (mostly alluvial) diamond along the Upper Kwango (or Cuango) River (cf. Fieremans, 1977), although mainly on the Angolan side of the border. In fact, one of the particularities of the Congolese district of Kwango is that, although Kahemba and Kasongo Lunda are officially designated as diamond mining areas by the Congolese authorities, most of the diamonds coming from that part of Congo are diamonds originally deriving from upstream mining fields in Angola's Lunda Norte province. The Kwango River actually drains the diamondiferous Chitamba-Lulo kimberlites of the Angolan Lunda Norte Province. So far, it is only in and around the Congolese border town of Tembo, a town which is set on the banks of the Kwango River in the Kasongo Lunda *territoire*, that actual digging and diving for diamonds takes place (causing a lot of ecological damage to the Kwango river system). This means that the vast majority of the diamonds coming out of the Kwango district over the past three decades were first smuggled in from Angola. This situation, however, might quickly change in the coming years, given the increasing difficulties of Congolese traders and *garimpeiro* miners to access diamonds in Angola, as well as the recent interest of international mining companies in prospecting for diamonds along the Congolese side of the border with Angola.

In this chapter, I will analyse not only the involvement of local villagers and outsiders in *garimpeiro* mining, smuggling and commercialising diamonds, but also the ways in which local Congolese and Angolan inhabitants in these border areas, and on whose land many of these activities have been taking place, undergo the manifold changes the diamond frontier has brought in its wake. Local actors of predominantly Lunda and Chokwe origin, and often belonging to lineages and clans which have lived on both sides of the border for as long as it exists, have been caught up in larger political and economic events (the shifting power balance between the *União Nacional para a Independência Total de Angola* (UNITA) and the *Movimento Popular de Libertação de Angola* (MPLA) in the 1980s and 1990s, the arrival of the UNHCR in the area and the subsequent creation of 'refugees' in the beginning of the new millennium, as well the changing economic and political realities of the diamond trade itself, and the accompanying switch from artisanal to industrial mining). All these recent events have greatly impacted on the daily lives of these local actors.

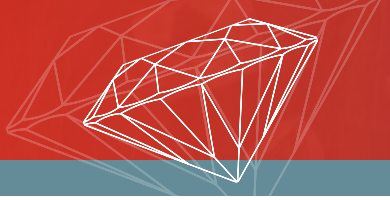
The shifting socio-political and economic contexts in this frontier area between the DRC and Angola engender, it seems, new and quickly changing economic realities, and

2 A map prepared at the time for Forminière records the first discovery of diamonds along the Kwango River in 1922.

in their wake also new issues of conflict that leave their imprint on existing patterns of kinship, on the sociological composition of border towns and villages, and on the shape and architecture of traditional political and power structures.

Much of the recent literature on mining frontiers and border zone economies throughout Africa (see for examples Gratz, 2004 on illicit gold mining in Benin; Jackson, 2002 on coltan in Eastern DRC; Omasombo, 2000 on diamond mining camps near Kisangani, Vlassenroot & Raeymaekers, 2004 on gold mining in Eastern DRC; Walsh, 2004 and Duffy, 2007 on sapphire mining in Madagascar; Werthman, 2000 and 2003 on artisanal gold mining in Burkina; or the ongoing research projects by Jeroen Cuvelier on artisanal mining communities in heterogenite mines in Katanga (DRC), and by Guillaume Bumba on Congolese youngsters involved in the diamond trade between the DRC and Angola[3]) analyses the specific internal social organisation of mining camps and towns, as well as the ways in which trading systems are organised, levels of trust are summoned, and informal economies are developed outside of official structures, and this both on a regional and a (trans)-national level. Very often, though, the realities of these mining frontier communities are presented as 'worlds apart', as 'extra-customary', rather autarchic centres, often conceptualised as multi-ethnic, translocal, multi-national *non-lieux* and "counter-places", with their own rules, norms and values, their own forms of accumulation, consumption and expenditure, their own moralities and ethical frameworks which exist and operate outside of, and independently from, the socio-cultural context that brackets them. As such, these liminal worlds are often described as lawless places of drinking, gambling, prostitution, violence and drug abuse, negatively impacting upon and disrupting the local worlds in which they mushroom. Whereas this might be, to a varying extent, true for most of these newly emerging places and their interaction with the worlds around them, very little attention has been paid to the ways in which existing autochthonous realities help to shape the mining frontier dynamics. Often, it seems to me, both these worlds are far more intimately intertwined than what appears from our analyses. In fact, it is important to point out that the diamond universe which I will describe has always been part of much older historical trajectories and earlier rounds of "globalising" dynamics. The local Lunda population, together with their Chokwe, Suku, Shiinji and Holo neighbours along what is now the border between the DRC and Angola, were formerly part of a larger regional "traditional" local inter-village and long distance trading network which predated the colonial period and which hinged on the trade of such commodities as wax, rubber, ivory, guns and slaves. Overall, in the 1980s and 1990s, the diamond trade, the modes of commerce, the use of caravans to carry wealth in things or in people into Angola and back, even the trade routes themselves,

3 Cuvelier and Bumba are finishing their doctoral research at the Institute for Anthropological Research in Africa (IARA), Catholic University of Leuven. Cf. www.africaresearch.be.



did not differ drastically from their colonial and pre-colonial counterparts. It is important, then, to keep in mind that a modified form of this earlier cultural and economic network continues to exist, and accounts for part of the population movements in a border area that has always been, to a lesser or greater extent, an area of turmoil and upheaval. It is therefore important to underline that diamonds and the conflicts that accompany them have not only contributed in different ways to a constant reshaping of local livelihoods but also that these local worlds have played an active role in constructing the realities of the diamond universe which may be observed in this part of Africa.

The final part of this chapter will look more closely at some of the recent political and economic developments in the area, while urging a greater effort to monitor these developments.

Lunda Norte: a brief history of war, dollars and diamonds 1980-2003

The heart of the informal diamond universe is situated along both sides of the borderline between north-eastern Angola and the southwest of the DRC (i.e. the Upper Kwango, Kwilu and Tshikapa areas on the Congolese side, and the Lunda Norte and Lunda Sul provinces on the Angolan side of the border). Although diamonds have long been part of Angola's formal and informal economies, Lunda Norte, traditionally home to Lunda speakers and related groups of Chokwe, Suku, Shiinji, Holo and Minungu, witnessed the development of an unprecedented traffic of diamonds into the DRC over the past three decades. Most of these diamonds came from the main mining area along the Cuango Valley in Lunda Norte, which is the source of up to 80 per cent of Angola's diamonds (Duval, Green & Louthean, 1996:39). Angolan diamonds are, moreover, said to be of extremely good quality. Before independence, alluvial deposits along five rivers in Lunda Norte (in the Cuango area around the Cafunfo and Lozamba mines, and more to the east in Lunda Sul, most notably the Dundo-Lucapa area) were firmly controlled by DIAMANG (*Companhia de Diamantes de Angola*), in which Ernest Oppenheimer had secured a good interest for De Beers in 1920.[4] Until the Portuguese withdrawal in the mid 1970s, Angola turned in over 2 million carats annually (2.4 million carats in 1974). After the nationalisation of DIAMANG, the output plummeted to 500,000 carats and less (350,000 carats in 1975-76, good for an export income of US$30 million).

In 1980, diamond production had increased again to 1.48 million carats, representing an export income of US$225 million. Towards the mid-1980s, however, UNITA started attacking several mining sites, causing DIAMANG to pull out in the Cuango in 1986 and dissolve itself later on during that same year. Due to the UNITA strategy, production tumbled to 714,000 exported carats in 1985,

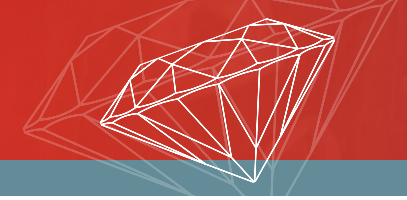
4 For a history of the De Beers *imperium* see Kanfer, 1993.

still good for US$33 million, and to 370,000 carats in 1986, worth US$15 million. The price of the Angolan diamond on the global market dropped sharply during that period.

Lunda Norte: The UNITA years

During this same period, and especially from 1983 onwards, there was a steady increase in Congolese diamond exports, due not so much to an increased production of the formal mining sector in Congo, but to a steadily growing input of artisanal diamonds dug up by local unlicensed diggers in the DRC, as well as an influx of Angolan diamonds smuggled into the DRC through informal channels. In Congo this went hand in hand with the legalisation of private *comptoirs d'achat*, which installed themselves along the border with Angola. During this time, Congolese also started to cross the border with all kinds of commodities, ranging from cigarettes to gun powder, whisky, dried salted fish, matches, soap, cloth and transistor radios. These goods were sold or bartered in Angola in return for diamonds. The owners of these commodities would either work independently or with money from a diamond *comptoir*. Usually these traders (*kamangistes*, from *kamaang/kamanga*, 'diamond', in uLuund / uChokwe languages) would be people from Bandundu or Kinshasa, but also – to an important degree – from the Kasai area (where artisanal diamond mining had, of course, started to play an important role much earlier –see Kambayi Bwatshia & Mudinga Mukendi, 1991). In Kahemba, for example, these traders would recruit local villagers of Lunda and Chokwe origin, living along the Congolese side of the border, to carry these goods into Angola and to act as scouts in these trading expeditions. In Angola, after a (nocturnal) trek of several days through a dense forest and bush area lining the frontier between Kahemba on the Congolese side and Lunda Norte on the Angolan side and locally known as *corta mata*, these caravans of carriers (*pincheurs*) would make contact with diamond sellers waiting for clientele in the villages around the major industrial mining sites, such as Cafunfo. These sellers were called *cocseurs*, middlemen between the diggers (*creuseurs* or *karimber*) and the buyers.[5] At a time when commodities were scarce in Angola, the exchange rates turned out to be extremely favourable for the Congolese. Consequently, an increasing number of Congolese were drawn into the trade, notwithstanding the fact that the border between the two countries was officially closed and that crossing it meant exposing yourself to a lot of risks: not only did the numerous land mines in the area cause many deaths and casualties, but also many human rights violations were reported to be committed by Angolan government troops and UNITA fighters, on the one hand, or, upon returning to what was then still Zaire, by members of the FAZ (Zairian Armed Forces) on the other hand. When people started to swallow diamonds to prevent soldiers and rebels to rob them of their stones, many ended

5 The person reselling the commodities on the local Angolan markets (referred to as *praça* or *merikado*) is called *kandongueur*.



up having their intestines slit open by these diamond-hungry soldiers and rebels.

During that same period, "illicit" mining became also rampant. These mining activities reached a peak in 1991-1992, during the Bicesse peace process leading up to the Angolan presidential elections. The election process indeed provided a brief period of rest in Angola's ongoing civil war (cf. Anstee, 1996). Immediately after it became clear that the sitting MPLA president, Jose Eduardo dos Santos, had won the elections, the peace process collapsed. UNITA took control of a large percentage of the Angolan territory. It is during this period that 'the war of Lunda' [*epaka Lunda*] started in Lunda Norte.[6] Control over the Cuango Valley was indeed one of UNITA's main objectives. In December 1992, for example, UNITA attacked the town of Cafunfo. In Cafunfo, UNITA had been living in *cohabitation* with MPLA during the period of peace leading up to the 1992 elections. Previously, UNITA had already tried twice to drive the government out of Cafunfo in 1981 and 1984, but had met with no success. This time, however, they did succeed and briefly gained control over the Cafunfo diamond mines, killing the expatriate staff, sabotaging the mine's equipment and executing those suspected to be *anti-mutim* (an anti-terrorist brigade founded by the government during the election process but viewed by UNITA as consisting of MPLA spies). During the following months, the town of Cafunfo was subjected to a government counter-attack, both on the ground and from the air.

In October of 1994, the *Forças Armadas Angolanas* (FAA) again took control over Cafunfo, reportedly with the help of mercenaries from the South-African security firm Executive Outcomes. The government failed to stop or control, however, the parallel (alluvial) mining activities along the Cuango River, and up to the end of 1997 Cafunfo remained a government outpost in a territory largely controlled by UNITA.

The sedentarisation of diamond activities in Lunda Norte during the UNITA years

With the mining activities under the control of UNITA, the character of the diamond trade changed drastically. The previous bartering expeditions by Congolese became rarer. Instead the trade became more sedentary and also more monetised. It was mainly along the Cuango River that the illicit UNITA mining brought onto the stage tens of thousands of Congolese *garimpeiros*, unlicensed diggers, known as *bana Lunda*, (children of Lunda') also called *basali nteke* or *basali ya mbongo*, 'those who work money'. From 1992 onwards, these often penniless Congolese youngsters, most of them from an urban background[7],

6 On the period of renewed warfare between the Bicesse treaty and the Lusaka protocol see also Africano, 1995; Anstee, 1996; Hare, 1998, Maier, 1996; Vines, 1995, 1998, and 1999.

7 Although called Bana Lunda, most of the youngsters included in this category are not ethnically Lunda. The Bana Lunda category is a multi-ethnic one, including Yaka, Chokwe, Pende, Yansi, Mbala, Suku, Koongo, Luba and many other Congolese

started to pour into Lunda Norte to dig for diamonds in the areas under UNITA control (De Boeck 1999a; on the political economy of the Angolan diamonds see also Misser & Vallée 1997; Cilliers & Dietrich 2000, Hodges 2001, Le Billon, 2005). On criminalisation of the African state in relation to unrecorded trade more generally see Bayart, Ellis & Hibou 1997). Although local villagers from Lunda Norte were sometimes forced to work in UNITA mines or provide other services, UNITA's labour force consisted primarily of Congolese. UNITA itself organised a system of several checkpoints (*poste avançado*) along the border. There, the Congolese Bana Lunda could buy a *guia*, a permit issued by UNITA, which gave them the right to cross the border into Angola. Usually a *guia* would mention the name of one of the UNITA mines along the Cuango to which the person in question had to direct him- or herself.

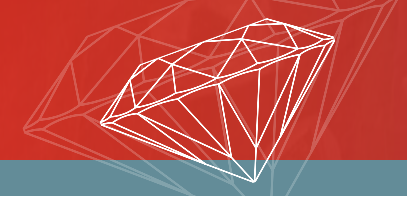
Given the fact that tens of thousands of Congolese entered[8] – and still continue to enter – Angola in this way (although in lesser numbers between 1999 and 2002 and no longer controlled by UNITA as before), very quickly life in the diamond mining camps became better organised and more settled. The camps' internal security was taken care of by UNITA soldiers, but more often by *artivistes*, i.e. Congolese employed by UNITA to supervise and, if necessary, arrest, punish or execute the workers. The *artivistes* controlled the digging activities very closely, making sure that no diamonds were stolen, and that nobody entered the mining sites during prohibited hours.

The dollarisation of diamond activities in Lunda Norte

The sedentarisation of camp-life accompanied the monetisation of the diamond transactions. Dollars made their appearance in Lunda Norte on a large scale around 1990. This dollarisation of the diamond scene strongly affected the circulation of the local currencies in the area: the Kwanza on the Angolan side, and various currencies in use on the Congolese side (cf. Kabuya Kalala & Matata Ponyo, 1999). As such the dollarisation caused a strong devaluation of these local and national currencies and impacted heavily on the formal and informal economy alike, giving rise to the birth of local money circuits and cellular economies linked together by the US dollar. This also generated huge social effects for the whole of Western Zaire: from the border up to Kinshasa, even school fees started to be paid in dollars. It urged more and more people to try their luck

ethnic groups. With the local Lunda people who live on both sides of the frontier they often share, however, a common socio-cultural universe. Historically, most peoples of the southern Congolese savannah belt owe a great deal of their ritual and political institutions to the Lunda and Chokwe spheres of influence. In the modern diamond trade, ethnic Lunda have regained some centrality, for they use their 'autochthony' to try to secure a central position in the diamond trade which takes place on their ancestral lands but which is dominated by outsiders, or to regularise their *garimpeiro* status under the new governmental approach as advocated by the Angolan Selling Organization (ASCORP). Over the years, they have also constructed far-reaching networks of small Lunda communities in Luanda, Kinshasa and other urban centres.

8 Dietrich (2000b:174) cites a *Financial Times* article which made mention of 50,000 *garimpeiros*, most of them Congolese, in August 1992, even before UNITA's return to war.



in Angola, since this was the only way to get access to hard currency.

In October 1995, in an attempt to stabilise the Zairian currency (then the *nouveau Zaire*), the Kengo government unsuccessfully tried to introduce new rules for diamond buyers to fight the increasing dollarisation of the economy, requiring that 50 per cent of the traders' hard currency be lodged with the central bank, and that diamond deals take place in local currency only. Dealers estimated that diamond purchases fell by as much as 70 per cent in October 1995 after the new rules had been introduced. Since diamonds were (and to some extent still are) one of the few sources of hard currency available to many Congolese, the Kengo government was quick in announcing modifications to the new rules, allowing purchasers to buy diamonds in hard currency once again. Despite this precedent the Kabila government made a similar move in September 1998, in another bid to nationalise the 'informal' diamond production through the creation of a state *comptoir*, the Sasmip (*Service d'achat des substances minérales précieuses*). With an injection of 250 million of the newly launched Congolese franc into the national diamond market, this state *comptoir* was meant to buy diamonds from local prospectors in local currency, and to resell them for dollars to the officially recognised *comptoirs*. Only hours after the installation of the Sasmip, however, trading conditions in Brazzaville were relaxed, causing a huge trader exodus from Congo (cf. Lewa 1998). As a result the Kabila government quickly renounced its attempt at nationalisation. However, the same happened again in late 1999 when Kabila sr. once more restructured the diamond trade, cancelling all diamond purchasing licenses and banning foreign currency transactions. This pushed the legitimate diamond trade once again into illicit but well-established circuits in Brazzaville and elsewhere. In 2000 the DRC instituted a diamond-exporting monopoly, awarded to International Diamond Industries (IDI), an Israeli firm headed by Dan Gertler. This monopoly was repealed in April 2001, only weeks after Kabila Jr. came into power following his father's assassination.[9] The official reason for instituting the monopoly was to reduce smuggling, increase official state revenue and prevent conflict diamonds from entering the formal trade. In reality, this policy seemed to have increased smuggling through Brazzaville.

In the early 1990s the Bana Lunda's and UNITA's diamond output started to flood the international market. The 'illicit' UNITA diamonds travelled from Lunda Norte and other places in Angola such as Huambo, via cities such as Kinshasa or Brazzaville, to Antwerp. An increasing volume of diamonds arrived in Antwerp outside of the De Beers controlled single-channel CSO (Central Selling Organization). UNITA diamonds also con-

9 Gertler, though, never released his grip on the Congolese diamond market. For example, it was only recently, on April 28, 2008, that the Democratic Republic of Congo's state diamond miner, *Société Minière de Bakwanga* (MIBA), sold around 300,000 carats of diamonds at an auction. It was MIBA's first sale since it ended earlier that month an agreement that had previously allowed Emaxon Finance International Inc, a subsidiary of Gertler's DGI Group, the right to purchase 88 per cent of its production.

tinued to be spirited out of Angola illegally after the UN-brokered November 1994 peace treaty of Lusaka, despite the increasing efforts by the Angolan government and the FAA to push UNITA out of Lunda Norte, and contain the *garimpeiro* effect. In fact, the Angolan government voted a new law destined to control the movement of goods and people in mining areas, and to curb illicit digging. Endiama (*Empresa Nacional de Diamantes*), a state diamond company which was founded in 1981 to represent the government interests in the former DIAMANG, was authorised to negotiate directly with foreign companies wishing to invest, and was given exclusive exploration rights to prospect, mine and trade diamonds, either solely or in joint ventures (with various companies of American, Portuguese, Canadian, Australian, Russian and Brazilian origin). In 1997 the MPLA government, in an attempt to deprive UNITA of diamonds, tried to get the diamond territories around Dundo-Lukapa under its control. In December 1997, the Angolan armed forces started to launch attacks against UNITA strongholds along the Cuango River, such as Luremo (cf. *Angola Now*, June 1997, 1 (2)), burning down villages and forcing thousands of civilians to seek refuge in the cities or across the border in Congo. In November 1998, the town of Luremo was cleared of all inhabitants and declared a 'neutral' domain. The government troops were assisted by security firms working for foreign mining companies active in the area. Many Congolese *garimpeiros* and other civilians were killed during those attacks in which government troops frequently hunted down Congolese diggers from helicopters. Many more were forced to return to Congo, a massive repulsion of people known among Congolese as *sayi-sayi*. As in the early '90s, when rumours about the fabulous riches of Lunda Norte were echoed and amplified in urban popular Congolese street and music culture by such musicians as Pepe Kalle and others who, in doing so, greatly contributed to the shaping of the Bana Lunda mythology and youth culture, anecdotes about the hardships endured by Congolese in Lunda Norte during the *sayi-sayi* period quickly found their way into Congolese popular cultural expression.

Interviews conducted by the Author with numerous returnees revealed that, from May 1997 up to the rekindling of the Angolan civil war in December 1998, many Congolese in Lunda Norte were also robbed of their possessions before being chased across the border by FAA troops, under the motto 'you came empty handed, you leave empty handed' ('*boyaki maboko pamba, bokozonga maboko pamba*'). Many of the Congolese Bana Lunda were caught between a rock and a hard place, for the UNITA fighters as well started to attack and rob them, revenging themselves on these *garimpeiros* for the fall of Mobutu, who had always been a close ally of Savimbi and UNITA.[10]

10 In 1997, UNITA's Congolese *artivistes* were forcefully sent to the UN demobilisation points, whereas an important number of real UNITA rebels remained behind in the bush of Lunda Norte. Those Bana Lunda who were not pushed back across the border into the DRC by MPLA were often forced by remaining pockets of UNITA rebels who did not disarm to join them, in view of an envisaged new attack against Kabila. In the spring of 1997 UNITA troops had already been responsible for the 'battle of Kenge', in the Congolese Kwango province, where they fought

From 1998 onwards UNITA returned to the strategy which they tried so successfully during the 1980s, namely attacking Lunda Norte mining sites belonging to the government and allied foreign investors.[11] In early 1999, UNITA had lost the control over most of its mining sites along the Cuango River and had retreated to Muhetu Grande, Malange and the area around Capenda Camulemba, in the company of some estimated 1,500 Congolese (estimates by *garimpeiro* eye-witnesses, interviewed in Kinshasa in 1999 upon their return from Angola). During the same period a larger Congolese contingent of some 3,000 persons was reportedly still present in MPLA controlled areas in Lunda Norte. With the military unrest and renewed warfare in Lunda Norte between 1997/1998 and 2002, the number of Congolese diggers in UNITA and/or government mines decreased drastically, but some were still active at the time of Savimbi's death in early 2002.

Lunda Norte: The post-Savimbi years

In the second half of 2002, Congolese youngsters started again to enter Lunda Norte in great numbers. They reverted to the system of bartering and trading (*pinch*) which had existed before 1992, and had never completely disappeared. In the meantime, the Angolan government continued to hunt down Congolese *garimpeiros*, expelling them from diamond mining areas in Lunda Norte and Malange, and pushing them back across the border into the DRC. An important number of refugees from Lunda Norte arrived in the Kahemba area due to the intensified fighting between UNITA and FAA troops after the rekindling of the war in late 1998. In July 2000, an estimated 12,500 'Angolan' refugees had crossed the border and settled in four scattered sites in the area (Kulindji, Chifwameso, Mwamushiko and Bindu). Later that summer 20,000 more arrived in Kahemba, while 10,000 refugees made it to the Kulindji area. The UNHCR intervened and started setting up refugee locations near these sites, while trying to bring relief supplies to the area, braving fuel shortages, huge logistical difficulties and thirty roadblocks set up by the DRC army on the roads from Kahemba (UNHCR briefing notes 25 July 2000, 3 November 2000). The presence of UNHCR in itself also added fuel to the conflicts between various lineages and chiefs in the area. In December 2003, thousands of Congolese arrived at the town of Kahungula, also in the territory of Kahemba but more to the West. They reported being raped and extorted by Angolan soldiers during their expulsion from Lunda Norte. People were forced to swim across the Tungila River, which forms the borderline between the two countries, and as a result many drowned,

alongside Mobutu's army, in an attempt to stop Kabila's march to Kinshasa.

11 Typical for such attacks is for example the assault which occurred on November 8, 1998, in the Yetwene diamond mine, 50km from the town of Lucapa in Lunda Norte. The mine was owned by the Canadian company Diamond Works and an Angolan company. At the time of the assault, six people were killed, including two Britons and a Portuguese, and five others taken captive. The captors were believed to be rebel UNITA forces. The mine was producing between 5,000 and 6,000 carats of high quality diamonds a month, valued at about US$200 a carat.

including women and children (Agence Congolaise de Presse, December 30, 2003). Reportedly, such expulsions continue even today since many Congolese, both from the border area itself and from towns and cities in the whole of south-western DRC, continue to travel to Angola to try their luck there.

Kahemba 2008: The arrival of new players

In 2008, the impact of the informal diamond extraction and cross-border trade has somewhat diminished. As mentioned above, in the post-Savimbi era, the Angolan government has been actively selling huge concessions along the border to international mining companies. Accompanying the industrial mining sector's tightening grip on Lunda Norte's diamonds, most of the diamond *comptoirs* along the border in the DRC left the Congolese side of the border and relocated themselves to Lunda Norte and to Luanda. Today, a town such as Kahemba, one of the hotspots for selling Angolan diamonds fifteen years ago, has dwindled from over 100,000 inhabitants to less than 50,000. Ten years ago, the main road leading up to the central market of Kahemba was lined with advertisement boards for all kinds of *comptoirs* of Congolese, Lebanese, South-African, West-African, Belgian or Israeli origin. The same held true for other towns in the area, such as Kimwangala, Kulindji, and Tembo. In late 2007, only one small *comptoir*, run by a Lebanese trader, was still active in Kahemba. Similarly, the number of flights by local aviation companies (such as Air Kasai, Malu Aviation, Blue, and others) has drastically diminished. In the 1990s towns such as Kahemba and Tembo were connected to the capital by daily flights, and trucks from the capital reached Kahemba on a daily basis. In September 2007, however, only one company, Malu Aviation, still assured a connection between Kinshasa and Kahemba, and only once a week. In early 2008, this company too stopped serving the area and moved its commercial activities to Eastern DRC, leaving Kahemba without a connection with the capital. In the meantime, the road between Kikwit and Kahemba has deteriorated to such an extent that trucks bringing commercial goods into the town have become much scarcer as well.

The diminishing importance of artisanal mining

As a result of this, and of the increasing difficulty to artisanally mine for diamonds in Lunda Norte, the number of Congolese who venture into Angola seems to have diminished somewhat. Ten years after the diamond boom, the Kahemba area seems to be back slipping into increasing poverty. Still, even today there isn't a household in the whole of Kahemba which does not have one or more of its members trying to make a living in Angola. This Congolese presence in Angola has taken on a different character, however. Rather than trying to access diamonds, people from the Congolese side of the border are now into a new form of economic migration, trying to set up petty trade and commercial activities

near the diamond activities in Angola. Such commercial operations are usually set up by a *pasnador* or *dépenseur*, a local Congolese who has enough revenues from his former participation in the diamond trade, or who has proven successful in obtaining a loan from *comptoir* owners in Angola to finance his group's commercial activities. Whatever benefits are made, the *pasnador* has to split these up between the money-lenders (50 per cent) and the other members of his group (25 per cent), which only leaves 25 per cent of the revenues for himself in the best scenario. Many though only accumulate debts. Since petty trade in Angola does not make a lot of money these days, many of these *pasnadors* are increasingly impoverished. In order to survive and pay back their loans, they have started to sell their houses, livestock and other possessions in Kahemba. This in turn often prevents them from returning home.

At the same time, a new development compared to the diamond migration in the 1990s is the involvement of an increasing number of young women who have also started to make the trip to Angola. Fed up with waiting for fathers, brothers and (potential) husbands to return from Angola, many girls and young women from the Kahemba area have decided to join them in Angola. This new exodus is currently causing a lot of new social and demographic problems in towns such as Kahemba.

New political developments in the area: changing relations between the DRC and Angola

Increasingly cut off from the possibility to generate cash in Angola, the local Congolese population along the border is also facing new political and economic developments that, again, seem to rob them of any real possibility of agency in determining or impacting upon the course of events. First, in early 2007, tensions rose between the DRC and Angola, to which a lot of international media attention was devoted. It was reported that Angolan soldiers invaded the Congolese border village of Shayimbwanda, part of the Kahemba territory, and planted the Angolan flag there, reportedly claiming that this and some other neighbouring villages in the area were actually situated on Angolan soil. The Angolan claim followed a dispute between the DRC and Angolan governments about the precise location of the borderline. The dispute, widely reported upon in the local and international press, generated a Congolese-Angolan mixed commission which also included the two former colonial powers, Belgium and Portugal, in order to determine the exact demarcation of the border as it was negotiated between the two colonial powers between 1890 and 1919. A year later now, the dispute seems to have largely dissapeared.

Inevitably, from the very first day of 'the conflict' between the two countries, press reports made diamonds a part of the story. Some

suggested that the Angolans invaded the area to get their hands on these potential diamond sites. Another local explanation was that this border incident was linked to attemps by the Angolan government to put Kinshasa under pressure to exert more control over the movement of its citizens into Angola. As mentioned, the Angolan government has been selling concessions along the border to international mining companies in recent years. According to local Congolese sources the Angolans put pressure on the Congolese government to do the same on their side, to enable the whole area to be policed and controlled in a more effective way. It is a fact that not long after the eruption of this border incident, some international mining enterprises decided to start prospecting for diamonds in Kahemba and its adjacent areas. It is this new development that is, in fact, going to impact much more on the local population of the Kahemba territory than the border conflict which is described above.

New economic developments in Kahemba: International diamond prospecting in Kahemba

The presence of foreign prospectors in the area is not totally new. In the seventies there had already been some small-scale American attempts, at the exact location of what would become the Shayimbwanda border conflict in 2007. In the early 1990s, then, during the final years of the Mobutu regime, Thierry Fraselle, a Belgian citizen living and working in Kinshasa, acquired a land concession in the territory of Kahemba (in an area know as *mabeet*, literally 'valleys', near the Tundwila River, in the vicinity of Mansabu village, not far from the town of Kulindji) and started a large scale diamond prospecting operation, which included the making of an airstrip, a private airplane, satellite imagery of the fluvial geomorphology and an airborne geophysical survey, and expatriate drilling, diving and pitting experts on the ground, all financed by South-African investors based in Cape Town. However, when Kabila's army roamed through the area in 1997, all of the mining equipment was looted and destroyed, and Fraselle subsequently moved to Tanzania, where he worked as a safari tour guide until his death in Dar es Salaam in 2003.

Some years after Fraselle's unsuccessful attempt at diamond exploitation in the area, new international players arrived. In May 2007, Indian geologists employed by Jindal Rex Exploration, a branch of the Indian industrial giant Jindal Steel and Power Limited, began pitting, drilling and trial mining for diamonds in the Tundwila River, setting up a pilot plant near a small mountain known as Pic Sörensen in colonial times, some thirty kilometres from the royal Lunda village of Nzofu, the traditional political centre of the area, situated only 5kms from the border with Angola. So far Jindal has invested US$30 million in its search for diamonds in the *mabeet* area (personal communication with Jindal employees, Kahemba, September 2007). Jindal Rex Exploration Pvt. Ltd. is incorporated under a joint venture with

Rex Diamond Mining Company, with headquarters in Canada and an operational centre in Belgium. A lack of success finally led the Jindal geologists to decide, in April 2008, to move their operation to the village of Nzofu, where they are currently (May 2008) starting up their prospecting endeavours.

The current Jindal operation is by no means an isolated occurrence. Along the Kwango River, between the towns of Tembo and Kasongo Lunda, for example, BRC DiamondCore, a 2007 Canadian/South-African merger domiciled in Canada and listed on the Toronto Stock Exchange[12], runs a large Kwango diamond prospecting project, covering an area of 2,398 km^2. BRC has held an option over eight prospecting licenses in this area since 2005, and has been actively prospecting here since 2007. All of the exploration work has been serviced by helicopter. This is also how other mining corporations operate.

Conclusion: How to monitor these new developments?

All of the areas along the border with Angola have opened up to foreign investors and modern exploitation techniques after the DRC adopted a new diamond code in 2003, a code described by the CEO of one of the foreign mining enterprises active in the DRC as 'one of the most progressive' in Africa. The question remains: progressive for whom? The opening up of the area to industrial mining certainly marks a new and decisive phase in the diamond saga which has held this region in a tight grip for decades now. In all of the cases mentioned above, however, the local administrative agents and authorities, let alone the local villagers on whose ancestral communal lands these searches are going on, were not – and it seems still are not – informed of these companies' arrival or the exact nature of their activities, and they have certainly not been asked for their opinion. There is actually no proof that the Congolese government is monitoring or controlling the activities of these enterprises on the ground, and it remains totally unclear in which form the local population will be able to access some, if any, of the benefits from these recent mining activities. More likely than not, these new activities on the Congolese side of the border, which seem to be developing into one of the fastest rounds of privatisation of communal lands in Congo's mining history so far, will set into motion yet another round of social upheaval in the area, upsetting local livelihoods and destroying whatever cultural resources these local people still have at their disposal. Whereas during the 1990s, the 'diamond' rush in the Lunda Norte area at least still offered a possibility for these local populations to actively participate in the process and somehow materially benefit from it through *garimpeiro* or commercial activities, the new developments seem to totally reduce them to passive and defenceless bystanders who even run the risk of being chased off their own lands. What seems to be urgently needed

12 For more information see www.mineweb.net

here is an integrated program to both inform the local population and provide it with some legal advice and means to defend its own (land)rights, to urge the government to look to it that part of the diamond revenues flow back to the inhabitants of the mining areas in question, and to create a platform which offers the possibility of bringing all three parties involved together and open up a space for negotiation between local villagers, international mining interests and national and regional levels of decision-making within the DRC itself. In the future allocations of mining concessions to national and international enterprises, I would urge more transparency in the way prospecting contracts are concluded, and above all, more transparent communications between the ministries involved, the regional and local administrative authorities, and the representatives of the population of Kahemba. The latter in particular seems to have no place in this whole process at the moment. In this it would, perhaps, be fruitful to look at some of the hard-learned lessons from other mining areas around the globe, such as Papua New Guinea, Australia, or Brazil, where efforts have been made, with the help of anthropologists, legal associations, NGOs and activist organisations, to establish such negotiation spaces between all actors involved. Similarly, one might learn from initiatives put into place by the Congolese government in the recent past. It might be helpful to evaluate the extent to which an existing official state institution such as the *Service d'Assistance et d'Encadrement du Small-Scale Mining* (SAESSCAM), an agency operating under the auspices of the Congolese Ministry of Mines, which started its activities in the Kasaian diamond sector but also monitors the Katangese heterogenite business), for example has been operating so far. Agencies such as SAESSCAM, it seems, have primarily been putting their technical, administrative, judicial and financial know-how and expertise at the disposal of investors, mining companies and small-scale miners. However, in view of a more integrated and balanced development, it seems key that a similar body of expertise is also offered to the local communities on whose land the exploitation of diamonds is taking place. So far they often remain an unheard and unrecorded voice.

Economic dynamics of artisanal diamond mining in relation to the Kimberley Process

Mark Van Bockstael

Introduction

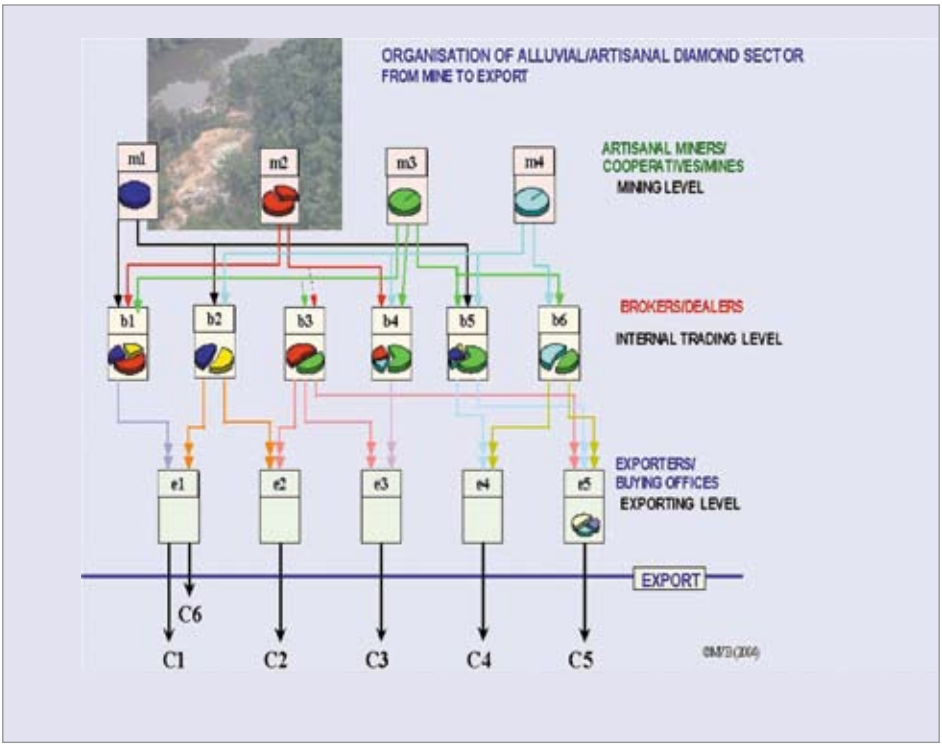
Artisanal Diamond Mining has been and remains today a not unimportant part of the world diamond production. In some countries, such as the Central African Republic (CAR) and Guyana, artisanal diamond mining (ADM) is responsible for the whole diamond production. In other, it complements large-scale diamond mining (LDM). In most cases[1], artisanal diamond mining is closely related to alluvial or riverine diamond deposits, hence the adjective 'alluvial' that is added. Artisanal alluvial diamond mining focuses on concentrated diamond deposits that have been formed as a consequence of the weathering and erosion of diamond bearing rocks such as primary kimberlite pipes and fissures. The diamonds that were contained in these rocks have been released in the rivers and have been subjected to natural sorting and concentration processes.

Almost all artisanal alluvial diamond mining occurs between the Tropic of Cancer on the Northern Hemisphere and the Tropic of Capricorn on the Southern Hemisphere. The reason for this phenomenon can be found in the high quantity and intensity of the rainfall in these areas. Both elements are prerequisites to produce a highly energetic river system in which alluvial diamond deposits can be formed. These particular climatic conditions also affect the density of the vegetation that negatively impacts the accessibility of the area. As a consequence, some deposits, which in other environments could become economically viable large-scale diamond mines, are considered to be sub-economical because of their inaccessibility, especially in dense rainforests.

Whereas the difference between artisanal diamond mining (ADM) and large-scale diamond mining (LDM) is self-explanatory,

1 The Bobi kimberlite dyke in the Séguéla region of Côte d'Ivoire consists of a diamond-bearing primary magmatic deposit that is being actively mined by artisanal miners/diggers under rebel control of the Forces Nouvelles.

Figure 1: Flowchart showing the so-called artisanal alluvial diamond pipeline 'from mine to export'.



this is less evident for the intermediate sized diamond mine or medium-scale diamond mining (MDM). Most legislators, e.g. in Guinea, Sierra Leone, Liberia, the Democratic Republic of Congo and others, consider that mechanization beyond simple pumps to lower the ground water table and overburden stripping, is sufficient to class these as medium scale diamond mining, for which separate permits and licences are required. From this point of view, most of the South American "artisanal" diamond mines in Venezuela, Guyana and Brazil would fall in this mid-tier segment of diamond mining.

Economical vs. sub-economical

Before the decision is made to open a large scale alluvial diamond mine, mining companies, large or small, would have spent considerable amounts of time and resources to identify, delineate and calculate the diamond content and value of the deposit. Important variables that are factored into this calculation, relate to the size of the mineable resource, the remoteness and accessibility, the life-span of the mine and the socio-political stability of the environment in which the investment will

be made. Of course, fiscal and purely financial considerations must be considered too.

Although at first instance, one would be inclined to believe that the same economic considerations will be made to decide whether a deposit can be profitably worked, this seems not that evident when applied to artisanal diamond mining. The question that has to be raised in this context is: "Economical to whom?".

In most publications on the subject, also in this study, a lot of emphasis has been (correctly) made to highlight the subhuman working conditions and the meagre pay of the diggers that hardly exceeds the mythical '1 dollar a day' regimen. Recently, a more balanced approach is emerging considering all aspects of the so-called 'value-chain' from mine to export[2].

In order to understand the complexity of this artisanal diamond pipeline from mine to export, in other words the artisanal diamond value chain, this is represented (much simplified) as a (idealised) flowchart in Figure 1. The arrows linking the different levels show commercial transactions between the different actors. On this flowchart only 3 levels in the value chain are reproduced: (i) the first level refers to the mining level including miners (i.e. mine owners and cooperatives, not individual diggers); (ii) the second level refers to the internal trade level[3] including buyers, brokers and dealers that buy from miners (and sometimes also from diggers); (iii) finally, the third level groups the exporters including buying offices ('comptoirs') buying from buyers and dealers (and sometimes also from miners and diggers), that export to the international markets (since 2003 with Kimberley Process Certificates).

Although this flowchart identifies all actors in the artisanal diamond value chain, it does not, however, identify all stakeholders. The latter group also includes the international diamond trade, landowners, local traditional and administrative authorities, and any other group or authority that could profit from the revenue generated by the artisanal diamond production or that could seek rent (Le Billon, 2008).

The question for who is artisanal diamond mining economical, and the question who decides whether to work a particular deposit or not, are both crucial:

- From the point of view of the trade (internal as well as international), profits are generated as soon as diamonds are entering the diamond pipeline; the more diamonds that are being fed into the pipeline, the more profits that are gener-

2 See DDI's report on the situation of ADM in Sierra Leone, and PAC's Annual Diamond Review on the DRC (Levin & Gberie, 2006; PAC & CENADEP, 2007).

3 Before the implementation of the Kimberley Process in 2003, it was not unusual that buyers at this level would also be active outside the boundaries of the country. This ancient trading tradition of certain ethnic groups, especially in West-Africa, has been well documented. That this tradition may still be very much alive has been indicated in the September 2006 UN Report of the Group of Experts on Côte d'Ivoire (Res. 1572) indicating mixing of diamonds from Côte d'Ivoire in Ghana's own artisanal alluvial diamond pipeline.

ated. As more diamonds enter the diamond pipeline, overheads will decrease proportionally resulting in higher profit margins.

- From the point of view of the landowners, local traditional and administrative authorities, income is generated only when diamonds are being mined and exported. As a result, increasing diamond productions automatically generate increasing revenues.
- From the point of view of traditional or other authorities that are seeking rent, only diamonds that are mined provide rent.
- From the point of view of the miners, their workforce i.e. the diggers, and the supporters of the miners, a sub-economical deposit generates a negative income, i.e. the costs of working the deposit exceed the total value of the recovered diamonds. An illustration of this situation is given in Box 1.

In conclusion, all actors and stakeholders except of the miners themselves, have a vested interest in maximising and incentivising the output of the artisanal diamond production irrespective of the production cost. The situation for the miners and their dependents means that working a sub-economical deposit results in getting into debt with financiers that most of the time are stakeholders in the artisanal diamond pipeline. This debt-mechanism may furthermore erode the miners' independence as to whom to sell their future production and at what price.

BOX 1 - MINING A SUB-ECONOMICAL DEPOSIT

A miner decides to mine an area up on the river bank, close to where previously a few big diamonds have been found. Traditional offers are made before opening up the mine, and all augurs well.

The miner employs a diggers' gang of 20, and it takes 50 working days to clear the gravel from the deposit and wash the gravel to recover any diamonds.

The total value (Antwerp market price) of the diamond production amounts to US$ 3,000.

1/3 goes to the traders: US$1,000.-
1/3 goes to the landowner and the other authorities: US$1,000.-
1/3 goes to the miner and his workforce: US$1,000.-

The miner has to pay for food, fuel for pumps and other miscellaneous expenses and wages for (20diggers x 50days) 1000 working days.

If the miner pays his crew a meagre 1$ a day, he will still not have made enough.

Maybe in contrast with the many publications and documents recounting tales of abject poverty and reiterations that diamonds have no positive effects whatsoever on the communities where they are mined and sold, some people in these communities get by quite well, as a quick glance through the satellite imagery of Google Earth may show. Compare for instance the proportion of new corrugated roofs (brilliant white) on houses in Kono (Sierra Leone) or in Bobi-Séguéla (Côte d'Ivoire)

with those in any non-diamond mining community elsewhere in the country where the rusty browns will prevail. This is yet another facet of ADM.

How can situations where miners decide to work uneconomic plots be averted? The answer to this question is seemingly simple but in many cases unrealistic: get sound geological information first! In countries where formal education beyond primary schooling is exceptional, the acceptance that mining engineers and geologists may be better placed than the traditional 'marabou' or experienced miners 'to read the signs', does not come easy. Furthermore, there is always the lack of trust, or sometimes even clear paranoia on the side of the miner who is afraid that the 'outsider' that is volunteering information, may have a hidden agenda and wants to steal away the best plots for himself. A perfect example of this happened in the mid 1980's in the Central African Republic (CAR) where the World Bank assisted the Ministry of Mines to redress the then dwindling diamond exports. As part of the assistance programme, a detailed geological assessment concentrating on alluvial placer deposits along the Mambéré River was offered. This resulted in a detailed geological map of the river, on which were indicated the areas where LDM, MDM or ADM were economically possible. The map also indicated areas where the probability to work economically was the lowest. To the frustration and disbelief of the assisting geologists and mining engineers, these 'no go' areas happened to be the first ones where artisanal miners were flocking to. When later –adding insult to injury- a few big diamonds[4] were recovered from these areas, that part of the assistance programme was dead and buried.

Taxation of ADM

In 2003, the IMF published a very interesting paper, written by Oomes and Vocke, on diamond smuggling and taxation. In this paper, the authors sought to understand why countries such as Botswana, South Africa and Namibia are capable of getting high revenues out of their diamond sector in comparison with countries such as Sierra Leone, the DRC and the CAR. Of course they understood the difference between kimberlitic versus alluvial deposits and the fact that the latter occur over vast areas that are difficult to monitor and control. In conclusion, the authors stated that in their opinion export taxes (avg. 3-5%) should, as far as possible, be replaced by other forms of taxation such as corporate taxes (avg. 28-30%) (Oomes & Vocke, 2003). Lowering the export taxes should reduce the competitive advantage of smuggling. Necessary conditions for this transition are the formalisation into 'corporations' of the sector in order to be able to impose corporate taxes. Recent evolutions in the DRC and the CAR, however, move in the opposite direction with increasing export taxes and, hence, increased potential for diamond smuggling.

4 Probabilistically comparable to the chance of winning big in the lottery!

Figure 2: Map showing two different diamond bearing areas in relation to an international border.

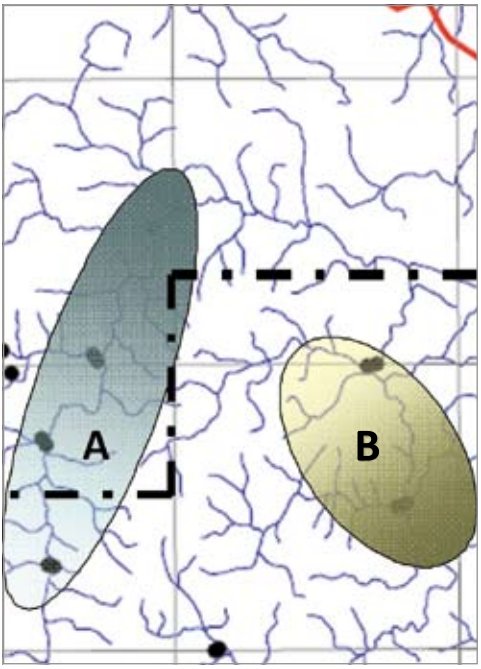
Diamondiferous area A straddles the border between two countries. Diamondiferous area B occurs only in one country.

The density of the area is represented to be proportional to the quantity of diamonds in the area (more diamonds in the darker area). The source of diamonds in both area A and B is a (different) kimberlite field.

The diamond footprint of area A is characterized by a high quantity of relatively small sized industrial quality diamonds.

The diamond footprint of area B is characterized by a relatively low quantity of larger diamonds of good quality.

On the basis of the available footprints,it is possible to identify smuggling of diamonds from area B into its neighbour.



Since the implementation of the Kimberley Process Certification Scheme in 2003, rough diamonds need to be accompanied by a KP Certificate in order to be legally imported in any of the KP Participant countries. This clearly had a positive impact on stopping diamonds from being smuggled. Measures to track diamonds from the mine to export must reinforce the capacity of the authorities and guarantee that proper revenues are generated.

Footprinting

A particularly strong tool in the fight against theft and smuggling is the so-called diamond 'footprint'. This refers to size and quality frequency distributions of the diamonds encountered in a given area. In many cases the combination of a SFD (Size Frequency Diagram) and a QFD (Quality Frequency Diagram) is completed by additional digital photographs of the unsorted complete production (also known as 'Run of Mine'). Diamond mining companies use reference footprints as a standard tool to calibrate their production and identify problems, such as mechanical failure at the diamond extraction plant or personnel related diamond theft.

When applied to diamonds mined in a particular alluvial diamond field, footprints can indicate whether certain qualities and sizes are missing which points to smuggling these diamonds out. On the contrary, an excess of

diamonds of any given size or quality in relation to the reference footprint indicates that diamonds from another area (country) are mixed in with the own production. This is further illustrated in Fig. 2.

Being able to identify whether diamonds are missing or added from the footprint has important consequences also from a purely financial point of view. The value of a diamond deposit is not concentrated in the bulk of the production but in the (large) tail ends of the SFD and QFD where approximately 20% of the volume in carats represents almost 80% of the financial value of the resource. Bearing this in mind, government evaluators should not only be trained to properly value their diamonds in order to collect proper government revenue, but should also be trained on how to collect reference footprints of the different diamond production areas within the country and compare this with their aggregated diamond export statistics over a reference period. With that statistical tool, it becomes possible to quantify smuggling in any given period, and assess the government revenue lost.

Monitoring systems

Efforts to build efficient monitoring systems to guarantee fair revenue to the governments have started almost together with artisanal diamond mining. Most of these systems, dating from long before the computer age, have in one form or another survived the digital revolution. Most systems, however, were far from optimal.

This was illustrated beyond any discussion when in the early 1980's, Belgian import statistics showed imports from the CAR that were 3 times greater than the export figures listed on the CAR-side. To improve the monitoring capacity of the CAR authorities, several World Bank sponsored projects with technical assistance from the Antwerp HRD (Diamond High Council) and the Belgian Ministry of Economic Affairs, were started in 1983, and continued until their untimely end in 1991. As a result of the implementation of several monitoring measures over this period, the CAR export figures steadily climbed to the point where the difference with the Antwerp import figures was completely acceptable. Work that had been started on footprint-collection, however, was not completed before the end of the project. The emphasis of the project was on monitoring and controlling of the internal trade pipeline from mine to export. The implemented monitoring measures contained a paper-based diamond tracking system including sales slips with carbon copies. This information was fed into a modestly-sized computer mainframe. The latter has not survived the hands of time, but the paper-based tracking system is still being used and in relatively good shape.

Diamcare

A monitoring system similar to that developed for the CAR, was needed in early 2000 in Angola and has been developed by a Belgo-British company for ASCORP (Angola Selling Corporation) that was the sole exporter at the time. The resulting monitoring system was

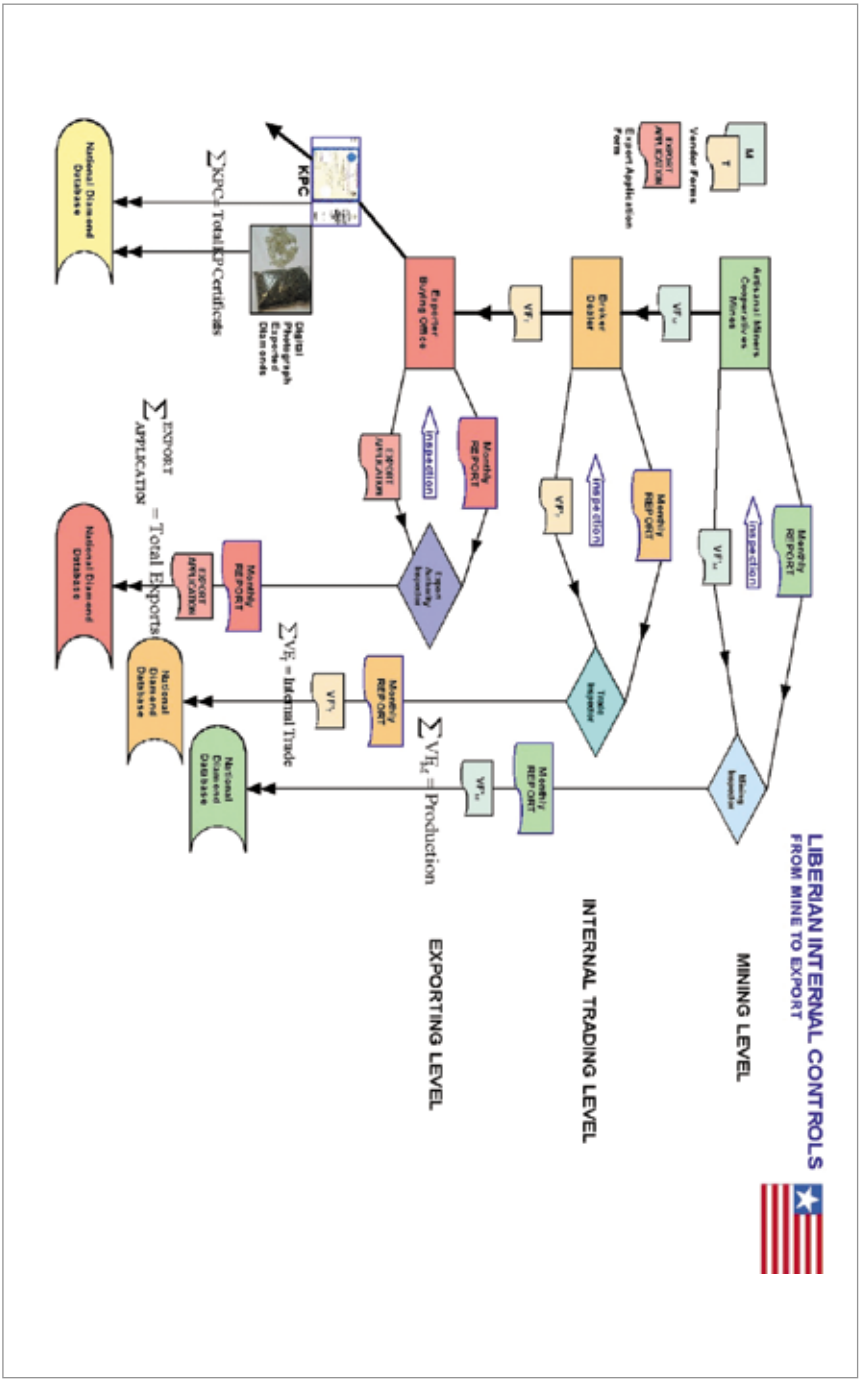


Figure 3: Flowchart of the Internal Controls proposed by the Kimberley Process to the Liberian Transitional Government in 2004.

BOX 2 - ORGANIZATIONAL CHART OF INTERNAL CONTROLS FROM MINE TO EXPORT

- All actors in diamond mining, trading and exporting have to be registered and licensed.
- To control the flow of rough diamonds from mine to export, all transactions are registered using Vendor Forms (VF's) at the Mining and Internal Trade level and Monthly Reports are submitted to the monitoring officials.
- To obtain a KPCertificate for export, Export Application Forms are submitted by the exporter.
- Regular inspections are organised on every level (mining, internal trade and exporting).
- Separate entrees on Mining and Internal Trade allow controlling the (illegal) flux of rough diamonds by comparing ΣTotals Production with ΣTotals Internal Trade.
- All exported rough diamonds shipments are digitally photographed and this information is stored at the National Diamond Database.

totally computer-based and included among others plastic computer-readable ID-cards for all actors in the internal Angolan diamond-pipeline. The software also included aspects of footprinting comparison. Without any doubt, this was the most advanced and performing diamond tracking and monitoring system that was ever tested in real life before the implementation of the Kimberley Process in 2003.

Since then, the software developed originally to monitor the Angolan internal diamond trade has been made 'Kimberley Process compliant' and was baptised 'Diamcare®'. It is probably still the only existing commercial software-package specially adapted to address the different statistical and tracking and monitoring requirements of the Kimberley Process.

ADM and the Kimberley Process

Since the implementation of the Kimberley Process Certification Scheme in 2003, the emphasis of many national monitoring systems has shifted from stopping smuggling diamonds out of the territory, to include also stopping conflict diamonds entering the legitimate diamond trade. Ideally, internal controls should be able to track rough diamonds from their initial production at the mine site, all the way to the point of export with a KP Certificate.

As part of technical assistance delivered in 2004 to the Transitional Government of Liberia, KPCS implementing legislation has been proposed trying to do exactly that. The Internal Controls that result are summarized on the flow chart in Fig. 3. In the organization of the controls, three different levels are to be identified: (i) the Mining Level including all artisanal miners, cooperatives and mines; (ii) the Internal Trading Level including Brokers and Dealers; (iii) and finally the Exporting Level with Exporters and Buying Offices, including Imports with KP Certificates from other KP Participants. In order to function properly all actors and operators in mining, trading and exporting should be properly

registered and licensed. Individual transaction forms for every transaction should be kept. Regular reports of mining and production for the mining level and transactions for all levels need to be collected. On all levels, internal controls should be based on "check and double-check" procedures as operational guideline.

Conclusion

Although artisanal diamond mining has existed for a considerable time, it is only since the crisis of conflict diamonds that it has been considered as an important topic for research. It does not come as a surprise that the biggest event to ADM has been the implementation of the Kimberley Process Certification Scheme in 2003. Since then, ADM has become more respectable and respected. There is no denying its economic importance in the countries that host widespread alluvial diamond deposits that could not be mined economically otherwise. ADM thereby creates revenue for the government and the trade. Likewise, is it important not to close our eyes for the sometimes blatant exploitation and abuse of the diggers that are on the bottom of the artisanal diamond pipeline. If the current attention to Artisanal Diamond Mining may result in better lives for these poor individuals, than indeed ADM diamonds will have become diamonds for development.

The misery and the mark-up: Miners' wages and diamond value chains in Africa and South America

Shawn Blore

Introduction

With the end of diamond-fuelled civil wars in Sierra Leone (2002), Liberia (2003), the Democratic Republic of the Congo (DRC) (2003) and Angola (2002), there has been a growing interest in both Africa and the international community in transforming Africa's alluvial diamond deposits from a curse into a genuine engine of development.

While on-the-ground projects have been slow to develop, the potential remains enormous. There are, according to a study by Partnership Africa Canada (PAC) and Global Witness (GW), upwards of a million artisanal diamond diggers working in Africa, the majority of them making on the order of a single dollar per day (PAC & GW, 2004a). The impact of a doubling or tripling of this daily income is potentially enormous.

The present study aims to provide an empirical evaluation of the upper limits of this development potential. That is, assuming no major change in the international price paid for rough diamonds, what level of wages and what kind of living can a fairer and more equitable alluvial sector provide Africa's diamond diggers?

The answer to that question comes in three parts. In the first phase, the study will attempt to establish a benchmark for the current income of African artisanal miners, relying largely on the existing literature. Significant gaps remain in this body of knowledge, but to date the best available studies indicate that diggers in Africa – the lowest men on the alluvial totem pole – earn somewhere on the order of US$1 dollar per day (PAC & GW, 2004a).

In part two, the study will attempt to demonstrate what is possible in terms of alluvial miner income, by analysing the income and working conditions of diamond diggers in the more developed and better regulated alluvial diamond mining industry of South America, paying particular attention to Brazil and

Guyana. This section is based on field research and first-hand interviews with artisanal miners and the heads of artisanal miners' cooperatives in Brazil and Guyana undertaken from 2005-2008[1], as well as in-depth analysis of production records from the Guyana Geology and Mines Commission.

The results are enlightening. Though both geology and technology are similar in Africa and South America, and though the two continents are both fully subject to international prices for diamonds and diesel fuel, the South American sector is able to consistently provide its *garimpeiros* – the ordinary diggers at the bottom of the diamond chain – anywhere from US$7.5 to US$12.75 per day. Put another way, though technology and prices are much the same in both continents, diamonds dug from the soil of South America offer their diggers a wage that is 740 to nearly 1300 percent higher than in Africa. These are, it should be noted, the figures for day-in, day-out labour.

Finally, in the third and final section, the report will examine the alluvial diamond mining value chain, and in particular the price mark-ups that occur as the diamonds travel from diggers to field buyers to exporters to international importers, in order to determine what percent of the final value embodied by a rough diamond remains with the participants at each level in the chain. Improving the lot of alluvial artisanal miners is mostly a question of re-adjusting the percentages allocated to the players at the various levels (difficult though that may be in practise). By analysing the mark-ups in the South American diamond chains, the study attempts to determine how much space there remains to augment the financial compensation paid to artisanal miners in both South America and Africa.

This section is based upon conversations with and direct observations of mid-level field buyers in the diamonds producing regions of Guyana and Brazil. In many cases, details of actual prices paid were recorded. For the sections concerning the Cinta Larga Indian tribe, the study relies on interviews with Cinta Larga leaders, and field visits to the Cinta Larga reserve lands and surrounding towns in 2005, 2006 and 2008.

In Sierra Leone, according to a 2006 study by the Diamond Development Initiative (Levin & Gberie, 2006), the mark-ups claimed by licensed dealers (the local equivalent of a field buyer) run to 50 per cent, while exporters claim mark-ups on the order of 10 per cent. In Guyana, where miners operate legally, free market competition for diamonds is intense and *garimpeiros* relatively knowledgeable about their wares, these margins have been squeezed to 2-3 per cent for field buyers, and 3-5 per cent for exporters. The international buyers who ultimately fund purchases in Guyana claim mark-ups of from 13.5-18 per cent.

1 Field research for the current paper took place from January to March, 2008. Previous research on the legal status and working conditions of Brazilian *garimpeiros* was undertaken in January to March, 2005 and January to February, 2006 (see PAC, 2005 and PAC, 2006a). Previous research on the working conditions and organisation structure of Guyana artisanal diamond producers was undertaken in March through April, 2006 (see PAC, 2006b).

By way of contrast, in Brazil, and in particular in the illegal mining operations on the Amazon reserve lands/ of the Cinta Larga Indian tribe, the margins claimed by international buyers have soared in some cases to over 900 per cent, a sign of the profiteering that is possible when miners work in illegality and ignorance.

Review of African wages and price chains

For anyone investigating money flows in the alluvial diamond industry, the long tradition of secrecy has always posed a major challenge; this is doubly true in Africa, where long periods of instability and warfare have only augmented the traditional tendency on the part of all players to share as little information as possible. That said, two of the studies that have delved into incomes and money flows in Africa's alluvial diamond industry have both come to the conclusion that the majority of Africa's diamond diggers receive on the order of US$1 per day.

The first study – *Rich Man, Poor Man* (PAC & GW, 2004a) – described the condition of alluvial miners in Angola, the DRC and Sierra Leone. In all three countries diamond diggers – the manual labour at the bottom of the social hierarchy and production pyramid – are given a daily food ration, a daily wage that varies between nothing and US$0.50 per day, and a percentage of the proceeds of any diamonds that they find. In Angola the percentage ranged as high as 50 per cent, while in Sierra Leone and the DRC the percentages were 30 per cent and 40 per cent respectively. This miners' share is divided – equally, or in shares according to output or social hierarchy – among all the miners on the work crew. Crews of 50 or 100 are not uncommon, so that an individual miner's share can be as little as 0.5 per cent. Hard data on individual miner incomes was difficult to obtain. In Angola, the study took the US$252 million worth of officially declared artisanally produced diamonds, divided it by half to obtain the miners' share and divided that by the estimated number of miners in the country – 400,000 – to obtain the ballpark estimate of US$351/year, or approximately US$1/day. A similar calculation for the Congo – gross exports divided by gross number of diggers – yielded a comparable figure. In Sierra Leone, miners can opt to receive either a daily wage of some US$0.50, plus a percentage of 30 per cent, often divided by as many as 50 miners, or else receive a higher daily wage of close to US$2/day, but no percentage of the diamonds. The study concluded that miners opting for a share of the proceeds receive on average between US$1.25 and US$1.50 per day. The study further notes that in all three countries the system through which alluvial diamonds are commercialised leaves diggers at a significant disadvantage in negotiating the price for the diamonds they produce. As a result, diggers receive only a fraction of the international or Antwerp price for their goods, with most of the value being captured by in-country middlemen buyers, or the exporters who buy and ship the diamonds aboard.

The study by the Diamond Development Initiative (DDI), *The Dynamics of Diamond*

Pricing and Marketing in Sierra Leone (Levine & Gberie, 2006), went into this question of mark-ups by middle-men buyers in much more detail. The DDI study highlighted the complexity of the pathways and relationships making up the diamond value chain, and the linkages by which diamonds travel from digger to exporter. In Sierra Leone, according to the DDI study, the three-step value chain – digger to mid-level field buyer to exporter – normally seen in South America is complicated by the addition of a fourth middle-man, the license holder (more commonly known as the miner, though these 'miners' never actually dig), who negotiates with the diggers for the diamonds they find, and then sells them up to the mid-level field buyers who sell them on to exporters.[2] Cautioning that these figures were only estimates, the DDI authors suggest that the license holder ('miner') achieves a mark-up of 200 per cent, while the field buyer's (known as a licensed dealer in Sierra Leone) mark-up is 50 per cent, and the exporter's mark-up, 10 per cent. The DDI study further detailed the range services provided in exchange for these mark-ups, and noted that the large profit margins were to some extent a reflection of the risks run in bankrolling a variety of miners.

South American alluvial miners: work conditions and wages

Though small in terms of carats produced and the number of miners involved, South America's alluvial diamond sector provides an interesting and useful comparison to conditions in the alluvial diamond fields of West and Southern Africa. For one, the diamond geology of the two continents is very similar. Indeed, the two landmasses were joined together until the Cretaceous, just 170 million years ago.

What's more, despite lengthy and extensive searches by various companies, including De Beers and Rio Tinto, no commercially viable mineralised kimberlites have ever been located in Brazil, Venezuela or Guyana. Exploration continues, notably by Canadian juniors such as Diagem Inc. and Vaaldiam Resources Ltd, but for the moment South American diamonds come from widely spread secondary and tertiary deposits. Only a very few of these diamond deposits – including two currently being exploited by Vaaldiam – are large or concentrated enough to warrant highly mechanised, capital intensive operations. For the most part, the diamond sector in Guyana and Brazil is made up of a mix of completely artisanal diggers, artisanal diggers supplemented by mechanical earth moving equipment, and small scale mechanised operations.

Finally, neither in Brazil nor Guyana, the two South American countries that serve as the focus of this study, are there any subsidies on

2 In South America, artisanal diggers sell directly to mid-level field buyers; for the more common small scale mechanised mining, the owner of the jig sells the diamonds to a field buyer and distributes the appropriate share to the *garimpeiros* (diggers). There appears to be a trust among *garimpeiros* that the jig owner will report sales figures honestly. This trust is reinforced by the fact that jig owners and *garimpeiros* live and work together, and indeed come from the same social background. Most jig owners are simply *garimpeiros* who made enough money to buy a jig.

gasoline or diesel fuel, nor any excess taxes or other regulations that would unduly distort the economics of the system. [It was largely because of its heavy subsidies on gasoline and diesel fuel that Venezuela was excluded from this study.[3] Domestic prices for gas and diesel in Venezuela are set at under US$0.05 per gallon (less than US$0.25/litre). This absurdly low price thoroughly distorts diamond mining economics in that country, and makes comparisons with the outside world largely inoperative.] Any difference in the wages and work conditions of diamond diggers, then, is entirely a reflection of different systems of financing and rewarding artisanal operations, and different expectations by various players in the industry as to what constitutes a reasonable level of profit.

Types of operations in South America - work conditions and wages

In Brazil, the term *garimpeiro* is used to distinguish small scale and artisanal miners from workers in large, capital intensive mines, who are known as *mineiros*. In Liberia and Sierra Leone, there is a distinction between a digger (those who stand in the pit and move earth) and the miner, who holds the license and supervises operations. In Brazil, the word *garimpeiro* servers for both positions, and indeed covers a wide variety of job descriptions, with an equally wide variety of payment schemes.

Legal environment

Whatever their work arrangements, all Brazilian *garimpeiros* exist in the same legal environment. Tradition – codified in the 1967 Mining Code[4] – gave Brazilian *garimpeiros* the right to dig wherever they wanted, without regard to underlying mineral claims, provided they obtained the consent of the landowner (i.e. the surface rights owner). The assumption underlying this system was that *garimpeiros* – individuals working with simple tools – could never deplete a large mineral deposit. The vast Serra Pelada gold diggings of the early 1980s showed the flaw in this assumption. By the late 1980s, the government was moving to reign in the free-roaming *garimpeiro*.

Article 174 of Brazil's 1988 Constitution noted that the state favoured the organisation of *garimpeiros* into cooperatives, promising priority access to mineral claims to *garimpeiros* who agreed to band together into collectives. The following year Law 7805/89 stripped *garimpeiros* of their right to mine where they pleased. Instead, individual *garimpeiros* and *garimpeiro* cooperatives would have to file mineral claims for specific areas, just like any other mining enterprise. The law did simplify the process for filing such *garimpeiro* claims, known as PLGs[5], but it did nothing to facilitate the Constitution's promised priority access. However, as the only body empowered to enforce mineral claims was the understaffed

3 The fact that most Venezuelan miners now smuggle their diamonds out the country in ways that leave no paper trail of production volumes or prices was a second significant factor in Venezuela's exclusion.

4 Decreto-Lei Nº 227, 28 February 1967.

5 Permissão de Lavra Garimpeira.

National Department of Mineral Production (DNPM), in the field many if not most *garimpeiros* continued to work as before, ignoring mineral claims and paying the landowner his traditional 10 per cent share of the proceeds. *Garimpeiros* in search of minerals such as gold and cassiterite (tin oxide) still largely operate in this fashion. For diamond miners, however, the advent of the Kimberley Process (KP) in 2003 rendered this impossible.

Brazil's KP process requires that all diamonds exported be traced back to the mineral claim from where they were mined. In addition, Brazil's DNPM decided as a matter of policy that all diamond *garimpeiros* should be organised into cooperatives. The net result is that all the artisanal diamonds legally produced in Brazil come from *garimpeiros* working on PLGs held by cooperatives. Within that framework, however, there remains a range of working styles and financial arrangements.

Hand miner

At the bottom of the ladder are the completely manual *garimpeiros*, the men who dig the earth with pick and shovel, wash the gravel ore by hand with a set of diamond pans and, with luck, find and then sell their diamonds all on their own. Though increasingly rare, *garimpeiros* such as this still exist, including a number at a newly opened *garimpo* (artisanal mining area) near Coromandel in Minas Gerais. Appearances aside, they are anything but independent, but rather the focal point of an often extensive joint venture. At the very least, the *garimpeiro* must have a backer willing to pay his monthly salary. Though in the past *garimpeiros* were willing to work for food, in the current market the going rate is the Brazilian minimum wage (currently R$415/US$250 per month), the same rate paid other unskilled labourers such as ranch hands or agricultural workers.

Backers may be one person or a consortium of persons. In the past, diamond buyers were often willing to serve as backers but this has largely ceased. In the case of *garimpeiros* close to the city of Coromandel, backers are drawn from local business people familiar with the world of alluvial diamond mining. In return for his support, the *garimpeiro* offers the backer half the value of any diamonds that he finds, once all the other percentages have been subtracted. Ten percent of the proceeds are claimed off the top by the owner of the land where the mining takes place.[6] Another 5-10 per cent goes to the person who runs and maintains the pumps that supply the *garimpeiro* with the water he uses to do the mining. The cooperative normally takes a share of between 1 and 4 per cent. The remaining 80-85 per cent the *garimpeiro* and backer divide equally, for an approximate 40 per cent share each.

Given the relative inefficiency of moving earth by hand, the above arrangement is fairly rare. More often, the *garimpeiro* will hire

6 Long-standing Brazilian practice, codified in the Mining Code of 1967 (Decreto-Lei 227, 28 Feb 1967).

someone with a backhoe to dig out a pile of ore-bearing gravel, paying for the service with an additional 25 per cent of the proceeds. Miner and backer then divide the remaining 55-60 per cent of proceeds, for a share of some 30 per cent each. What this percentage yields over the longer term is difficult to determine with any accuracy. Miners interviewed near Coromandel spoke of producing everything from nothing to stones of 2, 5, 15, even 25 carats. Few had any notion of how much on average their diamond production was worth. A 2002 field study[7] of the *garimpeiros* of the Coromandel region commissioned by the government of Minas Gerais found that that the 220 diggers surveyed admitted to finding a total of 609 carats worth of diamonds, for an average of 5.35 carats per *garimpeiro*. Over 50 per cent of this same group of *garimpeiros* said that monthly wage from their financial backer was their principal source of income.

Economics would seemingly dictate that over the long term the proceeds would at least cover the costs of the *garimpeiro's* salary. If not, the miners should logically have a hard time finding backers. The 2002 study determined that many of these *garimpeiro*-supporter relationships are of quite long duration: nearly 1 in 7 of the *garimpeiros* surveyed had had the same backer for more than five years; just under 60 per cent had been with the same supporter for more than one year.[8] That said, logic does not necessarily drive this system. The diamond deposits around Coromandel are sparse in terms of carats per cubic metre, but when stones do turn up, they tend to be very large and extremely valuable. In this situation, many backers view supporting a miner for a period of time – a month, a year – as something more akin to playing the lottery. Unlike the lottery, backing a diamond digger pays off often enough, with returns large enough, to seem an attractive proposition to numerous local businessmen. Few make a full time living as backers. Instead, most invest intermittently, as inclination and resources allow.

Small scale mechanised mining – stationary jigs

Far more of South America's diamonds are produced by mechanised production setups. At the larger end, Coromandel boasts a number of large electric powered jigs capable of processing up to 30 m^3 of ore per day (the equivalent of about ten dump trucks). The capital cost of such a jig ranges from US$30,000 to US$75,000 dollars, depending on the setup. The relatively high capital and operating costs normally dictate a fairly widely held partnership. As with smaller setups, earth moving services and water are paid with a percentage of the proceeds, while the land owner receives his customary 10 per cent. The simplest workers on such a jig receive minimum wage (US$250 per month), plus a 1 per

7 Garimpos de Coromandel: Diagnóstico e Perspectivas (Belo Horizonte 2002), Fundação João Pinheiro (FJP) - Centro de Estudos Econômicos e Sociais, contract number 42/01 for the Ministério de Trabalho e Emprego - Delegacia Regional de Minas Gerais, pp. 100.

8 Ibid., pp. 101.

cent share of the gross proceeds from the sale of any diamonds. In the Coromandel area, where production consists of few diamonds of very high quality, this percentage can prove to be a substantial bonus indeed.

The table below shows the division of proceeds for a number of recent diamond finds on larger jigs in the Coromandel region.

Clearly, working as a *garimpeiro* on a larger jig can be a very profitable proposition. The US$26,000 each that represents the *garimpeiros*' share of the 134 carat stone enabled each of the four *garimpeiros* on the jig to buy themselves a house. Lucky and laudable as this is, it is hardly typical of the profession continent wide, or even within Brazil. The lack of a larger data set makes it impossible to determine how rewarding the job is over the longer term. The figures are included largely to demonstrate that the *garimpeiro* dream of striking it rich – such a strong factor in attracting and retaining so many workers in this field – has a strong basis in reality. The number of such jobs is quite limited, though. The relatively heavy investment in such a jig is justified by the nature of the deposits in Coromandel, conditions that are rare elsewhere in South America.

Small scale mechanised mining – the resumidor

By far the most widely used mining rig in the diamond fields of South America is the portable *resumidor* jig (or dredge, as it is known in Guyana). Widespread throughout Brazil, Venezuela and Guyana, the *resumidor* jig has the advantage of being easily transported into the most remote locations, as well as being relatively cheap. A *resumidor* jig, including all motors, hoses, and associated tubing, costs on the order of US$15,000.

The *resumidor* jig is also the rig type about which the largest and most reliable data set exists, one that allows for a serious analysis of

Table 1: Recent Diamond Production, with prices and garimpeiro share of gross, for Coromandel Region, Brazil

Date Sold	Size (cts)	No. Stones	Value (US$)	US$/ct	Garimpeiro Share US$
18-Jan-07	21.93	1	$723,848.24	$33,007.22	$7,238.48
18-Jan-07	134.36	1	$2,628,689.71	$19,564.53	$26,286.90
30-Jun-07	18.78	2	$47,058.82	$2,505.79	$470.59
20-Jul-07	263.13	1	$1,508,417.79	$5,732.60	$15,084.18
4-Sep-07	21.93	1	$723,877.65	$33,008.56	$7,238.78
4-Sep-07	139.36	1	$2,628,689.76	$18,862.58	$26,286.90
25-Sep-07	123.68	many	$86,529.41	$699.62	$865.29
5-Mar-08	27.1	2	$20,117.65	$742.35	$201.18

Source: COOPERGAC: Cooperativa de Garimpeiros de Coromandel

garimpeiro wages.[9] The volume of the material that can be processed – and thus the productivity of a jig - is limited by the diameter of the pump used to suck material into the *resumidor*. The smallest jigs use a 3-inch pump. Four and 5-inch pumps are the most common, but there are also 6-inch and even 8-inch *resumidors* in operation. The trade-off for jig owners is that while a larger *resumidor* can process more material, it requires more diesel fuel to run the engines, and more workers to man the hoses. The risks and operating costs are higher for the owner of a larger jig. The trade-off, illustrated in Table 2 and Figure 1, is larger gross production. Though an in-depth analysis of input costs lay outside the realm of this study, interviews with jog owners suggest larger jigs also yield larger net profits.

Workers face no such trade-off. Ordinary *garimpeiros* on a *resumidor* are provided with food (plentifully on a Brazilian run jig, more sparingly on a Guyana or Venezuela rig) plus a 30 per cent share of the proceeds of all diamonds produced. During periods when the dredge has no production – normally when a jig has just been relocated to a new site and trees and overburden must be cleared in order to reach the ore-bearing gravels – the crew works solely for food. Normally, such periods are kept to a week or two at a maximum. Longer, and workers become disaffected.[10]

Whatever the size of the crew, the workers' share remains fixed at 30 per cent. The share received by each *garimpeiro* thus decreases as dredge size increases: on a 3-inch dredge the individual percentage is 7.5 per cent (30/4), while on a 5-inch dredge the share is 5 per cent (30/6). *Garimpeiros* believe the increased productivity of a larger dredge makes up for the decreased percentage, so that overall income remains the same. The analysis in the following section shows that in this they are essentially correct (see Figure 1). More importantly, the following section provides a solid estimate of *garimpeiro* wages, based on hard numbers from a substantial dataset.

9 Essentially a metal tub or hutch about a metre on a side, a *resumidor* contains a battery of wire sieves of ever finer mesh. Ore-bearing slurry is pumped into one side of the tub, while a small gasoline engine vibrates the tub up and down. On a well regulated site, the slurry is directed into and gradually re-fills a previous excavation. The *garimpeiro* thus re-fills the holes he has created as he mines his way through an area. These re-filled areas can be replanted, and so recover within a reasonable time frame. In poorly controlled *garimpeiro* sites, the slurry is discharged directly into the nearest watercourse, immediately fouling the river and potentially damaging fish populations with increased sediment load, while silting up the river course over the long term. On land, uncontrolled *garimpo* activity leaves a series of deep stagnant pits which distort the natural drainage patterns and serve as a locus for mosquitoes, which in turn often carry malaria. For this reason, river-based *garimpeiro* activity has been banned in the more tightly regulated southern states of Brazil, including Minas Gerais, while land-based *garimpeiro* mining is now tightly controlled. Further north in Amazon states such as Mato Grosso and Rondônia, environmental controls on *garimpeiros* are lightly and irregularly enforced. In Guyana, river-based mining is still permitted, but mines officers do ensure that land-based *garimpeiro* operations direct their discharge back into their excavations, thus re-filling as they mine, and avoiding direct discharge into nearby watercourses.

10 The rule of thumb with *resumidors* is that the number of workers is equal to the size of the pump in inches, plus one. A 3-inch dredge thus requires four workers, a four-inch dredge, five workers Not every dredge follows this 'plus one' rule. A 4-inch dredge can be operated with a 4-man crew, and a 5-inch dredge with a 5-man crew. According to dredge operators, the extra man is kept on because on any given week at least one crew member is likely to be sick with malaria.

Analysis of Garimpeiro wages – the Guyana dataset

The small South American nation of Guyana has one of the world's best-designed systems for regulating and monitoring the alluvial diamond mining sector. The system had its origins in the British colonial mining office, and was maintained by Guyana's Geology and Mines Commission (GGMC) after independence. Since 2003, the system has been adapted for use as part Guyana's KP internal controls on diamonds.

Accurate data collection lies at the heart of Guyana's system, which makes it a rare and precious resource for anyone studying alluvial diamond mining. In the present case, the records were used to determine the typical weekly salary of *garimpeiros*[11] working on *resumidor* dredges in Guyana's diamond fields. The bedrock of the Guyana system is a form called a production sheet, filled out each week by the operator of every active dredge (as *resumidors* are called in Anglophone Guyana) upon which he records information such as the dredge's location, working hours, diesel consumption and – critically – its production of diamonds for the week. A copy of the production sheet travels with the dredge's diamonds as they are sold to field buyers and then to exporters in the capital, Georgetown. When an exporter lodges a parcel of diamonds for export, each of these sheets is checked, and the diamond production it records entered into a database maintained by the GGMC.

A separate file maintained on each active dredge includes such critical details as the pump size (and thus the number in the crew). Linking these two files by the dredge number, it was possible to construct a single table with some 1,500 entries, recording the individual weekly production of over 300 hundred dredges over a five year period, from 2003 to 2007. In another separate file, Guyana authorities maintain a record of all diamond exports, complete with price and volume information. From this file, it was possible to calculate the average price per carat paid for Guyana diamonds in any given year. A 10 per cent discount was applied to these figures, to account for the mark-up from field buyer price to exporter price.[12] The average price per cart for each year was then multiplied by the weekly production for each dredge to determine a dredge's weekly income. Grouping the dredges together by size, it was possible construct Table 2 (below) showing the production in carats and the weekly and monthly income (in dollars) for both the dredge and for individual miners working on the dredge.[13]

The table actually shows five figures for each size of dredge: the average (arithmetic mean), median, maximum value, minimum value and standard deviation from the mean.

11 Most miners in Guyana are actually Brazilian, and the term garimpeiro is widespread.

12 See Section 3 for details on the determination of this mark-up figure.

13 The data points column refers to the number of dredge-weeks (data points) that contributed to the calculation.

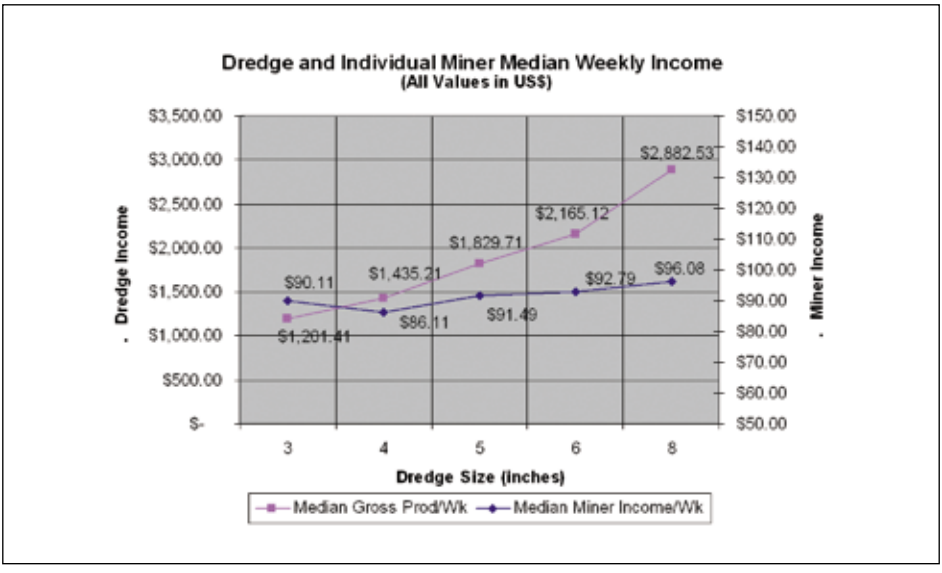
Table 2: Dredge (*resumidor*) production and income, and individual miner income for dredges of 3-8 inches							
Dredge Size	No of Crew	Data Points		Production Cts/Wk	Dredge Income Per Week	Individual Miner Income	
						Per Week	Per Month
All		1429	Average	39.56	$ 4,367.68	$ 223.69	$ 958.65
			Median	15.41	$ 1,700.44	$ 89.37	$ 383.02
			Max	1098.23	$ 111,498.44	$ 6,171.86	$ 26,450.84
			Min	0.44	$ 48.59	$ 3.41	$ 14.61
			StDev	90.29	$ 10,024.65	$ 513.35	$ 2,200.09
3"	4	8	Average	19.86	$ 2,286.72	$ 223.69	$ 958.65
			Median	10.55	$ 1,201.41	$ 90.11	$ 386.17
			Max	58.84	$ 6,973.80	$ 6,171.86	$ 26,450.84
			Min	0.44	$ 48.59	$ 3.41	$ 14.61
			StDev	21.02	$ 2,468.65	$ 513.35	$ 2,200.09
4"	5	630	Average	30.90	$ 3,454.14	$ 207.25	$ 888.21
			Median	13.15	$ 1,435.21	$ 86.11	$ 369.05
			Max	867.90	$ 102,864.38	$ 6,171.86	$ 26,450.84
			Min	0.50	$ 56.80	$ 3.41	$ 14.61
			StDev	75.06	$ 8,581.52	$ 514.89	$ 2,206.68
5"	6	465	Average	41.79	$ 4,695.47	$ 234.77	$ 1,006.17
			Median	16.52	$ 1,829.71	$ 91.49	$ 392.08
			Max	891.56	$ 101,488.06	$ 5,074.40	$ 21,747.44
			Min	0.74	$ 81.16	$ 4.06	$ 17.39
			StDev	92.20	$ 10,486.68	$ 524.33	$ 2,247.15
6"	7	307	Average	52.30	$ 5,615.05	$ 240.64	$ 1,031.33
			Median	20.33	$ 2,165.12	$ 92.79	$ 397.68
			Max	1098.23	$ 111,498.44	$ 4,778.50	$ 20,479.31
			Min	1.15	$ 106.35	$ 4.56	$ 19.53
			StDev	112.45	$ 11,925.09	$ 511.08	$ 2,190.32
8"	9	19	Average	74.41	$ 7,357.76	$ 245.26	$ 1,051.11
			Median	26.27	$ 2,882.53	$ 96.08	$ 411.79
			Max	296.98	$ 26,500.02	$ 883.33	$ 3,785.72
			Min	3.89	$ 461.28	$ 15.38	$ 65.90
			StDev	92.75	$ 8,632.11	$ 287.74	$ 1,233.16

The median value of approximately US$89 per week or US$383 per month likely comes closest to representing what the typical miner receives on a week to week or month to month basis. The average values are unduly influenced by the few outlying high production figures, which may represent dredges experiencing extraordinarily good luck. The maximum and minimum values reflect the wide swings in fortune that occur in diamond mining. The very large standard deviation values are another indication of this vast change in fortune that is a regular feature of life in the diamond fields.

The values in Table 2 correspond quite well to information gathered through interviews with *garimpeiros* in the field, who report monthly incomes varying from nothing to US$1,000 per month. And while most *garimpeiros* never think in terms of average monthly income, they do believe they are doing better than they would at a simple labouring job. Recalling that the going rate for unskilled labour in Brazil (where most of Guyana's *garimpeiros* originate) is US$250 per month, the miners' sense that they are better off mining appears to be correct. Perhaps more importantly, the results show – with some considerable confidence – the weekly income of artisanal miners in Guyana. At some US$89 per week, or US$12.71 per day, it works out to something between five and ten times the wages for a comparable miner in West Africa.

Figure 1 shows dredge income, and individual miner (*garimpeiro*) income, plotted as a function of dredge size. The plot bears out

Figure 1: Dredge and Individual Miner Income as a function of Dredge Size



the assumption of *garimpeiros* in the field that dredge size has no effect on income. While gross income does indeed rise linearly with dredge size, the miners' median net income remains nearly flat, at between US$86 and US$96 per week.

Comparison of wages – Africa and South America

The results of this section of the study are summarised in Table 3 (below). Basic unmechanised miners in Sierra Leone are paid between US$1.25 and US$1.5 per day, according to the DDI study (Levin & Gberie, 2006). The same type of miner in Brazil is paid at least five times that amount, or US$7.5 per day, not including any diamonds the Brazilian miner may find. For small scale mechanised mining, the results are similar. In Sierra Leone, unskilled miners earn some US$2.5 per day. In Guyana, miners working *resumidor* dredges earn on average just over five times the African wage, or about US$12.75 per day, all of it from their percentage of diamond production. The input costs in both locations are similar – food and diesel fuel – and similarly priced. The export price of rough diamonds is similarly set internationally, and does not vary up or down because the diamonds originated in Africa or South America. What this analysis shows is that it is possible to have a per-

Table 3: Summary of types of artisanal mining and miner compensation in West Africa and South America

Location	Type of Miner	Compensation Formula	Net Income Per day (US$)	Net Income Per Month (US$)
Sierra Leone	Fully Artisanal (hand miner)	US$0.50/day wage plus daily allowance of rice plus 30% of gross diamond production, divided among all diggers (approx 0.5-1% each)	$1.25-$1.5	$45
Sierra Leone	Small Scale Mechanised	US$2.5/day No share of proceeds	$2.5	$75
Brazil	Fully Artisanal	Minimum wage (US$250/mo), plus 40% share of gross diamond production	$7.5	$250, plus diamond production
Brazil	Artisanal Miner – Mechanised Earth Moving	Minimum Wage (US$250/mo), plus 30% of gross diamond production	$7.5	$250, plus diamond production
Brazil	Unskilled labour on stationary small scale diamond jig	Minimum wage (US$250/mo), plus 1% of gross diamond production	$7.5	$250, plus diamond production
Brazil Guyana Venezuela	Worker on small scale Resumidor-style jig	All meals plus 30% share of gross diamond production, divided between 5-7 workers (4.3%-6% each)	$12.75	$383

fectly viable artisanal industry where artisanal diggers are paid some five times what they are currently paid in Africa.

Obviously, the simple statement of this fact will not cause wages in Africa to rise. African diggers earn what they earn for a complicated set of reasons that are not the subject of this study. However, knowing what wage levels are possible should give any future development projects a concrete target to aim for. The fact that African diggers are underpaid suggests that other players in the diamond chain are capturing a larger share of the wealth. The next section of this study will attempt to analyse the diamond value chain, to determine what percent of a diamond's value is being captured by each player in the chain.

South American value chains

Explanation of players in the value chain

Anywhere in the world there is artisanal alluvial diamond mining, the diamonds travel from mine to export point through a remarkable similar value chain: from the mine site the miner or *garimpeiro* brings his diamonds to a nearby town or settlement and sells them to one of a number of mid-level or field buyers. These in turn sell the diamonds up to an exporter, generally located in a national or regional capital. Exporters assemble larger packets of diamonds from a number of field buyers and export the parcels to customers or partners in trading centres such as Antwerp, Tel Aviv, Dubai or New York.

There are variations and permutations on the basic 3-step chain. In Sierra Leone and Liberia, diggers are often obligated to sell their diamonds to the 'miner', the legal licenseholder for the area in which they are working. Sometimes, also, the digger or miner will first seek out a tout or agent who will, for a commission, introduce the miner to trustworthy field buyer, or on more rare occasions even directly to an exporter, or an exporter's agent. Complicating the picture still further, mid-level buyers sometimes act as financial backers for miners, staking their mining operation in return for a share of the production, along with an undertaking that the miner will sell his stones only to the mid-level field buyer.

Field buyers, in turn, are remunerated in a variety of different ways. Some are independent businessmen, buying diamonds with their own capital and reselling them to whichever exporter offers the best price. More often, the mid-level buyer works for a particular exporter, using the exporter's money to buy diamonds according to a price table provided by the exporter. In these cases, the field buyer may be an actual salaried employee, or he may receive a commission (often 2 per cent) on volume. Most often, however, the field buyer receives neither salary nor commission, and must make his money on the spread between the price he pays *garimpeiros* for their diamonds, and the fixed values in the price table provided by his exporter.

Some analyses of the plight of artisanal diggers in Africa have flagged these mark-ups – between digger and field buyer, and field buyer and exporter, and, exporter and importer in Dubai or Antwerp – as one of the main factors contributing to the generally poor remuneration received by African alluvial producers. Too much of the value of the diamonds produced in Africa, it is suggested, is being captured by the middlemen, and not enough is remaining with the miners, diggers and *garimpeiros* who do the hard work extracting the stones from the earth. Unfortunately, given the extraordinarily secretive nature of the diamond business, the exact size of these mark-ups has been hard to determine with accuracy. The *Rich Man Poor Man* study (PAC & GW, 2004) ball-parked the mark-up for field buyers in Angola at some 30 per cent. The later DDI study of Sierra Leone (Levin & Gberie, 2006) estimated the field-buyer mark-up at 50 per cent, the exporter mark-up at 10 per cent, and quantified an additional step, from digger to miner, at 200 per cent. The DDI study noted the services provided by field buyers and exporters for their mark-ups, which often included direct investment in mining operations.

The present study will attempt to further refine understanding of the mark-ups present in the alluvial diamond marketing chain, using data that wherever possible comes from official receipts, government records or direct observation of diamond transactions. This study focuses on two distinct diamond value chains, one in Brazil, the other in Guyana.

The Guyana value chain

The artisanal alluvial diamond sector in Guyana is in many ways an ideal test case for a study of mark-ups in the diamond value chain. Firstly, it is a field with significant competition. Guyana's total exports hover between 300,000 and 500,000 carats per year, and yet there are over 50 registered exporters in the capital, Georgetown.[14] There are no barriers on the basis of citizenship, and annual licensing fees are sufficiently low that even low-volume dealers can afford to maintain exporter status.[15] That said, about a dozen exporters account for over 90 per cent of Guyana's yearly exports, shipping out from 7,000 to 70,000 carats each over the course of a calendar year (See Table 6). At the field buyer level, licensing requirements are equally straightforward, and fees equally low, thus encouraging a large corps of mid level buyers.[16] Each of the ten major exporters normally has at least one associated field buyer in a key location in each of country's three major production areas. In the diamond trading settlement of Barlow's Landing on the Mazaruni River, there were during a April 2008 field visit some 19 mid-level field buyers present; far more, given the recent downturn in production, that there were *garimpeiros* with diamonds to sell.

14 Guyana Geology and Mines Commission (GGMC) data.

15 As per GGMC regulations, a diamond exporter must pay US$75 yearly for a diamond trading license, plus US$50 for a business permission, and have an established place of business.

16 Licensing requirements for in-country traders are identical to those for exporters: US$75 for a license, US$50 for a business permission, plus an established place of business.

Secondly, there are no longer any loans or financing arrangements affecting the buyer-seller relationship between *garimpeiros* and field buyers. Of close to 30 field buyers interviewed for this study, all said that they had given up financing *garimpeiro* operations; the risks, they reported, do not justify the rewards. Loans to *garimpeiros* can even backfire, say field buyers, as an indebted *garimpeiro* may take his stones elsewhere to sell, in order to avoid paying back the loan. In recent years, field buyers have limited themselves to providing 'favours', in the form of an occasional barrel of diesel fuel, or more commonly simply a few bottles of cane liquor at the completion of a larger transaction.

Finally, the very nature of Guyana's production dictates a more rational approach to diamond pricing. In countries where the alluvial run of mine consists of a mixture of smaller (2 carats and below) diamond and larger (plus 5 carat) stones, mid-level buyers often treat the smaller diamonds as something of a loss-leader, offering above market prices in hopes of attracting that miner's custom should he uncover a larger stone, upon which mark-ups and margins are considerably higher. In Guyana, plus-5-carat stones are too rare to justify such a financial sacrifice. Taking into account the past five years of exports, the average Guyana stone has come in at a featherweight 0.11 carats, with an average value of US$104/ct. Midlevel buyers and exporters have to make their profit on the stones as they are.

Field buyer to exporter mark-up

The first set of data involves the first step in the chain, from *garimpeiro* to field buyer. When miners bring diamonds in for sale, Guyana field buyers follow a standard procedure evaluating and pricing the stones. Stones of close to 1 carat and above are separated out first. The remaining diamonds are put through a series of sieves[17]. That done, a quick secondary check is performed to remove any heavily included stones to the industrial pile. The remaining rough, in each category, is then considered to be – within reason – round, free of defects and white in colour. For each size category, the buyer then multiplies the weight of the stones by the figure in his price table (dictated to him by his exporter) to arrive at a price for the overall package. Some dickering normally ensues[18] before a final price is agreed, but the basis of each transaction is the buyer's price table.

Table 4 shows the price table for field buyer working for the Georgetown exporter Excel Minerals[19]. The first column gives the sieve size, with the corresponding weight of stones in column two. Column three gives the buyer's price table, the prices paid for rough for each

17 (-6; +6-10; +10-15;+15-19;+19) Note that these sieve gradations are different than those in use by De Beers/DTC that bear the same sizing labels; to avoid confusion, the carat weight corresponding to sieve size is given in the tables.

18 Different buyers employ different negotiating techniques. Many start off 10-20 per cent below the price they want to achieve in order to allow themselves to be talked upwards.

19 The field buyer's name has been kept confidential, but for this and subsequent table the name of the exporter for whom the field buyer is working is given.

Table 4: Price Table for Barlow Field Buyer working for EM								
Field Buyer For: EM								
Sieve Size	Range	Price Table	Transaction 1		Transaction 2		Transaction 3	
	(cts)	US$/ct	cts	US$	cts	US$	cts	US$
2ct	n/a	600	0	$ -	0	$ -	0	$ -
1ct	n/a	300	0	$ -	0	$ -	1.01	$ 303
19	.66-.85	200	0	$ -	0	$ -	0.85	$ 170
+15 -19	.35-.65	175	3.42	$ 599	1.091	$ 191	1.18	$ 207
+10 -15	.15-.35	130	7.75	$1,008	2.39	$ 311	0.94	$ 122
+6-10	.04-.15	100	15.22	$,522	3.12	$ 312	2.14	$ 214
+3 -6	.02-.04	45	2.53	$ 114	0	$ -	0	$ -
Chips	n/a	50	0	$ -	0	$ -	1.05	$ 53
Industrials	n/a	30	4.05	$122	0.312	$ 9	0.48	$ 14
		Totals	**32.97**	**$3,363.35**	**6.913**	**$ 822.99**	**7.65**	**$1,082.60**
		Amount Paid		$ 3,850.00		$900.00		$ 1,150.00
		% above Table		14%		9%		6%
		Final $$/ct		$ 116.77		$ 130.19		$150.33

Table 5: Mark-up from Field Buyer to Exporter				
Sieve Size	Range	Field Buyer Average	Georgetown Exporter	Mark-up
	(cts)	cts	US$	cts
2ct	n/a	600.00	650	8%
1ct	n/a	300.00	350	17%
+19	.66-.75	206.67	230	11%
+15 -19	.35-.65	176.67	$180	2%
+10 -15	.15-.35	130.00	$130	0%
+6-10	.04-.15	105.00	$110	5%
+3 -6	.02-.04	53.33	55	3%
Chips	n/a	55.00	55	0%
Industrials	n/a	33.33	$30	-10%

of these size categories. The remaining six columns show the figures for several transactions that were observed. In the first transaction, the 32.97 carats were bought for US$3850, or US$116.77/carat, about 14 per cent above the buyer's basic price table. According to the field buyer, his exporter only allows him a 2 per cent margin above the table; anything above this is deducted from his salary of US$1775/month. This purchase thus represents a loss, one that he will have to make up on another transaction. With production falling off, however, the field buyer felt it was better to make the purchase than leave the stones for another buyer. The price tables for two further field buyers are given in Tables 11 and 12.

Table 5 averages the data from these three field buyers, and then compares with the price table of a Georgetown exporter to obtain the mark-up from field buyer to exporter. Column three of this table shows the average value of the three Barlow field buyers for the various size categories. The fourth column shows the price table for one of the leading Georgetown exporters. This exporter maintains no field buyers, and so depends for his supply of diamonds on independent field buyers and *garimpeiros* bringing stones to his Georgetown office. His price table therefore has to offer a mark-up above field prices, in order to attract diamonds. The mark-up, then from field buyer, to Georgetown exporter is shown in column 5. For the smaller (<.65ct), more common sizes, this margin is quite low, ranging from 0 per cent to 5 per cent. (The negative mark-up on industrials likely reflects this exporter's lack of interest in this particular product). For the larger (>.66) and in Guyana less common sizes, the margin rises to 8 per cent-17 per cent. Given that the profile of diamond production in Guyana favours the smaller sizes, the overall field buyer to exporter mark-up is likely to fall in the former range, somewhere between 3 and 5 per cent. This figure is in accord with the figure of 2 per cent commission reportedly paid to those field buyers who work on straight commission. In return for this mark-up, field buyers do provide a significant service. Field buyers take the responsibility of bringing in and guarding large amounts of cash, and bringing out large volumes of diamonds. Living in the Guyana interior, they must cope with difficult conditions, including frequent bouts of malaria. For *garimpeiros*, having field buyers readily accessible allows them to convert their diamonds to cash for salaries and supplies, without the risk and expense of a trip to the capital.

Exporter mark-up

At the exporter level in Guyana, the pattern seen among field buyers repeats itself to a large extent. Some few exporters are independent entrepreneurs risking their own money buying and selling diamonds. More, however, are commission sales agents, buying diamonds with funds advanced by an importer located overseas. As the money with which they are buying is often not their own, country level exporters may well, like field buyers, be forced to accept a low margin, and attempt to make their money on volume

Table 6: Top 11 Guyana Exporters in 2006, with volumes, values and net profit, based on an assumed net margin of 3%				
Exporter	**Total Carats**	**Total Value**	**$$/ct**	**Exporter Net**
	(ct)	**(US$)**	**(US$)**	**(@ 3%)**
Ex1	67,069.75	$ 11,282,035.70	$ 168.21	$ 338,461.07
Ex2	39,194.34	$ 6,030,000.00	$ 153.85	$ 180,900.00
Ex3	62,838.27	$ 5,771,906.78	$ 91.85	$ 173,157.20
Ex4	32,843.23	$ 4,256,923.07	$ 129.61	$ 127,707.69
Ex5	38,270.83	$ 3,647,155.00	$ 95.30	$ 109,414.65
Ex6	24,333.73	$ 3,420,800.47	$ 140.58	$ 102,624.01
Ex7	24,914.82	$ 2,793,474.17	$ 112.12	$ 83,804.23
Ex8	19,748.37	$ 2,112,410.53	$ 106.97	$ 63,372.32
Ex9	18,078.86	$ 1,422,989.10	$ 78.71	$ 42,689.67
Ex10	6,176.18	$ 1,187,413.15	$ 192.26	$ 35,622.39
Ex11	7,051.60	$ 850,197.42	$ 120.57	$ 25,505.92
Total of Exporters Listed	340,519.98	42,775,305.39		
As % of Total Guyana Exports for the year	96%	95%		
Total 2006	354,843.85	$44,879,802.29	$ 126.48	

In interviews, exporters consistently claim their net margins are razor thin, on the order of 3 per cent. This figure should be treated with caution, as it comes unsubstantiated by any independent data.[20] However, applying this 3 per cent figure to the exports of the top 11 Guyana exporters for the year 2006, as shown in Table 6, gives the values seen in column 5 for yearly net income per exporter. The values range from US$25,502 per year to US$338,461 per year. The median value is US$102,624 per year, or US$8552 per month. Given that nearly all of these exporters are single person operations, these values, though unsubstantiated, appear to be of at least the correct order of magnitude.

Combining this analysis with the data from the field buyer section and the results of the *garimpeiro* wage analysis in section 1 of this study allows for the construction of the following table, showing the monthly and yearly incomes of players at various levels in the production/marketing chain. Though the mark-ups claimed by the middlemen – field buyers and exporters – in the value chain appear modest, these small margins result in vast differences in income.

As shown in section 1, ordinary *garimpeiros* in Guyana earn some US$386 per month.

20 Exporters interviewed declined to provide the price tables at which their overseas buyer purchased their goods.

Table 7: Monthly Income for players at different levels of the value chain			
Income	**Monthly US$**	**Yearly US$**	**Multiples of Garimpeiro Wage**
Garimpeiro (Digger)	$ 386	$ 4,632	--
Field Buyer	$1,775	$ 21,300	4.60
Exporter	$8,552	$102,624	22.15

Field buyers, even on salary, make on the order of four times this amount, or US$1765 per month. At the top of the chain, at least within the producer country, exporters earn about US$8552, or over 20 times the wage of the *garimpeiro* at the bottom of the chain.

International trader mark-ups

While the exact mark-up between country level exporter and overseas importer remains an estimate only, there is more solid data on the overall mark-up between the producer-country exporter and the final "Antwerp Price', or the price at which the diamonds are sold to cutting/polishing centres. Establishing this mark-up involves tracking individual parcels as they wend their way through the international trading network. To date, relatively little has been published on the international pathways by which diamond parcels make their way from their countries of origin to the cutting centres of the world. The simplest path would be a straight-line route from producer country to an international trading centre such as Antwerp of Dubai, and thence to a cutting and polishing centre such as India. What data there is, however, suggests that diamonds in the real world follow a more circuitous route on the journey to their final home, accruing sizeable mark-ups on the way. In some cases a stopover in Dubai is used to realise the bulk of the profit in countries where corporate taxes are significantly lower than in Belgium. Case studies reveal that overseas investors who advance the funds to purchase diamonds in Guyana usually receive a return on their investment of something close to 15 per cent.

As mentioned earlier, Guyana represents something of an ideal case for minimising mark-ups, for a variety of reasons: entry to the market is inexpensive and free of regulatory barriers; *garimpeiros* are relatively knowledgeable about the worth of the diamonds they produce; and Guyanese production has few of the large stones which generate larger markups. While even these relatively modest margins can lead to significant differences in income (as shown by Table 7), it is questionable whether any reduction in any of these mark-ups is possible. The largest profit margin, some 15 per cent, accrues to the overseas buyer who advances the money to purchase Guyana diamonds. However, given that buying diamonds, even in Guyana, must be considered a medium risk investment, a 15 per cent return cannot be considered exceptional. At the other end of the chain, field buyers are unlikely to endure the hardships they do for much less than the salary they currently receive. In light of this, the margins

in Guyana could well be seen as an ideal to which to aspire. They certainly make for an interesting comparison with the margins in Guyana's next door neighbour Brazil, which for a period of several years had some of the least savvy, least price-aware *garimpeiros* on earth, producing some of South America's most valuable diamonds. For that analysis, see the next section.

The Brazil value chain

For much of the past decade, the largest and most active alluvial diamond mining site in Brazil has been the reserve lands of the Cinta Larga Indian tribe, located in Rondônia state near the southern fringe of the Amazon rainforest. Diamonds were discovered on the Cinta Larga lands sometime around the year 2000. The Cinta Larga reserve was soon awash with *garimpeiros*, up to 5,000 by several estimates, manning several hundred busy *resumidors*. This situation brought numerous problems to the Cinta Larga, and lead many in the tribe of some 2,000 people to fear being swamped by the incoming tide of miners. However, it also brought a great deal of wealth in the form of diamonds. Miners paid Cinta Larga chiefs a percentage of their production in return for the right to mine on the reserve. Some ordinary members of the tribe began actively and eagerly mining on their own account.

The legality of this activity is a matter of some controversy. Law 7805/89, which created the *garimpeiro* mining claim (PLG), states explicitly that *garimpeiro* claims can't be taken out on Indian land. The Brazilian Constitution of 1988, in Article 231, paragraph 3, states that prospection and mining of mineral wealth on Indian land can only take place with the authorisation of the Brazilian Congress. However, paragraph 2 of the same article grants Indians exclusive usufruct rights to the riches of the soil, rivers and lakes of their traditional lands. What's more, Brazil's Indian Act (Law 6001 of 19 Dec. 1973), in Article 44, grants to Indians the explicit and exclusive right to *garimpeiro* activity on their lands. The Cinta Larga leadership use these latter points to buttress their view that their diamond mining activity is legal. Brazil's Federal Police and DNPM officials take the opposite point of view.

All reports say the reserve proved to be an exceptionally rich source of diamonds, producing many larger stones of uncommon clarity. Having no experience of diamonds, however, the Cinta Larga had little or no idea of what their stones were worth. Worse still, the questionable legality of the mining operations made it difficult for the Indians to sell what they believe to be their stones openly, or canvass buyers to obtain the best price. This situation was in many ways analogous to alluvial diamond mining in certain parts of Africa, where miners have little knowledge of what their diamonds command on the international market, and in any case, work in semi-legal or outright illegal circumstances, and so are forced to more or less take whatever price is offered by field buyers.

From 2000-2003, the Cinta Larga diamonds were sold to Brazilian and foreign buyers active in Rondônia, and left the country without a trace. However, with Brazil's accession to the Kimberley Process in late 2003, Brazilian diamond exporters suddenly had to show a paper trail for all their diamond exports. As diamond mining remained officially illegal in the Cinta Larga lands, several diamond exporters resorted to inventing fictitious 'legal' sources to cover the origin of their Cinta Larga diamonds. This was the case with the diamond company PG[21] which was subsequently prosecuted by Brazilian authorities.

A partial list of these fictional transactions is reproduced in Table 8. The left hand columns show the entirely fictional mark-up on the stones from a fictitious field buyer to the exporting company, PG. These mark-ups are extraordinarily large (137%-260%) but also completely notional. The intent seems to have been to ensure that the profits from these diamonds transactions accrued to companies that either didn't exist or were unaware that they had gone into the diamond business[22]. The mark-ups on the right-hand side of the table are equally notional, designed it would seem to reduce PG's tax rate to zero. The *values* in that second-to-last column, however, are anything but imaginary. These represent what PG actually paid for those parcels of diamonds. This becomes significant when you follow these parcels as they make their way through the Dubai Diamond Exchange. Table 9 shows this journey.

Clearly, though it's possible to make a reasonable return on diamonds in places where *garimpeiros* have a reasonable understanding of value, it's a far better thing to deal with miners who are both ignorant and quasi-legal, such as the Brazilian Cinta Larga and those in the Congo. It may well be these sorts of mark-ups that keep African alluvial diggers working for a single dollar per day.

Summary: Value chain mark-ups and miners' wages

A summary of the mark-ups in the diamond value chains in Guyana, Brazil and Sierra Leone is shown in Table 8. In Guyana, mark-ups in-country are held to the low single digits, while international mark-ups rise to 13.5-18 per cent. In Sierra Leone, in-country mark-ups are 10 to 25 times higher at the field buyer level, and at least three times higher at the exporter level. International level mark-ups are not available for Sierra Leone. A series of admittedly illegal, though likely not atypical, transactions involving diamonds from Brazil's Cinta Larga Indian reserve mixed with diamond from the Congo show mark-ups that, in comparison to Guyana, are anywhere

21 PG is an aka for a Brazillian diamond company. The full name is known to the editors and has been removed to avoid any claims of interfering with ongoing judicial investigation.

22 Many of the middlemen companies listed in the table are legitimate enterprises that seemingly had receipt books stolen; When contacted they all professed surprise that their business was suddenly buying and selling diamonds.

Table 8: Summary of Mark-ups in Value Chains in Three Countries			
Country	**Field Buyer to Exporter**	**Exporter to International Importer**	**International Importer to Cutting Centre**
Sierra Leone	50%	10%	n/a
Guyana	2%-5%	3%	13.5-18%
Brazil/Congo (Cinta Larga Indians plus African alluvial producers)	No data	No data	28%-928%

from 50 to nearly 70 times higher than those found in Guyana.

Discussion

With development efforts for African diamond diggers either in the planning stages or leaving the drawing board for field testing, the intent of this study was to set a numerical bound, a target for digger wages to which these efforts could aspire. The methodology employed was to examine the alluvial diamond sector in South America. The geology is similar between the two regions, and input costs in terms of fuel and food are much the same. As with any commodity, diamonds should have a uniform price independent of where they originate. The major difference between the two sectors, then, lies in the wages paid miners, and here the results were intriguing.

Whether engaged in un-mechanised hand-mining, or quasi-mechanised small scale mining, diggers in South America are paid at least five times what their counterparts earn in Africa. Many of them earn even higher multiples. These results are summarised in Table 3. South American diggers earn these wage levels not because of any union or cooperative action, much less government regulation; the diamond industry in South America exists largely outside the realm of labour law. The surrounding economy is simply such that artisanal mining must offer these wages in order to compete. What the study does show, however, is that a mature artisanal diamond industry is perfectly viable at wages levels far in excess of those paid in Africa.

The question then becomes, why are African wages so low? In part, it may be that the traditionally low wage levels have encouraged the exploitation of areas with low diamond concentrations, areas that would otherwise be uneconomic. Some of that is undoubtedly happening. However, the possibility also exists that African digger wages are kept abnormally low by players higher in the diamond chain capturing a disproportionate share of the value of the rough diamonds produced by the diggers.

To investigate this second possibility, the study examined mark-ups in the diamond chain, as rough stones pass from diggers to mid-level field buyers, to country-level exporters to international importers. Though hardly definitive, the correlations between wages and

mark-ups (tables 3 and 8) are instructive. In Guyana, where miners are free to work legally and have become relatively knowledgeable about the value of their diamonds, wages are relatively high (at least compared to Africa), field buyers and exporters are held to single-digit mark-ups, while the international importers financing diamond purchases are held to an overall profit of some 15 per cent. In Sierra Leone, where diggers are often quasi-legal and largely ignorant of diamond prices, field buyer mark-ups inflate to 50 per cent, while exporter mark-ups grow to 10 per cent.

The data set showing mark-ups for international importers dealing with less knowledgeable artisanal diggers remains limited, but what data there is shows disturbingly high margins. In particular, the companies trading a combination of diamonds from the Cinta Larga Indian people and diamonds from diggers in the DRC, achieved mark-ups of from 200 per cent to 900 per cent. Some larger profit margin, it could be argued, is merited on these transactions, in return for the greater risk involved in putting money into riskier locations such as the Congo and the Cinta Larga Indian reserve in Brazil. However, profits in the triple digits have shot well beyond the red-line of a healthy return and into the realm of pure profiteering. Though more research is clearly needed, particularly concerning importer mark-ups from African alluvial producers, it would seem that some of those higher up in the chain are indeed grabbing more than their fair share.

Table 9: Mark-ups for Diamond Parcels Exported by PG 2003-2004 (Source: Federal Public Prosecutor's Office)								
	Field Buyer to Exporter				Exporter to 1st International Buyer			
	Company	Carats	Value	Mark-up	Company	Carats	Value	Mark-up
Seller	Sell1	5250.06	$ 57,789.84		PG	5250.06	$ 137,207.75	
Buyer	PG		$ 137,207.75	137%	IntBuy1		$ 83,820.99	-39%
Seller	Sell1	5147.01	$ 2,004.89		PG	5147.01	$ 8,094.43	
Buyer	PG		$ 8,094.43	304%	IntBuy1		$ 5,147.01	-36%
Seller	Sell2	6163.35	$ 273,878.64		PG	6163.35	$ 729,966.27	
Buyer	PG		$ 729,966.27	167%	IntBuy1		$ 674,784.00	-8%
Seller	Sell3	3684.26	$ 103,120.02		PG	3684.26	$ 310,283.94	
Buyer	PG		$ 310,283.94	201%	IntBuy2		$ 326,896.64	5.35%
Seller	Sell1	6452.13	$ 119,007.79		PG	6452.13	$ 356,035.67	
Buyer	PG		$ 356,035.67	199%	IntBuy2		$ 367,001.65	3.08%
Seller	Sell4	5707.31	$ 124,651.58		PG	5473.95	$ 256,818.79	
Buyer	PG		$ 256,818.79	106%	IntBuy3		$ 253,181.68	-1.42%
Seller	Sell5	6164.42	$ 515,472.02		PG	6164.42	$1,548,453.95	
Buyer	PG		$1,548,453.95	200%	IntBuy3		$1,560,681.27	0.79%
Seller	Sell5	5469.88	$ 26,946.07		PG	5469.88	$ 82,310.34	
Buyer	PG		$ 82,310.34	205%	IntBuy3		$ 82,048.20	-0.32%
Seller	Sell5	5334.68	$ 26,280.04		PG	5334.68	$ 80,275.86	
Buyer	PG		$ 80,275.86	205%	IntBuy3		$ 80,020.20	-0.32%
Seller	Sell5	5990.58	$ 98,138.74		PG	5990.58	$ 299,796.95	
Buyer	PG		$ 299,796.95	205%	IntBuy3		$ 302,497.76	0.90%
Seller	Sell5	6876.92	$ 262,248.03		PG	6876.92	$ 986,432.98	
Buyer	PG		$ 986,432.98	276%	IntBuy4		$ 979,942.26	-0.66%
Seller	Sell5	4163.68	$ 13,329.27		PG	4163.68	$ 41,774.21	
Buyer	PG		$ 41,774.21	213%	IntBuy4		$ 41,439.83	-0.80%
Seller	Sell5	5033.76	$ 13,124.32		PG	5033.76	$ 40,236.85	
Buyer	PG		$ 40,236.85	207%	IntBuy4		$ 39,907.83	-0.82%
Totals - Buyer		**71,438.04**	**$ 1,622,662**			71,204.68	$ 4,877,688	
Totals-Seller			$ 4,877,688	201%			$ 4,797,369	-2%

Table 10: Mark-up on Diamonds Exported by PG as they transit Dubai							
	Company	**Carats**	**Value**	**Company**	**Carats**	**Value**	**Mark-up**
Seller	PG	16,074.36	$ 1,064,926	IntBuy4 (Dubai)	16,074.36	$ 3,250,000	**205%**
Buyer	IntBuy4 (Dubai)			IntBuy5 (Belgium)			
Seller	PG	22,962.56	$ 2,024,736	IntBuy3 (Dubai)	156,053.12	$19,809,087	**292%**
Seller	Sell6	133,892.67	$ 3,031,736	IntBuy6 (Belgium)			
Buyer	IntBuy3 (Dubai)	**156,855.23**	**$ 5,056,472**				
Seller	PG	5,414.79	$ 253,994	IntBuy3 (Dubai)	29,359.75	$ 9,858,418	**928%**
Seller	Sell6	60,353.38	$ 705,000	IntBuy6 (Belgium)			
Buyer	IntBuy3 (Dubai)	**65,768.17**	**$ 958,994**	IntBuy1 (Dubai)			
Aggregate		238,697.76	7,080,392.00		201,487.23	32,917,505.00	**365%**

Appendix: Field Buyer Price Table

Table 11: Price Table for Barlow Field Buyer 1				
Field Buyer 1				
Sieve Size	**Range (cts)**	**Price Table US$/ct**	**Transaction #1**	
			(cts)	**US$**
2ct	n/a	600	2.1	$ 1,260
1ct	n/a	300	0	$ -
+19	.66-.75	210	0	$ -
+15 -19	.35-.65	175	0.77	$ 135
+10 -15	.15-.35	125	2.51	$ 314
+6 -10	.04-.15	105	4.51	$ 474
+3 -6	.02-.04	50	0	$ -
Chips	n/a	60	1.45	$ 87
Industrials	n/a	35	1.51	$ 53
		Totals	**12.85**	**$2,321.90**
			Actual Amount Paid	**$2,500.00**
			% above Table	**8%**
			Final $$/ct	**$ 194.55**

Table 12: Price Table for Barlow Field Buyer 2		
Field Buyer 2		
Sieve Size	**Range (cts)**	**Price Table US$/ct**
2ct	n/a	
1ct	n/a	300
+19	.66-.75	210
+15 -19	.35-.65	180
+10 -15	.15-.35	135
+6 -10	.04-.15	110
+3 -6	.02-.04	65
Chips	n/a	55
Industrials	n/a	35

Monitoring, formalisation and control of the artisanal alluvial diamond mining sector

Wardell Armstrong (Kevin D'Souza and Emmanuelle de Pooter)

Artisanal Alluvial Diamond Mining (AADM)

Economic stagnation, lack of rural development, and in some countries, social instability and resource plunder, have resulted in a proliferation of clandestine artisanal diamond mining activity in the many African countries with accessible alluvial resources, often drawing foreign economic migrants to AADM sites. Today the situation in this sub-sector could be described as chaotic, with little respect for law and order in almost all mining areas in virtually all countries. In addition, past conflict in diamond-rich countries such as the Democratic Republic of Congo (DRC), Angola and in the Mano River states including Sierra Leone, Guinea and Liberia, has created large numbers of Internally Displaced People (IDP), who have few livelihood options. In some regions of these more fragile areas, a high percentage of the artisanal miners are ex-combatants (militia and soldiers), for which AADM represent an alternative livelihood to military enrolment.

At present, this disorganised and highly mobile sector probably provides a vital livelihood to many millions of people dispersed throughout African countries such as Angola, the DRC, Sierra Leone, Liberia, Guinea, Côte d'Ivoire, Ghana, the Central African Republic (CAR), and Tanzania, which collectively constitute a significant proportion of Africa's contribution to global diamond production (estimates varying between 10-20 per cent). However, as no African country in possession of a truly enabling legal framework or policy sympathetic to Artisanal and small-scale mining (ASM) to encourage registration, and because virtually all artisanal miners work casually, seasonally, or are migrant workers, it is impossible to determine the actual number of workers in the African AADM sub-sector. Although no systematic census or comprehensive baseline studies have been undertaken, conservative estimates indicate that there are

between 1.5 and 2 million people directly dependent on this arduous, hazardous, and precarious activity for their livelihood in Africa. Taking into consideration family ties and dependence as well as population multiplier, it may be assumed that between 7 and 10 million rural Africans probably survive through AADM. When the ubiquitous middlemen, traders, brokers and associated businesses are further considered, AADM emerges as one of the most important elements of the economy for some countries.[1]

Description and organisation of alluvial diamond artisanal minesites

In many African countries, livelihood choices, though shifting, are often few in number and rarely offer any long term financial guarantees. It is in this context that, when accessible, AADM becomes one of the only real options available. To those unfamiliar with the hardships and realties of this work, the lure of winning 'valuable stones' from the land and rising above subsistence levels is very appealing, and many desperate rural and urban people still continue to flock to the alluvial sites to seek work. However, despite the richness of many of the AADM sites and the appar-

1 In the DRC for example, it is estimated that artisanal diamond mining employs over one million people out of a population of 60 million with artisanal diamond production currently accounting for around 95 per cent of all Congolese diamond production, and in the Mano river (Guinea, Sierra Leone, Liberia and Côte d'Ivoire) region of West Africa almost 90 per cent of the subregions output.

BOX 1 - PRODUCTION SHARING

Ghana - The division of profits is usually based on the customary abusa system. This system of dividing returns from a cooperative production is a traditional Akan concept used for mining, farming, hunting and fishing. Typically, the sponsors retain two-thirds of the profits and the remaining third is given to the concessionaire.

Sierra Leone - In the pile system, prior mining the parties agree on their respective proportions of the gravel. Generally, half the gravel is washed for the landowner, and the remainder is washed and shared among the miners. Miners are only entitled to a share of the diamonds found in their own pile. This practice is discouraged by the government.

Angola - In the Patrocinador system, the patrocinador supplies the garimpeiros miners with food and medicine in exchange for a significant amount of the diamonds found. The value of the diamonds is determined by the patrocinador himself.

Democratic Republic of Congo - The Comité de la mine, composed of representatives of local families nominated by the chief in accordance with the permit holder, supervises the work of several hundred people. The Comité takes a monthly fee from each digger, and ensure that the chief receive his share of the gravel and diamonds. Supporters provide food, cash and/or food, and in return, the miners promise to sell him any diamond he/she finds. This help provided by the supporter is not a loan, and is not returned if no diamonds are found. Most miners have at least one supporter.

ent productivity of some miners[2], the vast majority continue to live in poverty. The excessive formal and illegitimate 'taxes' levied on production and the lack of stone value and pricing knowledge mean that the miners receive very little daily pay. Most also become trapped, either through debt-bondage or because they have travelled far and abandoned their homes and farms and have no means to return to their previous livelihoods or seek an alternative source of income. Others, especially the young, frivolously spend any earnings immediately rarely apportioning funds for personal or familial advancement.

Although the characteristics of AADM sites in different African countries are highly varied, they all encompass dangerous practices, child labour, rapid and high levels of migration between sites with significant community impacts, social disruption, negative aculturisation, environmental devastation, health concerns, debt-bonding, et cetera.

In the DRC, AADM occurs in many areas of the country, but especially in the Southern provinces of Kasaï Oriental and Kasaï Occidental. Most artisanal miners (creuseurs) are Congolese, operating informally to produce between 75 and 95 per cent of the diamonds mined in the country. Alluvial diamonds are recovered through conventional digging and also diving for diamondiferous gravel in the many rivers in the region. Amongst the miners, most of the diggers and divers are men, but women and children are also contribute to the process by carrying and washing diamondiferous gravels. It is broad in its intake too with some artisanal miners educated up to secondary school and degree levels.

Teams are constituted of five to ten people often funded by one or more "supporters". Supporters are usually diamond négociants/vendors who provide food and sometimes tools and cash to artisanal miners, and to whom, in exchange for bearing the financial risk of the mining activities, the artisanal miners promise to sell their stones. There is a local structure controlling artisanal mining activities, placed under the village Chief's authority. The Chief, though not considered to be the owner of the land, is recognised as the local arbitrator of informal mining rights, and he or she allocates the pits. Artisanal miners will sometimes have to buy these informal mining rights from the Chief, without any reference to the legal mining permits provided in the Code Minier and delivered by the Division des Mines. The Chief then nominates the members of the Comité de la Mine (Mine Committee) from members of local prominent families, which will be in charge

2 Artisanal alluvial diamond miners bear different names, according to their activities and the geographical location. Miners who carry out most of the manual work are called mine workers or labourers, by opposition to the mine holder who sometimes confusedly bears the official title of Artisanal Miner despite mostly acting as an entrepreneur and crew-boss. Within the labourers, diggers (creuseurs in francophone countries) excavate the diamondiferous gravel using picks and shovels, before the washers wash this gravel into streams or ponds, using sieves in order to separate the diamonds from the sterile rocks and mud.

of supervising the work of the several hundreds of people constituting the minesite. Some members of the Comité are pit-owners who bought their informal mining rights from the Chief. The Comité de la Mine also collects a monthly fee from the miners, and ensures that the Comité and the Chief receive their share of the gravel mined. When the minesites are located in areas which are less remote and more densely populated, the Chief's authority over the use of the land diminishes, and this power is taken over by a local entrepreneur called Administrateur du Foyer Minier (Minesite Manager) to whom the Mining Administration has delivered the necessary mining rights.

In Angola, alluvial diamonds are being mined by artisanal garimpeiros in the Lundas provinces (North-East), and the provinces of Bié (Centre), Cuando-Cubango (South-East) and Moxico (Centre-East). It is estimated that there are more than 300,000 garimpeiros in Angola, at least two thirds of which are illegal, and their production is estimated at around 1.1 million carats per year. Many garimpeiros are non-Angolan nationals, coming from neighbouring African countries especially the DRC, and also Cameroun and Zambia. The foreign work force is particularly appreciated by the crew bosses, or patrocinadors, as they are vulnerable to over-exploitation, their mere presence within the Angolan borders being illegal. Angolan AADM activities (garimpo) can be led on a very small-scale by teams of up to a dozen miners. However, in the more remote areas where control is more difficult, alluvial diamond mining is often led on a large scale, with sites gathering about ten gangs of more than 50 miners, usually organised in family units where men and women are equally represented and where children are clearly present. In both situations, the garimpeiros are not employees but work under the surveillance and authority of a patrocinadors, who – most of the time – supply them with food but not tools. These patrocinadors, sometimes working in collaboration with the lease holder for the specific site, receive in exchange a significant share of the diamonds found.

In Guinea the AADM sector seems to have adopted a 'tributor' system (similar to the diamond sector in Sierra Leone) with the miners 'supported' by a patron or Masta. The Masta must prove Guinean citizenship and possess an official ID card, and also owns the license for which he is expected to pay an annual fee of 1,000,000FGN. The Masta provides the creuseurs with food and simple mining equipment, and finances their work and living expenses through financial and non-financial 'advances'. The creuseurs are thereby 'debt-bonded' to this Masta and are forced to hand over all diamonds to the Masta. Within the diamond areas conflicts (sometimes violent) between Mastas and creuseurs, different gangs or creuseurs, or rival Mastas are frequent. In addition, these areas also attract criminals and local bandits necessitating the permanent presence of the military in key diamond zones like Kérouané.

BOX 2 - TYPES OF MINERS' COMPENSATION

The "Pay per Win" system: After finding a diamond the miner negotiates the price of the diamond s/he finds, on a case by case basis. However, this requires that the miner has some knowledge of stone valuation, though this is often lacking.

The "Daily Wage" system: The miner receives, in addition to some food, a daily wage. This "salary" is irrespective of the miner's production and findings. In this system, the miner may be more tempted to steal diamonds from the site as s/he does not have any stake in diamond proceeds.

The "Casino" system: The miner receives a very small daily wage and some food. In addition to this "salary", the group of miners collectively receive a proportion of the value of the findings. They may share equally or according to an arbitrary scale set by the gang leader, license holder or chief. In this system the miner works for very little money, relies on a stroke of luck to find a valuable stone and on the honesty of the gang leader, license holder or chief not to underestimate the value of the stone. Given choices, the Casino System is usually favoured by miners.

The "Pile" system: Excavated gravel is separated into three or four piles. Each of those piles is owned by one group of stakeholders: the miners, the owner of the land (chief), the supporters and the license holders. The piles are then washed, and the diamonds found in each of them will belong to the pile's owner.

Financial and non-financial payment and compensation systems in the AADM sub-sector

Although average income for miners is very low and the value chain exploitative, AADM is still attractive and offers considerably better income than many other rural livelihoods, especially in fragile post-conflict states, and is often the only means for families to obtain credit and accumulate capital.

As in most micro-economies, the range of informal compensation practices is wide. Most miners undertake piecework with an irregular subsistence income hoping to make the one big 'find' which will allow them to escape poverty. A few miners do 'strike it rich' whilst the majority barely make more than US$300 per year as most receive only a discretionary share of diamond profits, dependent only upon their limited ability to negotiate a fair price. Low trust levels are inherent in the sub-sector; diamonds can be stolen or confiscated, and stone values misrepresented. Intimidation and violence are commonplace.

The lack of appropriate financing mechanisms or micro-credit has resulted in most artisanal miners having to resort to seeking credit from 'predatory' supporters/sponsors that plague the informal sector. The sector in most African countries is dominated by a tributor system, in which supporters (financiers who may be in control of the mining license) 'give' miners basic tools to extract dia-

monds as well as some food and sometimes some cash for their immediate daily subsistence, in exchange for the exclusive right to buy the miners' production. The tributor system rarely benefits the miners unless they find a 'master' stone, have stone price knowledge and negotiation experience. This system relies on a plentiful supply of cheap labour and works on the premise that miners prefer to receive minimal daily support and a greater share of profits from stone sales than to receive maximal daily support and a small bonus (based on a percentage share of any stone sales). Although the system offers no financial security or guarantees of continued participation, it is flexible, adaptable and incentive-driven (causing miners to be vigilant in order to ensure that other members of his gang are not stealing diamonds and this depriving him of his share of the profits) and works well in conditions of minimal official governance. It would be truly beneficial if African governments could discourage or prohibit the allocation of diamond profits to miners in any way other than through an agreed, predetermined share of net profits. Unfortunately, the fundamentally inequitable nature of the relationship between miners and the individuals who buy their stones renders the enforcement of such a scheme exceedingly difficult and unrealistic.

Within the AADM sub-sector, the division of labour and profits is often unclear and only a minority working in a semi-formal environment are paid a regular daily wage (e.g. organised small-scale mining near Aredor in Guinea and near Koidu Holdings in Sierra Leone). Despite campaigners denouncing 'slave labour' and the need to promote socially engineered 'enterprise models' with regular daily wages or contract labour within ASM, the fact remains that most miners actually prefer to forgo a regular wage in favour of participating in potential windfall profits. The range of financing, compensation and people-management schemes adopted in the artisanal diamond sector is considerable, constantly adapting to varieties of socio-economic situations.

Most miners organise themselves into manageable gangs with an appointed gang leader/foreman and are reliant on sufficient trust to ensure their winnings are shared equally[3]. Although various forms of production sharing are common[4], a negotiated 'pay-per-win' compensation scheme is becoming the more preferred option amongst miners. Only occasionally do miners contract their labour on a short basis in exchange for a proportion of the profits[5].

Democratic miners organisations – the cooperatives

Many issues combine to deter miners from organising into associations or cooperatives,

3 E.g. Gado in Sierra Leone, where gangs of miners organised without supporters share their winnings equally amongst themselves.

4 E.g. in the Kasaï region of the DRC a common split is 40 per cent to miners, 40 per cent to the head/pit owner and 10 per cent to the customary Chief.

5 E.g. Komngoma in Sierra Leone.

BOX 3 - SAESSCAM

The Service d'Assistance et d'Encadrement du Small-Scale Mining (SAESSCAM) is a technical service founded in 2003 and placed directly under the responsibility of the Ministry of Mines of the DRC.

It is difficult to access details on SAESSCAM's realisations, modes of funding and management and services, as its annual report is not made available to the public. SAESSCAM has two areas of focus: the promotion of integrated development, and the provision of technical coordination.

The main objective of SAESSCAM is to provide a technical and financial framework for ASM operators, and to prevent mining fraud by channeling production into the official commercial markets so as to avoid further deterioration of the conditions of living at/near to the minesites.

SAESSCAM's activities are focusing on:

- Monitoring the flow of production from small scale and artisanal mines to the point of sale, with a view to ensuring all production flows via official channels.
- Ensuring the recovery, after sale, of all taxes due to the state.
- Encouraging artisanal miners to organize into cooperatives and to follow the Mining Code and Regulations.
- Contributing to the improvement of the wellbeing of small scale mining areas, through integrated development in accordance with the Mining Code and Regulations.
- Working with the Ministry on the invention, fabrication and acquisition of equipment adapted to the geological conditions of deposits exploited by artisanal miners.
- Translating safety codes into national languages and see them applied.
- Ensuring the integration of women in the small scale mining marketing chain.
- Encouraging artisanal and small scale miners to invest in other sectors.
- Helping in the creation and management of a Mining Fund for the promotion of small and medium mining enterprises.

including the potential lack of immediate payment. Despite cooperatives having a poor record of success in the African ASM sector, there is a global consensus that miners' organisations and cooperatives can play a positive role in the formalisation and development of the AADM sub-sector, and in many African countries a suitable legislative and institutional frameworks already exist to aid the dissemination of information. This is not true for all diamond-producing countries however. In Angola, the legislation specifically forbids the creation of miners' associations, even if the holder of a license has the possibility of employing up to five people (from his family, or local people) as garimpeiros.

National 'umbrella' type organisations such as the Federation of Miners Association of Liberia (FOMAL), the Conféderation

Nationale des Exploitants de l'Or et de Diamants de *Guinée*, the Syndicale des Creuseurs du Diamant Artisanal (UCDAK) in Mbuji Mayi in the DRC or the Mabuki Diamond Miners Association (UWAMA) in Mwanza Region of Tanzania may be considered. Traditionally, national unions do not contemplate the informal sector as a potential field of action, although unionisation is sometimes advocated[6]. Democratic organisation and the formation of cooperatives with a well-defined structure with clear roles and responsibilities, including equality and dissemination of information, would have the following advantages:

- Help formalise AADM operations possibly converting competition for diamonds into competition for jobs.
- Improve marketplace transactions, assisting miners to access better prices, inputs et cetera.
- Provide a collective voice for miners on policy issues and other sectoral issues.
- Assist with the mobilisation of funding/savings schemes and other forms of assistance for miners including the introduction of minimum conditions of employment.
- Facilitate interaction and dialogue between artisanal miners, large mining companies and the government (e.g. at the Williamson Diamond Mine in Mwadui, Tanzania).
- Help aid the administration, enforcement of legislation, organise security and other minesite related activities.

Notwithstanding these clear advantages, the organisation of artisanal miners on minesites is another challenge, and potentially one of the most contentious that African governments will have to tackle as a means to mitigate internal conflict, strengthen democratic rights, raise awareness, and depoliticise control. Governments may have to embark on a promotional campaign to highlight the benefits of pooling resources, collective organisation and the possible formation of cooperatives or associations (including family/community-based associations, or women-only cooperatives). African governments may also have to provide appropriate management training and rights awareness for artisanal miners to strengthen cooperative leadership whilst avoiding excessive power struggles and minimising internal politics, issues that have constrained cooperative development in other ASM situations in many countries. Governments will need to ensure that the associations/cooperatives assist the artisanal miners (and their communities) in defending their interests, achieving their shared future vision, conducting pricing or workplace negotiations, making access to group credit schemes possible, mobilising assistance programmes, conducting awareness campaigns amongst the members, helping with the actual formalisation, security and other site related activities.

6 E.g. The United Mines Workers Union in Sierra Leone has considered exploring the means to incorporate the artisanal sector.

Unfortunately, most African national legislation only refers to the possibility of artisanal miners' cooperatives, and does not provide any vision or regulation of what their organisation and advantages should be (e.g. Côte d'Ivoire, and Guinea). More regrettably still, even in African countries where governments have been actively trying to develop the practice of miners cooperatives, there are very few examples of long-term fully functioning ASM cooperatives in existence. Long-term failure is the result of numerous processes and issues including, for example, a lack of clear structure or genuine ownership, divergent and competing interests within collectives, poor set-up, inappropriate marketing strategy, a lack of productive ground, inadequate financing, mismanagement, and embezzlement. Some organisations exist to support artisanal miner representation, but more often than not these are under-resourced or are formed by supporters or dealers with vested interests.

In the DRC, there is no provision in the Code Minier concerning cooperatives of artisanal miners. Only when an artisanal exploitation zone is closing because industrial or small-scale exploitation is more suitable, can artisanal miners working in this zone form an association to apply for a Small-Scale Mining (SSM) permit, which could be delivered to them in preference to Large-Scale Mining (LSM) companies. The Règlement Minier specifies that the artisanal miners must, in this case, form a cooperative which must receive an agreement from the Minister of Mines.[7]

Outside of this specific context, and in less bureaucratic fashion, the Service d'Assistance et d'Encadrement du Small-Scale Mining (SAESSCAM – Service of Assistance and Organisation of Small-Scale Mining) has been attempting to organise artisanal miners into cooperatives. As part of this effort to formalise the artisanal sector to "promote the emergence of a Congolese middle-class in the small-scale mining sector', SAESSCAM has been registering small-scale artisanal miners into cooperatives in pilot areas[8]. These cooperatives regrouped 300 to 400 miners, for which SAESSCAM organised training sessions on safety standards and procedures, provided free of charge on-site by SAESSCAM monitors. SAESSCAM also provided tools and equipment to miners so that they could work more efficiently. In these pilot projects, SAESSCAM operated with funds provided by the miners themselves. During the setting-up period, cooperatives received 60 per cent of the proceeds from the licence fees. Once running, the cooperatives were supposed to be funded by the sale of their diamonds, but the

7 The conditions for the creation of such cooperative are the following: Each artisanal miner must have a card valid for the artisanal exploitation zone in question; - A list of names and address of the founding members must be provided; - Proof must be provided that the subscription to the cooperative has been offered to all artisanal miners working in the artisanal exploitation zone, at no prohibitive cost; - A notice must be published for 6 months at the local Division des Mines.

8 In Tshikapa – Kasaï Occidental Province, Mbuji-Mayi – Kasaï Oriental Province, and Kisangani – Orientale Province.

generated income was not enough to foster sustainable activity.

If these activities are encouraging, the truth is that the results for artisanal miners remain dismal. It was also reported that the mismanagement of funds were to blame. Despite the difficulty to assess information on SAESSCAM's activities, and its controversial start in the creation of sustainable cooperatives, such initiatives present a immense potential, though these would benefit from greater and continuous funding and support, notably through a working cadastral system and the dissemination of reliable geological information.

Also in the CAR, the 2004 Code Minier introduced the concept of special mining permit (permis spécial d'exploitation) to encourage the formation of cooperatives within rural communities. Such cooperatives benefit from an exploitation permit valid for two years, renewable as long as mining activities are being pursued. The special mining permit authorises the cooperative members to directly export their production, and allows them to benefit from a lower tax-rate than the mining companies. The attribution of a special mining permit for cooperatives appears to be an innovative idea. The fact that buyers-collectors, public sector employees and mining company employees/shareholders are not allowed to participate in the formation of a cooperative is commendable, however, there is no legal provision addressing their indirect role, as supporters for instance. However, in reality, the situation is more complex. A cooperative – as set up according to the provisions of the Code Minier – is more similar to a small company than to a real cooperative. This is due to the fact that the actual mining job is done by the "diggers" who are mine workers, and not registered artisanal miners. The registered artisanal miners who constituted the cooperative have a role similar to the one of financiers, heads of business/concession, or mine managers who supervise the work. This difference in status and allocated tasks translates into a difference in remuneration. A mine "manager" makes on average US$280 per month compared to US$50 per month given to diggers and washers. Women and labourers are paid allowances for their work on an irregular basis.[9]

The challenges of governance in the sector

The AADM sub-sector has been de facto excluded from the formal mining sector in most KPCS countries for many years because

9 Another drawback is the fact that the cooperative can export its production only when it reaches the value of 40 million F CFA (≈US$90,000). This threshold is too high. This may cause security issues on the minesites, when a lot of diamonds (and gold) have been kept to accumulate. Also, this can place the cooperatives in front of a difficult dilemma, and has already caused one of them to knowingly overestimate the value of the diamonds they wanted to offer for exportation, so as to be allowed to do so. Since the Tax Administration taxes the highest figure (between the estimation of value before export, and the actual revenue of the exportation) as the basis for taxation, the cooperatives gain little benefit from such a scheme, and could even lose money. Also, traders – and especially foreign dealers – willing to be able to export minerals from the CAR could take advantage of this system and help finance the creation of cooperatives to fraudulently benefit, in exchange, from the cheaper exportation tax-rate. To date, there are 80 registered cooperatives but only few of them are functioning actively and producing tangible results for members.

the challenges that the sub-sector represents in terms of governance are considerable and complex. However, the positive contributions of AADM exploitation to the economic and social development of most African countries can outweigh the negative. Although there are obvious opportunities that would benefit governments and increase the earnings of artisanal producers through regulation, registration and access to liberalised and competitive markets, several factors combine to impede the development of fair and open markets. These include confusing and unworkable legal and fiscal systems, a lack of political capacity and sustained will within governmental institutions, opaque financial and marketing systems, a lack of accurate production statistics capture, vested interests and corruption, the lack of price and stone valuation information, and a lack of data and definition about the physical geology of alluvial deposits. Successful approaches require collaborative and sympathetic methods to solve problems rather than inflict harsh solutions. However, it needs to be emphasised that good governance alone will not solve all the challenges of the AADM sub-sector and expectations about generating large revenues need to be realistic.

Definition of the sector

There is a lack of an internationally agreed definition of artisanal and small-scale mining though this is not surprising given the diversity within the sector. However, country-specific definitions do exist, reflecting locally relevant situations and development processes. A commonly made distinction, although not always specified, is that between small-scale and artisanal miners. Artisanal miners[10] are often defined as those who employ manual, low technology, and conduct operations on a minor scale. Operations usually involve individuals or families undertaking unsafe, unhealthy and very low paid piecework. In some countries entry into the sector and access to mining lands for artisanal miners is often constrained by ethnicity, gender, patronage systems, and social position. Small-scale miners on the other hand can have some degree of mechanisation, have a legal licence and/or are organised in some form of mining workers' group. For convenience however, most people now discuss the sector collectively using the acronym 'ASM' although artisanal mining and small-scale mining are two very different activities tending to be associated with different socio-economic groups. It is therefore critical to differentiate between them in legislation/policy and also assistance implementation. African governments need to distinguish clearly between community-based opportunistic artisanal mining and entrepreneurial investment-based small-scale mining.

Many authorities on artisanal mining agree that a lack of accurate data and unclear, inconsistent definitions of the sector can impede

10 Alluvial artisanal diamond miners are also often considered illegal or informal and have various local colloquial names ranging from Diggers in Sierra Leone, Panners in Zimbabwe, Ubeshi in Tanzania, Galamsey in Ghana (although more commonly used for illegal artisanal gold miners), Garimpeiros in Angola, Nagbata in the CAR, and Creuseurs or Diamineurs in most Francophone countries.

the formalisation and integration of ASM in many African countries. Reliable data is a prerequisite for understanding and appropriately engaging in any developmental area yet data on ASM, including production figures, financial outflows and number of people employed et cetera are at best imprecise and at worst 'guesstimates'. One of the constraints that has made accurate data on ASM so difficult to capture derives from the fact that miners do not fall into one homogeneous group, neither in terms of their socio-economic level nor in terms of mining methods and motivations. The World Bank has attempted to classify ASM into four main groups: permanent, seasonal, poverty-driven and 'rush'.[11] However many sites can include miners who, for various reasons, cannot be 'pigeon holed' so easily, meaning that any attempt to categorise would fail to reflect the reality of ASM sites.

11 Permanent miners are involved in the activity all year round for most of their productive careers and they often have substantially higher incomes than they would in other activities. Seasonal mining can be a regular, often life-long source of income, performed in the context of seasonal work. Families who rely on subsistence farming for a living may be able to generate above-subsistence incomes outside the farming season and gain access to the cash economy. In addition, savings from mining can be an important source of funds for developing other alternative livelihoods and empowering entrepreneurs to form SMEs. In contrast, poverty-driven mining is practiced by a largely itinerant, poorly educated populace with few employment alternatives. In this case, miners can remain trapped in a low revenue earning cycle. On the other hand, however, artisanal mining can offer a way for populations to temporarily respond to economic shocks such as those caused by past structural adjustment programmes. 'Rush' type mining is often a short-term concentration of miners, with new diamond fields acting as magnets especially to young desperate men who leave their regions or traditional occupations lured by visions and promises of striking it 'rich', promises which are very often not realised. In addition, this type of mining can be particularly damaging, both environmentally and socially, putting pressure on local services and contributing to public health risks. Rushes also increase conflict, leading to disputes between migrant miners and local populations and put pressure on traditional social and economic structures.

National policies on artisanal alluvial diamond mining

Despite donor interest in this sub-sector and the numerous international fora, many governments have been unsure as to what their long-term goals should be for the ASM sector. In the past many governments appeared to be caught between the shorter-term national economic benefits that can be gained from encouraging foreign large-scale mining and the idealised vision of having a formalised, mainly local, traditional ASM sector. Also, in the past some governments have chosen to neglect the sector, hoping it would simply disappear, but this approach allowed the generation of myriad negative social and environmental impacts. Critics claim that it is the combination of an unclear and changing stance towards artisanal diamond miners, lack of an explicit AADM policy, political inaction and lack of real motivation from the diamond miners themselves that has stifled development and formalisation in many countries. Regardless of the ambivalent political will, African countries with significant alluvial diamond reserves face three alternatives:

- To try to oppress and stop all AADM and thus eliminate the associated problems.
- To maintain the status quo and attempt to undertake the occasional ad hoc assistance project.
- To undertake radical reform of the sector by tackling all of the relevant issues.

Based on past discussions of the members of the African Mining Partnership (AMP) – a New Partnership for Africa's Development (NEPAD) initiative – and the more recent inauguration of the ADPA (African Countries Diamond Producers Association) – it can be assumed that the currently favoured option consists of undertaking a radical reform of the AADM sub-sector by tackling all of the relevant issues. Consequently, there is an urgent need to convince all African governments that this strategy is the best for all stakeholders, and that the implementation of a policy organising the formalisation and development of the AADM sub-sector must be seen as a key government priority for poverty alleviation and rural development.[12] AADM (and other forms of ASM) needs to be embedded in key national documents such as the Poverty Reduction Strategy Papers (PRSP), as has already been achieved in diamond producing countries like Sierra Leone, Guinea and Tanzania, with clear reference to potential contribution to sustainable livelihoods, poverty alleviation, and community driven development. The ultimate goal of any future specific AADM policy and subsequent assistance interventions would be to help governments create strategies that enable the sector to promote a more positive working relationship which involves, for example, devolving the management of diamond resources and the retrocession and repatriation of a percentage of revenues to local communities.

When elaborating their new policy for the ADDM sector, governments will need to focus on the means to allow the sector to align itself with the principles of sustainable development, reduce capital flight, increase alternative livelihood options, and mitigate the threats to the social, economic and biophysical systems. This could necessitate national multi-stakeholder workshops to sensitise and raise the profile of AADM by explaining the economics of mining, the use of exploration techniques, and the fundamentals of mine management including basic Health and Safety and Environmental Management. Partnerships need to be built with decentralised local administrations and a variety of stakeholders, including traditional leaders, security forces, police, customs/revenue authorities, the banking sector, and the existing large-scale mining/exploration sector in order to raise the general level of awareness of all AADM-related issues.

African governments should consider revising their mining policies with a view to pioneering development of the AADM sector. Essentially, governments should ensure that poverty alleviation and community driven development objectives are fully and comprehensively incorporated and mainstreamed into any new policy before formal endorsement. It is recommended that any such revision utilises and builds on existing ASM specific policies and declarations.[13]

12 E.g. in Angola 10 per cent of diamond taxes are supposed to be remitted to mining areas for development purposes.

13 Also concluding statements form key fora and meetings including the Durban Declaration (Special Conference of African Energy and Mining Minister 1997), Ouagadougou African Mining (MIGA 2000), SADC Mining Protocol (Article 7), SADC

The institutional management of the artisanal alluvial diamond miners

General diagnostic

In most African countries, the capacity of the various Public Mining Institutions (PMIs) in charge of managing the AADM sub-sector is limited, due to overwhelming financial and human resource constraints. Qualified and experienced personal are hard to recruit and maintain, as remuneration is usually low and work conditions often difficult, even dangerous. Many governments are cognisant of the significant institutional shortfalls with respect to AADM governance and have acknowledged that reforms will also rely on restructuring, major capacity building and strengthening, and increasing the resources of the national Ministry responsible for AADM and other relevant institutions. Such capacity building measures should help ensure that they can effectively undertake their statutory functions, enforce appropriate legislation, properly monitor the sub-sector and provide much needed extension services. In addition to modern governmental institutions, traditional institutions can often have equal or greater significance in terms of AADM development in many African countries. Such traditional and customary institutions constitute key stakeholders and governments should be encouraged to consult these groups to help foster greater sustainability of AADM formalisation, and local ownership of development processes.

In many African countries, the mining and/or mineral-focussed Ministries tend to be responsible for the majority of regulatory and policy-making tasks pertaining to the mining sub-sector through various PMIs such as Commissions, Directorates or Divisions. However, only a few African countries have a definitive and separate unit responsible for the AADM sector (let alone the artisanal alluvial diamond sector) whose mandate should be to secure an optimum contribution of the AADM sector to the national economy (cf. infra Section, Extension Services).

But the level of monitoring needed to ensure national economic benefits from the AADM sub-sector is largely absent. Moreover, vast distances with few negotiable roads and difficult terrain have to be covered, yet there are few vehicles available and not enough trained, appropriately paid and properly resourced staff. Most ministries and their subordinate PMIs are highly motivated and committed to assisting with the formalisation and regulation of the sector, but in reality the central and field units lack the resources and skills to competently undertake their statutory duties or implement and monitor policies, programmes and action plans for the formalisation and development of the AADM sector.

Mining Sector Strategic Plan, UEMOA Joint Mining Policy (2000), ECA (Committee on National Resources and Science and Technology CNRST 2001), NEPAD, WSSD Implementation Plan (Chapter on sustainable development for Africa), and the African Mining Partnership. Reference should also be made to the UNDESA Harare Guidelines (1993) and the more recent UNDESA/UNECA Yaoundé Declaration (2002). In addition, it would be prudent to collaborate and consult with the Communities and Small-scale Mining (CASM) network (www.casmsite.org).

Table 1 – Decentralised Institutions in Charge of the ASM sector		
Country	Institution	Umbrella Authority
DRC	Local Mine Division (Division des Mines), and SAESSCAM	Ministry of Mines
CAR	Regional Mining Directorate (Direction Régionale des Mines) or Local Office of the Brigade Minière	General Mining Directorate (Direction Générale des Mines), placed under the authority of the Ministre d'Etat aux Mines, à l'Energie et à l'Hydraulique
Tanzania	Zonal Mines Offices and Resident Mines Offices	Ministry of Energy and Minerals
Ghana	District Small-Scale Mining Centres (DSSMC)	Small-Scale Mining Unit, under the authority of the Minerals Commission, in turn administered by the Ministry of Mines
Guinea	Local Mines and Quarries Section (Section Mines et Carrières)	National Directorate for Mines (Direction Nationale des Mines) placed under the authority of the Ministry of Mines
Sierra Leone	Local Mines Department	Ministry of Mineral Resources

Given the current lack of internal control, strategic oversight and ineffective interdiction, there will be a need to retrain and sensitise some of the PMIs staff tasked with assisting and developing the AADM sub-sector as many are unaware of the realities and constraints of the sector and sometimes even offer inappropriate technical or stone evaluation advice. Field staff must learn that their job also requires them to listen and respect the miners and their communities. Credible incentives to overcome corruption, exploitative patronage and malpractice of field staff must be identified and implemented. They need to work with, rather than against, the AADM communities and gain their trust in order to meet the desire to formalise and regulate the sector. They must also be sensitised to understand and help to overcome the gender-differentiated roles and reliance on child labour that constrain formalisation of the sector. Although in the past there have been some commendable staff training programmes in certain African countries, these programmes have only concentrated on the technical issues and have lacked any form of follow-up to ascertain the effectiveness of the training.

Most artisanal miners have minimal geological knowledge, therefore the government, possibly through the national Geological Survey, must also be encouraged to ensure that all relevant (and up-to-date) geological information is made publicly available. The national Geological Survey should be given a mandate to analyse all existing data and attempt to delineate and define the nation's alluvial potential suitable for AADM exploitation (cf. infra Section The Cadastral System)

Lastly, African governments should consider providing diamond grading/awareness training programmes for their field staff that in turn can help miners understand the value

of their production. Such small stone training programmes have been successfully implemented in Sierra Leone (through the Peace Diamond Alliance) in 2004, and include education on basic diamond knowledge, diamond grading equipment, local parlance, diamond characteristics, spotting fakes and the complex issue of diamond classification and basic pricing based on carat weight, cut/shape, clarity and colour.

Extension services

Attempts to decentralise[14] the management of ASM, including the AADM sub-sector in many African countries has tended to focus on establishing a network of regional mining bureaux and small-scale mining centres designed to carry out a range of outreach type functions on behalf of the central ministries.

Generally, provincial mining offices or regional/district mining centres form outreach stations and serve to disseminate government policies on AADM by offering extension services in appropriate mining, processing, environmental and health and safety issues; supposedly serving as the interface between the miners and the government. However, lack of capacity, resources equipment and transport has severely limited the effectiveness of many such well meaning extension services throughout the continent. Although in the past there have been some commendable training programmes[15] these have tended to concentrate on technical issues and have lacked any form of follow-up to ascertain the effectiveness of the training. In addition, such training has often targeted and promoted small-scale semi-mechanised mining rather than subsistence artisanal mining and employed proprietary processing equipment and the hiring of earthmoving plant. Such training, although of probable interest and value to the professional government officers/wardens, is of little relevance to the artisanal operations that require training in appropriate artisanal alluvial mining practices. It is vital that training of government outreach staff includes appropriate AADM 'best practice' techniques and technology.

Given the fact that many artisanal miners use inappropriate technology or have limited access to, or knowledge of, geology, mining, or rough stone valuation, there is also a desperate need to ensure that the government provides accessible, free (or affordable) multi-disciplined advice, services and products to miners. Such services should be delivered in appropriate locations and times of the day (when the miners have finished work). The proposed demand-orientated extension service should act as a 'one-stop-shop' in terms of out-reach extension services to the miners and their communities (with access to rights and entitlements) operating with a duty to advise on best/good practice in accordance with

14 Decentralisation, the process of devolving resources and power from central government to more local structures is a clearly defined developmental priority.

15 Such as the USAID-funded diamond-valuation training of Mines Monitoring Officers (MMOs) in Sierra Leone.

environmental and health and safety national policy, regulations and guidelines and also facilitate access to appropriate technology for optimal mining. Training should include mining and diamond sorting (using appropriate locally fabricated technology), sensitisation to legislation, access to credit and profitable marketing, rough stone pricing and evaluation, business (personal finance and savings) and management skills and community health/issues. The linking of the training of different aspects of artisanal mining and business management will be essential to allow the sector to grow in a more sustainable manner. In theory, these service centres could possibly, though not exclusively, become a conduit for more general education including general healthcare, drug abuse, water management, HIV/AIDS awareness, and alternative and complimentary livelihoods training (animal husbandry, agriculture, et cetera) for the wider community.

All advice and assistance services should take account of the cultural background, geographical isolation, capabilities, the working environment, and in particular the gender constraints of AADM communities. Advice should be clearly worded in a language appropriate to the AADM communities (or illustrated considering levels of illiteracy) and be relevant to the local conditions and culture. Governments should examine all potential methods of communication and evaluate and adopt appropriate media including television, radio, theatrical plays, booklets, et cetera in order to reach communities.

It may also be prudent to consider options for the delivery of training, possibly through another public body rather than solely through mining ministries. Experience from many other countries suggests that it is more effective if the institutional set-up consists of two separate bodies to oversee the ASM sector; one ministry line agency, acting as regulatory unit, and a separate and independent technical service unit. Likewise, there could be a conflict of interest if the mining ministry is tasked with delivering technical assistance whilst remaining a regulator and revenue/tax collector. The rationale for divorcing the responsibilities of regulation/tax collection and the provision of technical assistance is twofold. First, it helps to reduce opportunities for corruption. Second, when the regulatory unit combines both roles, the miners do not trust the assistance being offered as it is more difficult for them to distinguish the 'teacher' from the 'policeman'. This distrust can manifest itself in a variety of ways, from open hostility to disregard, but the result is often the same; the advice is usually ignored. By splitting the roles of the two units and by demonstrating the independence of the technical services unit, the miners would be given an amenable route to access appropriate advice.

Legal and regulatory framework

The inability of many African governments to monitor and internally control the AADM sector has been detrimental to the national economy of many countries. In many African

countries, illegality is rampant with more than 75 per cent of artisanal miners operating outside the legal framework. Alluvial artisanal diamond mining has shown itself to be highly resistant to coercive actions on the part of governments, an ability which, whether done purposefully or out of shear necessity, perpetuates illegal practises which often have negative social, political and environmental impacts. Understandably, many governments are ambivalent towards the sub-sector. It is evident that the isolation of alluvial diamond mining from the mainstream of economic development prevents it from becoming a recognised economic activity, contributing to government revenue and attracting legitimate entrepreneurs, whilst deterring criminality to take a hold on the sector.

Regardless of the reasons, informal and illegal mining is an indicator of a deficient legal framework and punitive regulations that often discourage investment and weaken economic stability. It promotes tax evasion that weakens fiscal security and it erodes governance and political stability. Although improved regulation in isolation will certainly not solve the numerous problems that plague the AADM sub-sector, legalisation is still the first necessary step to removing some of the barriers to formalising the sector into a sustainable activity and increase benefits to nationals. For artisanal mining to achieve any meaningful level of formalisation and integration national legislation needs to create transparent, efficient and stable access for organised artisanal operations to available concessions, striking a balance between the needs and operational realities of large-scale mining operations, artisanal miners and communities as well as competing economic activities. Legal frameworks must be implementable, enforceable, consistent and clear; appropriate to the realities whilst taking into account monitoring and enforcement capabilities. To enhance enforceability and outreach, governments may wish to consider how to delegate specific roles to local administrations and traditional authorities. Three issues are currently generally considered as crucial elements to all forms of ASM formalisation:

- A legal and regulatory framework ensuring security of tenure and property rights, acknowledging the necessary participation of local authorities and backed-up by a sound geological survey and cadastral system.
- The delineation and creation of artisanal mining zones.
- The use of miners' identity cards.

Mining laws in most African countries fail to identify and address the needs and concerns of ASM and do not yet recognise the importance of this sector in terms of poverty reduction and rural development. In accordance with current ASM 'best practice', key issues that should be considered to help formulate a conducive and workable policy, and legal and regulatory framework include:

Legal

- Consider decriminalising the sector by differentiating between opportunistic artisanal subsistence mining, entrepreneurial

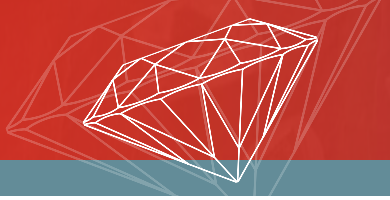
formalised small-scale mining, and criminally-backed and -motivated activities; referring to the later only as "illegal".

- Provide for the right to exploit a particular diamondiferous deposit by artisanal means with clear rules to access and use of mineral and land ownership rights (especially with respect to women).
- Adopt the 'first come-first served' principle through a transparent and rapid process.
- Provide full and transferable mining title and security of tenure to enhance creditworthiness and liquidity.
- Ensure that the concession size and tenure period is sufficient to facilitate the generation of finance.
- Codify the necessary elements for a modern mining cadastral system.
- Unless full geological delineation of suitable alluvial sites is undertaken, all mineral rights should be issued with due consideration to standard mining development phases (reconnaissance, prospecting and mining).

Policy

- Reinforce independent and fully decentralised licensing registry offices (ensure that licenses are issued in a timely, transparent, non-discretionary and non-discriminatory manner).
- Ensure full gender equality and child labour elimination on minesites.
- Adopt an appropriate level of environmental management and workplace health and safety.
- Encourage the formation of voluntary and democratic associations and cooperatives (family or community).
- Mitigate severe environmental and health and safety effects of uncontrolled artisanal mining.
- Designate specific areas for artisanal mining that facilitate easier management and enforcement of regulations.
- Encourage the entry of nationals into the sector and attempt to minimise the participation of foreign workers.
- Protect the rights of indigenous peoples and resident communities.

Some African countries have enacted some elements of ASM specific legislation. However, even these countries realise they have to go even further before they can positively impact on the sector. Guidelines must not marginalise the sub-sector and instead be part of an integrated and comprehensive formalisation strategy that is designed to guide and regulate the diamond sector in a manner that ensures transparency, even-handedness, open competition, and continuity of government service. It is important to remember that the objective of legislation should be to provide a fast and streamlined process for the acquisition of artisanal mining licenses, improve security of tenure, provide reasonable tenure periods and ensure mineral rights are transferable and renewable. It is imperative that the legislation is truly sympathetic to the particularities, realities, constraints and challenges of the alluvial sector and such issues are clearly enunciated. Attempting to subject the AADM sub-sector



to inappropriate and unenforceable control measures or resorting to repression through police deployment or paramilitary campaigns are not recommended strategies. Legislation and its 'practice' must be appropriate to the realities of alluvial diamond mining and the current capacity of government staff to manage and enforce legislation.

In African countries which possess a Mining Law that provides for Artisanal Mining Permits (such as the DRC, the CAR, Côte d'Ivoire, Ghana, Guinea, and Tanzania), such permits are delivered by a decentralised body under the authority of the Ministry of Mines.

In addition to ensuring that the offices where ASM permits can be delivered are readily accessible to artisanal miners, governments must also try to develop strong incentives for these miners to participate in the formal sector and answer the fundamental question that many miners ask: "What's in it for me…?". For many artisanal miners, completing an application form and registering their activity to appease the government is a complicated, bureaucratic and expensive process; costly in both time and money and offers limited if any advantages. Miners' ambivalence towards formalisation suggests that they see more disadvantages than advantages from working within the formal sector, or, equally problematic, see little difference between operating legally or illegally. In many diamond-rich countries, there can be a lack of land available to artisanal miners (due, for example, to competition with LSM companies over surface land and as mineral rights) and the wait for suitable titles to become available can take years. Taxes on what little miners do find can be another deterrent to formalisation. Other reasons forcing miners into informality can be a lack of knowledge of the legal requirements, or local traditional and cultural behaviours whereby they feel that they have the right to exploit the minerals on tribal or ancestral lands. Indeed many miners may prefer to remain informal as this gives them access to the most convenient buying agents and maintains flexibility in shifting from one minesite to another.

African governments need to recognise that financial incentives work much better than bureaucratic regulations, hence, there is also an urgent need to convince the government to commit to assisting with other problems in order to encourage the sector to formalise (e.g. granting tax breaks to "supporters" when they provide training). It would be prudent to ensure that any new legislation or regulations specific to artisanal mining adopt clauses that are in accordance with the currently accepted 'best practice'[16] for development, formalisation and empowerment of the sector. In addition, any new legislation should be developed and fully reviewed through a participatory and consultative approach. Lastly, the controversial issue of whether to adopt sanctions against infractions, such as those stated in the

16 E.g. The Harare Guidelines on Small/Medium-scale Mining (UN); The Compendium on Best practice in Small-Scale Mining in Africa (UNECA); The Yaoundé Vision Statement (UNECA).

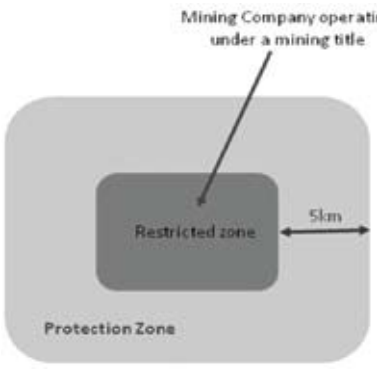
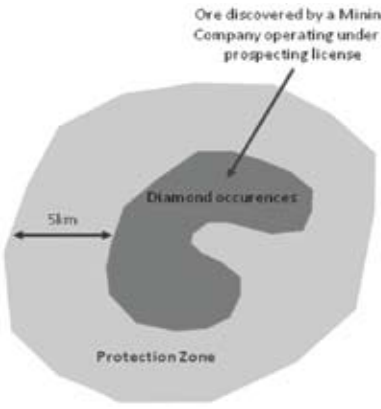
Code Minier of the DRC, needs to be considered and the disadvantages and advantages carefully judged.

Land tenure issues, property rights and the role of traditional local authorities

Many African governments have, at various levels, a state-centric view of land tenure and property rights (DRC, Guinea, CAR, and Angola), in which the state's ownership of and right to appropriate land and below-surface minerals prevails. The Government of Angola firmly endorsed this view in its New Policy on Diamond Trading: after recognising that diamond wealth belongs to the state as per the Constitutional Law, the Government declared that the former 1991 Diamond Law (which liberalised the possession and trade of diamonds, now obsolete) was untenable because it created the idea that any citizen could appropriate land-bearing mineral wealth for him/herself.

Consequently, in these African countries the state tends to consider that it has the right to bypass negotiations with customary Chiefs and local land owners on the right to mine on communal or privately owned land, as well as the right to administer all activities related to diamond mining (granting of licenses, authorisation to work on a mine site, authorisation to sell, buy and export diamonds, et cetera.).

It is crucial that African governments articulate clear land rights within their legal framework. The first step would be to clearly define property rights, and the rules governing land tenure and mineral ownership. This articulation should organise the interaction between customary rights and statutory rights to the land and resources (be they mineral, hydrological, timber, et cetera.) especially in mining areas. Property rights to diamond resources should be organised in a flexible manner and close to the realities at the local level, in order to expedite regulatory enforcement and to guarantee respect for and protection of local property claims. In order to prevent and/or solve disputes over land tenure or property rights, conflict mitigation mechanisms should be developed and land tenure and property rights should be registered in reinforced local Land Administration Offices and Rights Registers. A good mineral tenure system and a strengthening of property rights is critical; however designing and implementing an appropriate and enforceable tenure system that can accommodate both AADM and large-scale mining has so far eluded most governments. Experience has shown that in some AADM areas, when left to their own devices, miners devise working 'property rights' arrangements based on patronage or implicit economic reasoning. Governments would be prudent to understand and work with some of these customary systems (Sobas, Chiefdoms, Stools, et cetera) and try to devise a tenure system that complements and improves these existing systems rather than trying to enforce an alien system that does not respect traditional land issues and customs. As a minimum an appropriate AADM tenure system should:

BOX 4 - PROTECTION ZONE CREATED BY ENDIAMA, UPON PROPOSAL BY THE MINING COMPANY OPERATING IN THE RESTRICTED ZONE.	TEMPORARY PROTECTION ZONE CREATED BY ENDIAMA AND ONLY VALID BETWEEN THE DISCOVERY OF THE ORE AND THE GRANTING OF THE MINING TITLE TO A MINING COMPANY.
	

- Include a clear distinction and definition on artisanal and small-scale mining.
- Be straightforward to communicate and comprehend.
- Adopts a 'first-come-first-served' granting criteria.
- Has tenure (and Cadastre) authorities that are accessible.
- Has a procedure that is swift, effective and has minimal discretionary elements.
- Provides exclusivity and also a relinquishment clause.
- Perhaps includes an unitisation clause to encourage miners to cooperate and group.
- Include tangible incentives for formalisation.
- Be enforceable.

The cadastral system

The Cadastre (Mining Register) is a database that gathers information on land ownership, land use, and the rights attached to each parcel. The Cadastre has a major role to play in terms of formalising ASM through recording Artisanal Mining Zones and individual artisanal permits perimeter, to ensure that these areas are clearly defined, publicised and that the individual/collective rights attached to them are respected. The Cadastre also has a key role to play to prevent conflict over land ownership and land use, between the ASM community and the local community, and between ASM community and industrialised LSM companies.

Most artisanal miners have minimal geological knowledge and do not usually have access to reliable information enabling them to locate the diamondiferous areas. The Cadastre must be encouraged to work in close cooperation with the national Geological Survey, to ensure that all relevant geological information is made publicly available. These two PMIs should be given a mandate to analyse all existing data and attempt to delineate and define the nation's mineral potential suitable for ASM exploitation. The Cadastre should ensure that this delineation does not overlap with pre-existing land use attribution or ownership, and not just concentrate on attracting LSM companies. Usually, in most alluvial diamond producing countries, there has been little or no new prospecting studies, and often countries have not been completely mapped using more modern geophysical sampling techniques. The national Geological Survey must be charged with the responsibility to collect reliable geological data and be given the resources to undertake these tasks (funds, equipment and technical competence). All relevant information for the ASM sector must be disseminated by appropriate means (e.g. through posters in local Mine Offices and community centres or through newspapers or gazettes). The proper delineation and definition of resources suitable for ASM would have numerous advantages including the potential to reduce demographic migration and rush-type situations, facilitate the development of organised ASM community settlements and maximise the potential for longer term sustainability of intervention projects.

Artisanal mining zones

The creation, authorisation and closure of such zones has become a popular concept and is often proclaimed as the solution to the land-conflict problem between LSM and ASM actors. Therefore, the concept can be found in various national mining policies as a government objective, and in several Mining Laws.

In Angola, the 1994 Diamond Law authorises the artisanal mining of selected diamond deposits only. Those deposits considered unsuitable for industrial mining are supposedly located around areas identified for industrial mining. These areas destined to be mined by artisanal miners are called "Protection Zones". Their creation, as organised by the Diamond Law, can happen in two circumstances (cf. Box 4). However these "garimpeiro zones" have never been created and no artisanal license has ever been issued by ENDIAMA (Empresa Nacional de Diamantes de Angola, EP - the national corporation in charge of managing Angolan's mineral resources by delegation from the Ministry of Mines). As a result, all artisanal miners in Angola (garimpeiros) are virtually unlicensed, operating in areas unsanctioned by ENDIAMA, and their status is therefore totally illegal.

In this example, as in many countries (DRC, Ghana, CAR, Côte d'Ivoire, and Guinea), the policy of establishing artisanal mining zones has not been widely implemented, or the zones exist in name only. Often the zones are simply never created, or are merely demarcat-

ed over barren and unproductive land, or over land which has not been properly geologically evaluated for the presence of diamonds. This problem is often exacerbated as many legal frameworks have contradictory statements (e.g. the Code Minier of the DRC) regarding the issue of security of tenure of these zones; they are often secondary to industrial mining or exploration rights.

In order to form such zones properly, African governments must be willing to invest in undertaking thorough geological evaluations of prospective land to determine the suitability of the land for either organised AADM or industrialised large-scale diamond mining. The delineation of these zones then needs to be published locally (e.g. as attempted as far back as 1986 in Société pour le Développement Minier (SODEMI) in Côte d'Ivoire). Further to this, the zones need to be protected to ensure they cannot be reassigned, and criteria must be established to ensure their strict use as artisanal zones to benefit artisanal miners.

In Ghana, an experience led in the alluvial gold sector may be of inspiration to help formalise ASM alluvial diamond activities. The Ghanaian Minerals Commission monitors ASM activities through District Small-Scale Gold Mining Centres, established in designated areas where such activities are known to take place. Such "District Centres" are assisted by a "Small-Scale Mining Committee" responsible for monitoring, promoting and developing ASM activities in the designated area.

Artisanal miners' card

The provision of Artisanal Miners' identity cards is a policy concept that is often proposed for assisting the formalisation of the sub-sector (attempted in the DRC and in the CAR). Identity cards give artisanal miners access to a number of alleged 'benefits' including controlled access to selected mining zones. General conditions for obtaining a miner's card are the following:

- Being a national citizen of the country.
- Being "of age" (usually 18 years-old and above).
- A copy of a national ID card.
- Identity pictures.

These criteria exclude a significant proportion of the artisanal mining population from any legal artisanal mining activities, constituted by foreign nationals, as well as children and young people. Additionally, requirements such as the presentation of an ID card and identity pictures are often unrealistic in many African countries, were National Civil Register practices are not widely applied (and even less so to women) and passport-format pictures are not readily accessible.

In the CAR registration as an artisanal miner to obtain a carte d'exploitation artisanale costs US$4 for the year, and is payable at the local office of the Brigade Minière, who will provide the card, valid within a "rural community". The applicant's name and address are forwarded to the Direction Générale des Mines in Bangui. These registration cards must be carried at all

times when working on a mining concession, as the Brigade Minière undertake inspections and failure to produce can result in the confiscation of all minerals and tools. When applying for the card, the applicant must subscribe to environmental and health and safety regulatory measures. According to various sources in the field, only approximately 10 per cent of artisanal miners in the CAR are in possession of a license, as a result of the lack of real benefits attached to it.

In the DRC, the carte d'exploitant artisanal is delivered by the local Division Provinciale des Mines. Registration as a diamineur (artisanal diamond miner) costs US$25 for the year, is renewable, and is valid within the Artisanal Mining Zone mentioned on the card. The artisanal miners must subscribe to the Code de Conduite de l'Exploitant Artisanal, containing provisions related to environmental protection and health and safety. The holder of the card is required to contribute to a Rehabilitation Fund (US$2.5) aimed at ensuring environmental rehabilitation of artisanally-mined areas. The remoteness of the mining areas from any Division Provinciale des Mines office, combined with the price of the card and the unrealistic conditions of operation attached, mean that only about 10 per cent of artisanal miners have a card.

Artisanal Miners' identity cards may initially appear to present a potential solution for internal control, based on encouraging results from pilot projects. However, there are concerns that such a scheme may be at odds with the concept of sustainable communities where artisanal miners become integrated in the formal rural economy. Because such cards usually allow artisanal mining activities in specific areas, if not designed and implemented correctly, such a scheme may create nomadic and alienated segments of society who migrate between mining zones establishing impromptu settlements that lack proper housing, drainage or sanitation facilities. This concept would also not assist with the challenge of alternative livelihoods and post-mining legacy issues.

Establishing formal marketing chains attractive to artisanal miners

Economic rent

Although the overall value of AADM production is significant, the size of the worldwide value chain is limited. The Diamond Development Initiative (DDI) articulates the problem of fiscal returns to governments, they estimate that the annual 2004 global production of diamonds totalled around US$10 billion with the cost of production estimated at about US$3.5 to US$3.8 billion making the theoretical margins available to producing countries as reward for the extraction activity at US$6.2 to US$6.5 billion. The distribution of the economic rent (the proportion of the value added which exceeds the costs of all factors of production and a reasonable return on risk capital to the miner) differs sharply

from producer to producer. In countries with primary deposits (kimberlites), most of the economic rent accrues to central governments and can be applied to the benefit of the national economies. Primary deposits account for up to 75 per cent of world production, however in Africa, these types of deposits are found mainly in Botswana and South Africa.

The other 25 per cent to 30 per cent of world production come from secondary alluvial deposits. The DRC, Angola, Sierra Leone, the CAR, Guinea, Tanzania, Ghana and other countries depend on these types of deposits; but their exploitation represents a real fiscal and regulatory challenge. Only a nominal contribution to government treasury occurs through direct taxation. Most governments with alluvial diamond deposits are barely able to generate more than 3 per cent taxes on the value of diamonds exported through legal channels as well as through fees charged on licences and titles. If governments attempt to increase taxation much beyond 3 per cent - 4 per cent, empirical evidence shows that smuggling to neighbouring countries with lower tax regimes typically occurs. The above is especially true in the case of the DRC, Sierra Leone, the CAR and Angola, and it is also true of Guinea, Liberia and Côte d'Ivoire. The regional harmonisation of export taxes may constitute an effective answer to this issue, and could have positive effects in reducing smuggling.

In conjunction with low fiscal returns to governments, artisanal diamond mining is costly and logistically complicated to effectively monitor and police. Many African governments are faced with a contradictory position. They are aware of the need to provide capacity building and adequate resourcing for the national ministries responsible for mining (as well as for other relevant institutions) in order to effectively enforce appropriate legislation, properly monitor the AADM sub-sector and provide much needed extension services which could increase investment and production levels through official channels. However, they are unable to achieve the economic returns which would enable them to easily do this. In countries where artisanal production predominates, economic rents from directly levied taxes are low, however, the employment generation effect more than compensates for this. AADM can contribute significantly to rural and national development through income generation and the economic stimulation of local and regional cash circulation. Although, based on experiences from Latin America, some claim that in reality VAT systems may outperform direct taxation of artisanal miners in terms of generating revenues, and it is questionable whether policies which support such an approach by African governments will achieve the desired economic return from AADM.

The diamond value chain

The current diamond value chain includes a number of middlemen and intermediaries. From small-time peddlers, sponsors, brokers, trafiquants and dealers, to négociants, collecteurs, and Comptoirs d'Achat, coupled with dishonest valuers and diamond exporters.

This is a highly hierarchic chain of command and therefore unequal socio-economic relations amongst stakeholders are perpetuated. State's monitoring and controlling capacity are at its weakest at the marketing levels between the production stage and the regional or national buying offices resulting in the bulk of illegal trading activities being carried out at this stage, however the smuggling of artisanal rough diamonds takes place at all levels of the diamond marketing chain.

Most miners' income is discontinuous and, in order to ensure a regular cash flow from small amounts of production, miners typically have to sell their stones as quickly as they can. The highest profits and mark-up occur most often at the first point of sale, when artisanal miners sell their stone to the first intermediary. Prices paid and profits reaped increase exponentially at each intermediary level of the "earth to export" chain, with the concentration of profits in the hands of a small number of brokers, coaxers and dealers (e.g. the group known as Open Yai in Sierra Leone) who are knowledgeable about diamond values and who seldom re-invest in the locality or even the country. For artisanal diamond miners who are at the very bottom end of the value chain, the system is exceedingly exploitative (e.g. the harassing practice of boulouwage common in Mbuji Mayi in the DRC) with an engrained culture of rent seeking and entrenched corruption.

Artisanal miners in most cases earn less than US$1 a day working in nothing more than subsistence 'enterprises'. Most also are debt-bonded through some form of patronage system to the numerous middlemen (Marakas, Supporters, Banabana, Mastas, Négociants or Patrocinadors), and are reliant upon them providing the working capital needed for equipment and even daily subsistence, but are then obliged to sell their diamonds to them at a low price. Occasionally, these supporters and sponsors also hold a semi-monopoly on local trade and imports of basic consumables and living items (as the minesites are often located in remote areas where logistics mean that there are no alternative suppliers).The sponsors can sometimes choose to manipulate local prices, exacerbating indebtedness, restricting widespread local economic development and augmenting artificial local inflation. In many instances, these sponsors are also connected to the diamond dealers and exporters, further restricting the miners' ability to get the best price for their stones. Although many mine owners are nationals (the majority of mining legislation stipulates that only nationals can participate in ASM) the majority of dealers and exporters are foreigners. It is at this level that real change, perhaps not in absolute terms, could make a dramatic and tangible difference to the impoverished miners.

In Sierra Leone, USAID initiated an approach known as the Integrated Diamond Management Project (IDM Project), aimed at imparting fundamental changes in the artisanal diamond marketing chain by providing better prices to cooperatives which agreed to mine in an ethical manner and to track their

production. However, this experiment did not meet with great success, partly due to the miners' reluctance at forgoing the habitual system for a new one in which they did not have enough confidence.

In some countries, the diamond market provides an opportunity for money laundering through the purchase of diamonds in the open market, often buying parcels at above market prices, and then obtaining a KPCS certificate through a registered exporter. Collusion, local culture and patronage benefit local monopolistic 'big men' at the expense of the miners and in particular vulnerable groups. Opportunism, systematic corruption and fraud are rife, and there many vested interests, unpaid security groups, traditional leaders, supporters, military elites, and unscrupulous government officials all with overlapping mandates and authority who are often complicit in illegal exploitation and trade and expect rewarding kickbacks. Trade is almost entirely cash based, or involves alternative indigenous/ethnic remittance systems (e.g. the hawala system) and transactions therefore take place almost exclusively in invisible and untraceable parallel economies that avoid formal reporting and record-keeping requirements. In almost all areas the actual miners receive poor returns and are subjected to a disproportionate amount of informal taxes, capricious fees or blatant deception with respect to diamond prices from many of the middlemen.

This corruption and exploitation increases the overall 'operating costs' to the artisanal miners which again deters registration and formalisation. Although there are many vested interests, it is vital that the value chain is streamlined and miners are brought closer to the exporters without the interference of the middlemen. However, streamlining also means upsetting many of these middlemen and diverting large amounts of money away from this powerful social group. However, simply enacting legislation (e.g. the clause in the Diamond Act of Angola that stipulates that miners should receive 50 per cent of the stone value) will certainly not alter the situation on the ground. The potential for harassment, violence and sabotage of AADM intervention projects is significant and should not be underestimated. African governments must be cognisant of these vested interests, as they may need to de-license or restrict some existing dealers and concurrently design systems to protect the vulnerable artisanal miners and those that are trying to intervene positively.

A further complication in the marketing process is that diamond market values are far from homogenous and nor are they linearly proportional to size. It requires real expertise to be able to judge the value of diamonds and assess true values of stones; expertise that miners rarely, if ever, have.

Although there are publicly available sources for diamond prices, especially the Rapaport price sheets. For smaller stones (available through subscription to a monthly publication or the internet at www.rapaportdiamondreport.com) subscriptions to such

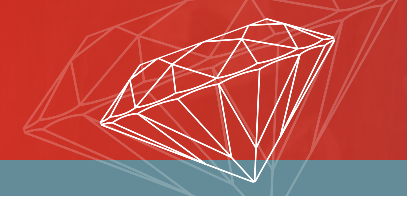
sources are obviously not that accessible to the miners at the bottom of the value chain, and in general, price information does not circulate freely. These lists are mainly price lists for polished stones, which requires expertise to be able to work back to a rough price. Rough price lists are non-existent for reasons of commercial sensitivity.

African governments could consider:

- Developing their own publicly available price book, and possibly if the infrastructure is strong enough, an electronic version.
- Daily price information from a government bourse and from world markets could be broadcast nationwide through radio broadcasts or publication in the national press.
- Licensing a large and reputable international diamond trading company to open an agency to purchase directly from the miners and in return the company could be asked to apply fair valuation guidelines in its pricing policy and publish details of all transactions (within an agreed timeframe)
- Providing small stone grading/awareness training programmes for government field staff that in turn can help miners understand the value of their production.

For opaque industrial quality diamonds, knowledge of dollar-per-carat pricing is widespread. However, with gem quality stones the innumerable permutations of carat, colour and clarity means that miners cannot evaluate the stones themselves and most often get exploited as they do not understand how variations of these key valuation factors combine to effect prices. Experience has shown that even for minor small gem quality stones the miners can be exploited. Only in extreme cases do some buyers actually pay above market prices for these more common stones simply to win the loyalty of the miners so that when a major special stone (often called masters) is found the miners hopefully returns to them to sell. However, it is with these specials that the miners are virtually always readily exploited as they simply expect a linear size-price relationship whereas in reality the prices rise almost exponentially with the quality of the stone.

Another common issue is that of staining; for instance many alluvial stones can often have a brown/yellow tinge, either due to nitrogen contamination or from surface staining caused by prolonged contact with the host alluvial gangue. If the staining is caused by the former, the price is certainly reduced; however with the later the staining can be easily removed through immersion in an acid (hydrofluoric) bath. This staining issue is probably the most common valuation criteria that is used by buyers to exploit miners and can reduce the offered price of a stone by as much as 50 per cent. Likewise, miners are unaware of the prices that certain coloured diamonds can fetch especially the presently popular fancies. Such complex valuation makes the miners vulnerable to exploitation by middlemen and allows these intermediaries to make significant



profits. In addition, the dynamics of informal diamond trading and the artisanal production are unclear and not well understood or documented, particularly in the context of linkages and interactions with other activities.

Any proposed diamond marketing scheme must also discourage monopoly organisations from controlling markets and pricing, as well as foster competition among private sector buyers and sellers to ensure that miners' communities have a number of options for the sale of the stones. However, simply compelling traders to sell diamonds through official channels without offering strong incentives will likely be futile and possibly drive more of the export trade towards illicit channels. There are a number of ways to improve the cash earnings and profit retention by miners and their communities, specific interventions include:

- A combined strategy to improve miners' knowledge of diamond knowledge (identification and evaluation) and measures to improve efficiency and profitability of mining.
- Introduction to new sources and improving access to more equitable sources of pre-finance and credit to compete with supporter/tributor system.
- A more open system of licensed buyers/vendors who visit mining areas and buy small amounts of diamond production. In theory, if there were sufficient licensed agents and no collusion, competition between them should prevent the purchase price from being so low that it leads to widespread black market transactions.
- The use of commercial medium/large mining companies or conscientious diamond trading companies who would act as assured buyers providing this did not reduce miners' bargaining power and result in dependency or excessive debt bondage.
- Links with the growing fair trade and ethical jewellery movement.[17]
- Increasing the awareness within the sector regarding methods of adding value to diamonds by establishing appropriate local processing, cutting, and polishing industries.
- The establishment of official Buying Centres/Diamond Bourses in remote mining areas where miners receive a fair price (i.e., the margin does not exceed an appropriate percentage). However, it is important that the financial requirements and fees their establishment are not excessive. (cf. infra, Section Diamond Bourses).

Regulation of mineral marketing

One of the primary reasons why parallel black markets are proliferating and why artisanal miners do not generally enter the official market chain is that markets are usually not adapted to the specificities of high-value

17 See Madison Dialogue www.madisondialogue.org or the Council of Responsible Jewellery www.responsiblejewellery.com.

alluvial diamonds. Furthermore, the diamond market is competitive, and manufacturers are finding that obtaining sufficient supplies of rough diamonds on the open market is becoming more difficult. They are therefore prepared to explore buying rough diamonds from alternative sources. African government's approaches on the monitoring and control of the diamond marketing chain vary greatly.

In Angola, the Sociedade de Commercialização de Diamantes de Angola (SODIAM), a partial subsidiary of ENDIAMA (and therefore indirectly owned by the state) is in charge of the management of the whole diamond marketing chain. SODIAM therefore manages all the buying offices on Angolan territory and has the responsibility to buy virtually all Angolan diamonds. For the very elusive artisanal diamond market, SODIAM acts through its subsidiary, the Angola Selling Corporation (ASCORP). ASCORP has a monopoly on the informal diamond market, sometimes in association with Lazare Kaplan International (LKI). ASCORP/LKI operates a number of large central buying offices (casa mae) in garimpo towns and manages a number of smaller buying offices, run by independent people, under a 3-month license. All diamonds purchased in these buying offices eventually arrive at SODIAM's main buying house.

In addition to this parastatal monopoly on diamond marketing, the Government of Angola has created a Corpo Especial de Fiscalização e Segurança de Diamantes (CSD) which gathers representatives from ENDIAMA, the Ministério de Geologia e Minas and the National Police. The CSD has the highest level of oversight and competence over diamond intelligence and anti-smuggling intelligence. It has a specialized force of 500 officers, responsible for ensuring the security of Angola's diamonds as they travel to Luanda from mining projects or buying houses. CSD is in charge of licensing the diamond traders who buy from garimpeiros. Despite this apparently firm grip of the state over the whole of the diamond marketing chain through ENDIAMA, SODIAM, ASCORP and the CSD, a large proportion of artisanal diamonds escape the legal channel every year in Angola. However, the Government of Angola remains convinced that SODIAM should become a true "Diamond purchase and sale Centre", as the Government considers that SODIAM has been limited to a role of intermediating and inspecting exports appraisal.

In Tanzania, the state does not participate in the diamond trading.[18] The institutional body in charge of regulating the diamond marketing chain is the Minerals Resources Division of the Ministry of Energy and Minerals, through its Mining Department. The Mining Division has a network of Regional, Zonal and District Offices located in the main mining areas which gather information on mineral marketing. Such information are then recorded and monitored at the Mining Division headquar-

18 In Tanzania, the state's role is limited to the regulation, promotion, facilitation and provision of support services.

ters in Dar-es-Salaam. Contrary to Angola, the Tanzanian diamond market is open and competitive, and the 1998 Mining Act determines under which conditions private dealers can receive a license[19] to operate on the diamond market. Artisanal diamond miners, as holders of a Primary License, are allowed to directly sell and export their production. All licensed private dealers (registered artisanal miners, other mineral rights holders, dealers and brokers) have the obligation to record and submit information on their transactions.

Diamond bourses

Many organisations/groups, including the African Mining Partnership (AMP) promote the idea of government for-profit or not-for-profit multi-functional bourses. This option[20] has been attempted solely but seemingly successfully in Ghana, through the Precious Minerals Marketing Company (PMMC). The Ghanaian PMMC is responsible for the monitoring and regulation of the marketing of precious minerals, especially diamonds and gold. The PMMC issues buying licenses to foreign and local companies to buy diamonds directly from the miners. The PMMC also takes a direct part in the marketing of diamonds, by supervising the purchases and arranging the documentation required for exportation. The Ghanaian model is particularly interesting as this bourse has eliminated cash transactions, in an attempt to combat money laundering, and all transfers pass through the central bank in advance. The popular idea is to create multi-functional diamond centres that could house a bourse, as well as facilities for banking, licensing, independent valuing, training, information dissemination, and other possible development-related activities.

Some find however that the diamond marketing arrangements are best fully opened to the private sector with government acting only as the regulators and monitors; advocating that the liberalisation of domestic diamond markets through simplification of the licensing procedures for private mineral dealers should steer most dealers through legal channels. This open-competition approach has been adopted in Tanzania, where the government does not participate directly in any form of diamond trading. However, in both cases miners have, or simply perceive they have, little bargaining power and smuggling becomes the default route in the hope of receiving the best return on production.[21]

19 Three licenses : the Mineral Right Holders (c.f. supra), the Dealers and Master Dealers (approved by the Minister for Energy and Mines, limited to Tanzanian nationals, issued for 18 months renewable), and the Brokers (approved by the Commissioner for Mineral Resources, are valid locally, do not allow exportation, limited to Tanzanian nationals, issued for 15 months renewable). Foreign nationals are not allowed to go to artisanal mining areas to trade artisanal diamonds. They must operate from district and regional centres.

20 This option, which differs from the establishment of official buying centres such as what was, until recently, the practice at the Gold and Diamond Department in Sierra Leone, or SODIAM in Angola

21 When a miner comes to a buying house to sell his production, there is virtually no negotiation on the price of the diamonds. As the majority of artisanal miners working without any form of legal authorisation, they are not legally allowed to handle diamonds.

Conclusions

Experience has shown that most ad hoc efforts and assistance programmes have endeavoured to solve one aspect of the ASM sector alone and ignored others and have therefore resulted in only temporary success. Many projects have suffered from a lack of resources, competent management, political will, result-oriented and time-bound actions and long term monitoring. Therefore, it is imperative that any interventions suggested adopt a broader multi-dimensional approach, be locally-owned and driven, informed by robust output orientated research data, be strategically linked to other key national policy initiatives and sectors (in order to avoid duplication of efforts and maximise efficient use of donor funding), and also work within the current national capacity and obvious limitations. The ultimate success of any formalisation programme will also heavily depend on the sustained political will of individual governments and a more empowered and better informed civil society.

All future proposals must have an emphasis on people (especially women, youth and children) and community development, rather than merely technology and production increases. Recognition must be given that artisanal activities will continue for at least as long as poverty and opportunity drives them and the rights of citizens to secure a livelihood whether within or outside the sub-sector must be respected. Inevitably the ultimate vision should be to create sustainable communities, benefiting from the economic activity generated by legal and responsible alluvial diamond extraction and trade, and where artisanal mining is one activity within a broad range of livelihoods.

All future project concepts will also have to take into account the multitude of vested, divergent and interconnected interests of the various stakeholders from government, public authorities, diamond traders, civil society, private sector and others; many of whom benefit from the current status quo. Therefore it will be prudent to include, right from the initial design stage, an element of awareness raising, informed advocacy, communication, negotiation and mediation to determine potential areas of conflict, the identification of common targets, and areas for compromise between all the key stakeholders.

It is hoped that a policy framework is adopted and implemented by governments to help devise strategies that are realistic, pragmatic and that are fully supported by AADM communities. In order to achieve this, the development framework will have to be tailored to suit the political, cultural, geographical and economic peculiarities and current realities of each alluvial mining region of each African country.

The adopted development strategy must aspire to finally bridge the increasing gap between high level policy and on-the-ground practice. It is critical that this approach encourages both quickly realisable initiatives that benefit artisanal mining communities, but also ensures the long term sustainability of each country and region.

Regulating reality. Reconfiguring approaches to the regulation of trading artisanally mined diamonds

Resource Consulting Services
(Nicholas Garrett, Harrison Mitchell and Estelle Levin)

Introduction

Mineral wealth can serve as a basis for economic growth and development. However, historically, many African countries have not benefitted in line with their potential. In light of this it is of strategic importance to evaluate experiences of natural resources development in Africa and consider how mineral rich countries might best ensure that their natural resources contribute to their economic and social development. Harnessing the trade in artisanally produced diamonds should be an inherent part of the development strategies of diamond producing African nations, especially following the controversy the trade has caused in financing many of the wars that ravaged the continent at the end of the 1990s and early 2000s.

This study examines internal and external trade mechanisms in artisanally mined diamonds in Central and West Africa with the aim to determine optimal practices for regulating the trading chains and harnessing them for developmental ends. It therefore contributes to the objectives of the Kimberley Process Certification Scheme Working Group on Alluvial and Artisanal Diamonds (KPSC-WGAAP). Drawing on the cases of the Democratic Republic of the Congo (DRC) and Sierra Leone, the study reviews what governments and international stakeholders are doing domestically and regionally to regulate the trade. The sections reflect on approaches that have worked, and elaborate on those that have not. The case studies form the basis for a brief comparative section to evaluate the successes and failures of different fiscal, legal and regulatory approaches more broadly, incorporating regional initiatives. This study concludes with recommendations for the efficient and effective regulation of the trading chains.

BOX 1 - DEFINITIONS

In this chapter, the authors assert that there are important differences between a-legal and illegal trade, and informal and formal trade **in artisanally mined diamonds.** An understanding of the distinctions is necessary in order to map states of activity within the diamond producing and trading spheres. Misunderstanding, or in other words misclassification, of these categories can lead to the application of inappropriate regulation.

Illegal trade occurs when it is possible for agents to act legally but they choose not to. This can apply to both an illegal activity such as smuggling, and to trading in an illegal commodity, such as conflict diamonds.

A-legal trade in the artisanal diamond sector occurs where it is not possible for the agent to act legally because the state either does not apply and/or does not enforce the law correctly. In practice this occurs where the law makes requirements of the agent, (e.g. artisanal miners cards), but does not put the necessary structures in place for agents to comply (e.g. provide the cards).

Legal trade is licensed trade in a legal commodity compliant with all applicable laws.

Informal trade is trade unregulated by the institutions of society, in a legal and a social environment in which similar activities are regulated (Portes & Haller, 2005). A-legal trade is always informal.
Formal trade is trade regulated by the institutions of society, taxed and monitored by government, and its proceeds are included in that government's GDP.

The Democratic Republic of the Congo[1]

Background

The DRC is one of the world's biggest producers of diamonds by volume, with the most significant deposits located in Kasai Oriental and Kasai Occidental, where alluvial deposits, as well as kimberlite pipes are mined. Only a small percentage of diamonds (5 per cent) are of gem quality. Further deposits can be found in Bandundu, Bas Congo, Equateur, Orientale and Maniema. In terms of carats, the DRC has one of the largest known diamond resources in the world – approximately 150 million carats, or 25 per cent of known worldwide reserves (WB, 2008:15).

The major industrial mining company, the parastatal *Société Minière de Bakwanga* (MIBA), has operational difficulties. Ministry of Mines (MM) statistics show MIBA's 2007 production fell to 972,882 carats, under 4 per cent of the DRC total (Blore, 2008). More than 60 mining enterprises are active in Kasai Oriental, of which five are in partnership agreements with MIBA. There are a small number of semi-industrial operations, predominantly in Tshikapa, in Kasai Occidental (WB, 2008:15).

1 Shawn Blore and Partnership Africa Canada (PAC) provided detailed descriptions of production and trade and regulatory structures, following fieldwork research conducted by them in DRC in June 2008.

Many of the difficulties in controlling the industry are related to artisanal mining, which is largely a-legal. The World Bank (WB, 2008) estimates artisanal diamond production accounts for 75 per cent of DRC's total production (carats), and 62.5 per cent of production (value). Expert estimates suggest the real total production figure could be closer to 95 per cent (Blore, 2008). The true number of artisanal diamond miners is unknown, however, it is estimated that up to 1.1 million are active in the sector (D'Souza, 2007:4). Inclusive of five dependents per miner, this means that up to 5.5 million people could be dependent on artisanal diamond mining in their livelihood (Garrett, 2008:81).

The developmental challenge is for the artisanal diamond sector to achieve a substantial socio-economic contribution. Currently, it does not contribute much to macro-economic stability, particularly with respect to fiscal revenues and local development. Informal trading activities are said to occur and jeopardise sectoral reform. This point is explored in more detail below.

Regulating the mining sector

The DRC's mining sector is regulated by the Mining Code (Law No. 007/2002 of July 11 2002 relating to the Mining Code) and the accompanying mining regulations (Decree No. 038/2003 of 26 March 2003 relating to the Mining Regulations) (PAC & GW, 2004b). On the production level, and depending on the province, the artisanal sector often contains a complex mix of martial, statutory and customary laws. The KPCS is implemented according to Ministerial Decree Number 193, dated 31st May 2003 (PAC & GW, 2004b).

The Mining Code makes provisions for artisanal mining inside demarcated 'artisanal mining zones'. However, since artisanal mining zones have not been put in place countrywide, it is not currently possible for miners to operate legally. This means that artisanal mining operations are a-legal and it is not possible to tax them (Garrett, 2008b:12). Furthermore, the MM and other state authorities suffer from capacity constraints in their attempts to enforce trade regulations in the field[2], which means the government has effectively ceased most field-based efforts to regulate the artisanal sector as a whole (Blore, 2008).

The non-enforcement of regulations has led to a situation where the sector finds itself in a so-called a-legal situation: some operations are technically illegal, but not actively prosecuted (Sunman & Bates, 2007). Currently, the Mining Code is thus merely a parallel rule system, largely ignored by the artisanal mining sector. In the government's absence, traditional authorities have moved to fill the gap. It is often village chiefs, a management committee made up of chiefs, or local landowners, who designate dig sites or, in the case of a new

2 The Mining Ministry office in Mbuji-Mayi, for example, barely has enough people to staff the 30 or so comptoirs offices in the city (Blore, 2008).

and valuable find, allocate plots within the new digging area (Blore, 2008).

From mine to market

The internal trading chain in artisanally mined diamonds is opaque, as trade is largely conducted informally, without paperwork or record keeping, making it largely untraceable. The Mining Ministry officials estimate that there are some 100,000 active diamond traders.[3] Diamond buyers, at all levels, are by law (2003 *Code Minier*) required to have a *carte de négociant* (buyer's card), which costs US$500 per year and is issued by the provincial government. Buyers' cards are open only to Congolese citizens. The law supposes buyers to furnish regular reports on their activities, and to sell only to *comptoirs* or other buyers licensed by the state. In practise, only the higher-level buyers, the ones with a fixed place of business in a larger centre such as Mbuji-Mayi, tend to have a buyer's card (Blore, 2008).

At or near mine sites, a cadre of unlicensed buyers acquires diamonds directly from the *creuseurs (*miners).[4] These pit-side buyers, known as *traffiquants* or *négociants* work with simple scales and have limited capital. They sell their diamonds either to a *comptoir*, or more likely to a larger more established buyer with a shop in a regional centre or capital such as Mbuji-Mayi or Tshikapa. They may also sell their stock at one of the busy outdoor diamond bazaars (also called *comptoirs*) in Mbuji-Mayi. In most cases records are not kept.[5] The outdoor markets and the smaller, Congolese-owned buying houses are generally left unsupervised.[6] Most traders do not even use a ledger book, which means most transactions go unrecorded (Blore, 2008).

At higher levels, traders who can afford to keep a shop in town are typically licensed, particularly those who transport diamonds from their home region to Kinshasa. A sizeable number of traders say they do this because the prices in Kinshasa are seemingly better than those at a *comptoir* in Tshikapa or Mbuji-Maji. The licence confers the right to transport diamonds within the country, and as the government does control the airports and passengers can be searched by police or customs, traders feel the cost of the licence is worth it as it secures tenure of their goods.[7]

As one advances to higher levels in the pyramid, the odds that a trader is licensed increase, though there are reports of Congolese traders with relatively large amounts of capital buying significant quantities of diamonds that do not bother with the licence. These reports

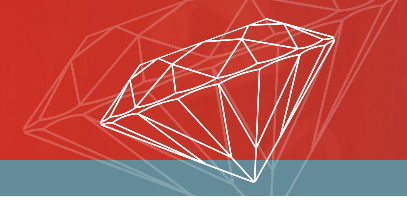
3 Interview with MM KP coordinator Mabolia Yenga, Kinshasa, May 2008 (in Blore, 2008).

4 Often, these miners are required to pay a tax on their turnover to the local chief or pit owner. The percentage paid to the traditional authorities varies from site to site and province to province, from a low of 10 per cent to as high as 50 per cent of gross production.

5 Field research, Kasai Orientale, Kasai Occidentale, June 2008 (Blore, 2008).

6 Field research, Mbuji-Mayi, Tshikapa, Kamoko, June 2008 (Blore, 2008).

7 Though they still have to pay bribes to airport customs officers, the cost is much below what they would have to pay with no licence.



suggest that the difference in operating procedure between licensed and unlicensed does not appear to be significant. Neither demand identification from those from whom they buy goods and few, licensed or not, keep records.[8] The MM infrequently demands records from dealers, and is said to be unable to track the trading path of diamonds.[9] Generally speaking, the lack of any kind of consistent, methodical record keeping would make it impossible to determine, or even accurately estimate, what proportion passes through unlicensed versus licensed dealers.

It is unclear whether the distinction between licensed and unlicensed dealers is meaningful. The poorly capitalised low-level buyers may be *de jure* illegal, but engage in nothing resembling illegal activity. Closer to the top of the pyramid, a fully licensed trader with significant amounts of capital, access to higher quality diamonds and personal connections in Kinshasa and Antwerp would be completely legal on paper, but could be the type of person with the incentive, connections and capacity to export diamonds out of the country through non-legal channels (Blore, 2008). In other words, the entity can be legal, but the activity it undertakes may not be. The regulatory capacity constraints of the Congolese authorities make this a distinct possibility.

The right to export comes with a *comptoir*'s licence. All but one of the *comptoir* owners are foreigners coming from Israel and Lebanon. The latter are often Belgian nationals.[10] A *comptoir* (export) licence costs US$250,000 per year (US$200,000 in fees plus a US$50,000 deposit), and comes with the right to operate 10 purchasing locations at a licence fee of US$3,000 per location. An unlimited number of additional outlets can be obtained at a cost of US$15,000 each. The *comptoir* licence comes with performance criteria (US$31.5 million for 2007, adjusted upwards to US$48 million for 2008), and includes penalties (outlined in the Mining Code) for non-performance (Blore, 2008).

To circumvent this requirement, and to defray the steep licensing costs, many *comptoir* licences are shared among a variety of foreign diamond buyers. Essentially, a foreign buyer pays for his own purchasing outlet, which he then operates independently of and in competition with any other outlet operating under that *comptoir* licence (Blore, 2008). In many cases, each outlet buyer exports his diamonds to his own overseas customers – though under the name of the *comptoir.*[11] This suggests that the licensing fee is too high and though it makes for easier licence processing, oversight is harder. From personal observation, the individual outlet buyers appear to be almost entirely foreigners – Israelis, Belgians,

8 Field Research, Kamako, Tshikapa, June 2008 (Blore, 2008).

9 Interview with MM KP coordinator Mabolia Yenga, Kinshasa, May 2008 (Blore, 2008).

10 There are eleven licensed comptoirs active in the DRC in 2007, according to MM figures (Blore, 2008).

11 Interview with Congo Diam buyers in Tshikapa, Mbuji-Mayi (in Blore, 2008).

Lebanese predominating. Some are owner operators (Blore, 2008). Others work on salary or commission or a combination of the two. Foreign *comptoir* licensees restrict themselves nearly exclusively to buying diamonds. They do not generally get involved as supporters of artisanal or small-scale mining, leaving that to Congolese players.[12]

From the level of the *comptoir* upwards, law and practice fairly closely coincide. In accordance with recommendations made by the KPCS WGAAP in 2005, an agent of both the Mining Ministry and the *Centre d'Évaluation, d'Expertise et de Certification des substances minérales précieuses et semi-précieuses* (CEEC) are generally stationed in each *comptoir* during regular business hours (KPCS, 2005).[13] Each time a diamond purchase is made in a *comptoir*, the details of the purchase are recorded – with 5 copies – on an official sales receipt (*bon d'achat*). One copy goes to the seller, one copy stays with the *comptoir*, and the other three copies travel with the diamonds.[14] As well, two officials, one from the Mining Ministry, the other from the CEEC, record each transaction in their own separate ledgers. The CEEC ledgers are kept in the regional office where the *comptoir* is located, and aggregated each month to provide a running tally of *comptoir* purchases.[15]

When a *comptoir* buyer wishes to export, he takes his diamonds to the local CEEC office, located in Kinshasa or in one of six regional centres. The diamonds are weighed, and their weight and characteristics cross-checked against the sales receipts. If all is in order, the parcel is sealed, the paperwork attached, the parcel is shipped to the CEEC office in Kinshasa. *Comptoirs* then ship the parcel themselves. At the CEEC office in Kinshasa, the seals are checked, and the package is opened and re-weighed, and re-checked against the sales receipts. Officials from the CEEC perform this procedure, while agents of the MM and the *Office Congolais de Contrôle* (OCC) – the quality control office of the Ministry of Commerce – act as witnesses. Any discrepancy at this point is investigated. Two CEEC valuators then value the diamonds independently. In cases of serious discrepancy, a third more senior CEEC valuator may provide a deciding valuation. The valuation forms the basis of the 3.75 per cent export tax.[16]

The valuation completed, the diamonds are packed and sealed into a tamper-proof bag, and then locked in a CEEC safe. When the exporter returns with proof that the taxes have been paid, a Kimberley Certificate is issued, signed by the Minister of Mines and the head

12 Interviews with *comptoir* buyers in Tshikapa, Mbuji-Mayi, May-June 2008 (in Blore, 2008).

13 The regulation of diamond exports is tied up with the DRC's KP. The legal basis of the KPCS in DRC is contained in Ministerial Decree No. 193, 31 May 2003 ('In Respect of the Implementation of Kimberley Process in DRC'). The CEEC is the implementing authority for the KP in DRC.

14 Interview with CEEC Administrator Cezar Khonde Mazombe, Kinshasa, May 2008 (in Blore, 2008).

15 Field research, Mbuji-Mayi, June 2008 (in Blore, 2008).

16 Interview with CEEC Administrator Cezar Khonde Mazombe, Kinshasa, May 2008 (in Blore, 2008).

BOX 2 - MECHANISMS OF EXPORT FRAUD

A large proportion of goods entering and leaving the DRC pass borders informally, even through recognised border posts. Not limited to diamonds, this can take various forms:

- Incorrect use of trade nomenclature to calculate taxes is a means of extracting more revenue than is actually due
- Goods are taxed in order to reduce the tax burden
- Importers/exporters pay custom officials and other state agents to register a lower quantity/value or even to let them through without registration

of the CEEC. Certificates are valid for 15 days, and are affixed to the sealed parcel in their own tamper proof plastic case. It is fair to say that in practical terms, the KP tracking of diamonds extends only as far as the *comptoirs*.

Trade controls

Both internal and external trade controls are weak. The internal trade in particular is not only weakly policed, but also stifled by those who are supposed to police it. The WB finds that once the miner sells his product to the *négociant,* broker, trading house, or *comptoir,* these intermediaries are also subject to numerous payments demanded by various layers of officialdom to transport the product and authorise it for export to the final market (WB, 2008).[17] It is possible to roughly estimate the value of this extortion by taking the diamond sector as an example. At a typical dredge operation in the Kasai, approximately 50 sacks of diamond-bearing gravel are produced per day. While the diamond content (in terms of carats and value) varies, each sack is possibly worth US$30, depending on whether it is of industrial or gem quality. Of the 50 total sacks of gravel produced per day, as many as 30 sacks, or 60 percent, will be given over to various officials and other individuals (WB, 2008:59).

The DRC's main policy for minimising smuggling out of diamonds revolves around removing financial incentives for smuggling. To that end, export taxes are kept quite low, at 3.75 per cent of assessed value. In addition, the CEEC endeavours to provide prompt processing of diamond shipments, and to keep the administrative overheads of complying with KP and export procedures to within reasonable limits. In terms of enforcement, the DRC has the normal range of customs inspections on passengers departing by air or via ferry to Brazzaville. In addition, passengers travelling on internal flights are also subject to inspection (Blore 2008).

The DRC does not have a special police unit dedicated to investigating diamond

17 For supplementary information on extra-legal payments on minerals trades in the DRC, see INICA, 2007.

smuggling or diamond related crime. DRC diamond sector experts have also expressed concerns about the CEEC valuing system. From 2003 until 2005 counter-valuation used to add a further control prior to export. The independent valuator, WWWSIDC, worked in the CEEC office, providing a second opinion on the value of DRC's diamond exports. During these years, the average value of DRC exports increased from US$23.71/ct in 2003 to US$27.21/ct in 2005. This was due in part to higher levels of valuation – which addressed years of apparent under-valuation (PAC & GW, 2004b:10). Following the halting of WWWSIDC's work, the export value fell to US$22.5/ct.[18] The result has thus been a loss of independent oversight as well as a loss of potentially millions of dollars in foreign exchange earnings, as demonstrated by a stagnant average price per carat during what is a strong market for rough diamonds (PAC & GW, 2004b:10).

Two further concerns have been raised about the DRC's potential role in laundering diamonds from other countries. The first is the establishment of polishing factories on the territory of the DRC, which runs the risk of converting untracked rough diamonds turned into polished ones, which are exempt from KPCS controls.

The second concern revolves around diamonds from Angola, which authorities in that country have long suggested are being smuggled into the DRC.[19] The long shared land border between the two countries and the large number of DRC miners working illegally in Angola suggest such traffic is possible. Hard evidence for such smuggling, however, is scant. Angola, despite a recently completed high-level government enquiry into its own artisanal diamond mining, has been unable to give a hard estimate for the extent of such cross border traffic.[20] Neither do Congolese authorities have any reliable estimates.

Banking

There is virtually no use of any formal banking systems, and local networks are stronger than formal structures. In the DRC there is a parallel exchange rate, which fixes Congolese Franc-US$ independently from the Congolese Central Bank. Informal parallel foreign exchange dealers tend to set up in market places and along borders. This meets a need, but the absence of formal banking exposes small and uninformed traders to considerable foreign exchange risks. The lack of confidence in any baking systems in the DRC means that Eastern Congolese traders often bank in Rwanda or Uganda – another incentive for fraudulent trade (Sunman & Bates, 2007:22).

18 Figures from MM stats. Information on valuator from Interview with CEEC Administrator Cezar Khonde Mazombe, Kinshasa, May 2008.

19 Interview with Angolan vice-minister of Mines Paulo Mvika, 2007. Similar concerns raised by deputy head of Angola CSD and Angola DNIC (Criminal Investigation division of Angola National Police) May, 2008 (in Blore, 2008).

20 Interview with Angola CSD, May 2008.

Table 1: Diamond Exports from Sierra Leone 2002-7						
Year	Alluvial (carats)	Kimberlite (carats)	Total (carats)	Alluvial (US$ value)	Kimberlite (US$ value)	Total (US$ value)
2001	225520	0	225520	$26,022,492	0	$26,022,492
2002	351,859	0	351,859	$41,732,130	0	$41,732,130
2003	506,723	0	506,723	$75,969,751	0	$75,969,751
2004	612,699	79,058	691,757	$112,793,045	$13,859,589	$126,652,634
2005	552,044	116,665	668,709	$119,429,528	$22,510,716	$141,940,244
2006	491,526	112,039	603,565	$101,857,434	$23,447,407	$125,304,841
2007	n/a	n/a	603,623	n/a	n/a	$141,565,685
Sources: Gold and Diamond Department (GDD) and Kimberley Process Statistics						

Sierra Leone

Background

Sierra Leone is one of the most important diamond producers in West Africa, exporting around 600,000 carats worth US$140 million in 2007 (KPCS Statistics, 2008). In 2006, approximately 20 per cent of its diamonds were produced from one large-scale kimberlite and several small-scale alluvial and kimberlite mines.[21] The remaining diamond production is the output from about 150,000 artisanal miners, mostly in the districts of Kono and Kenema (PAC, 2006d).

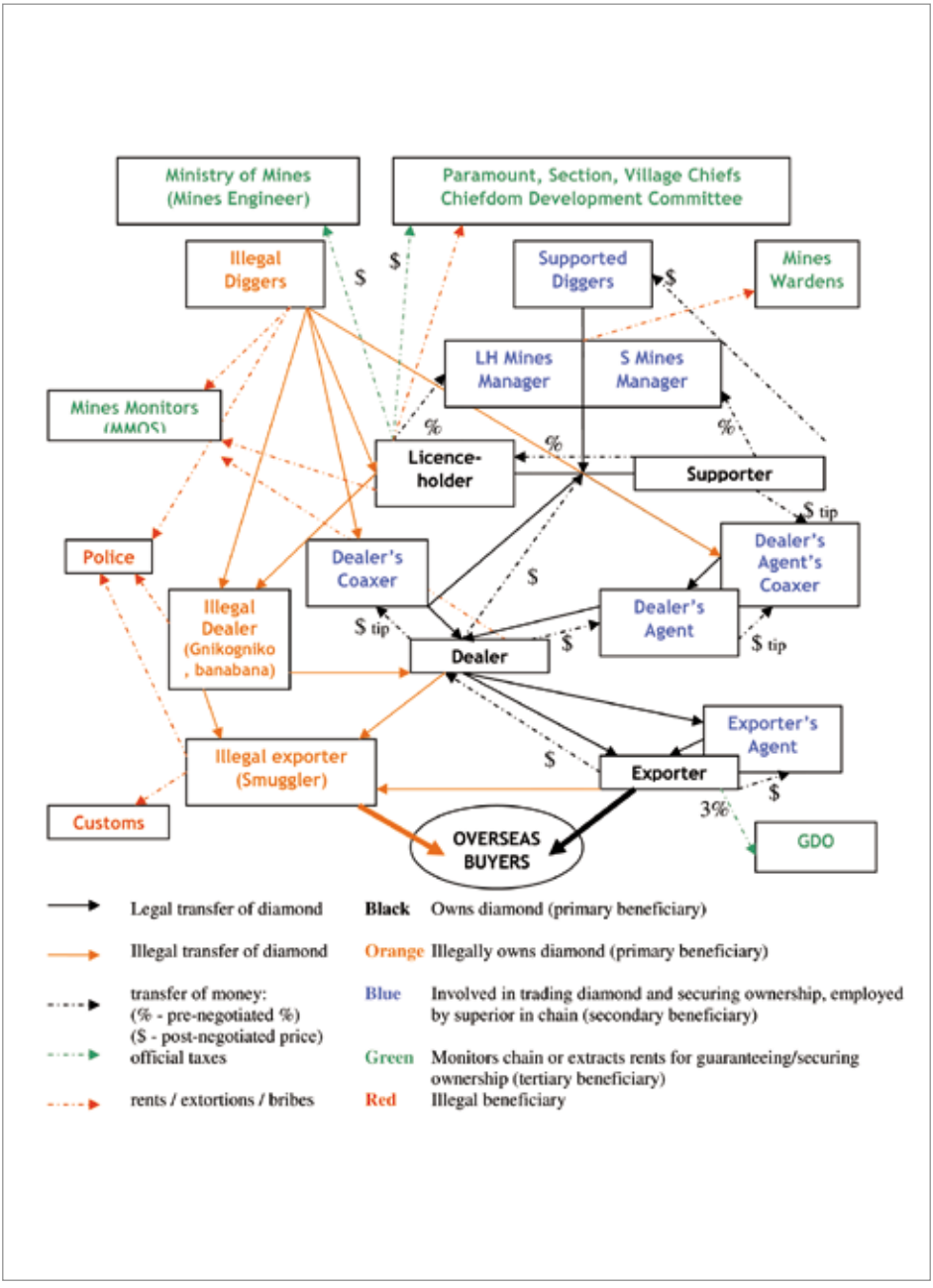
Table 1 shows diamond exports from Sierra Leone from 2002-2007.[22] Since 2004, several major small-scale mining companies have been producing from alluvial deposits, yet alluvial production in carats has declined demonstrating either a reduction in artisanal mining generally or an increase in smuggling. The former is most likely, as it is broadly understood that artisanal mining is decreasing due to the gradual depletion of payable deposits and industrialisation of the sector. Yet the diamond sector remains a crucial part of Sierra Leone's economy providing 12 per cent of Gross National Income and 65 per cent of total exports by US$ value in 2006. Diamond exports are an important source of foreign exchange for Sierra Leone; in 2004, 90 per cent of the country's exports by value were from diamonds.

Since the war ended in 2002, the country has taken steps to tighten and introduce regulations to formalise the minerals sector and relevant industries, such as banking, and improve government oversight thereof. Beginning with a national certification scheme in October 2000, Sierra Leone was the first country to enforce the KPCS in 2003. The aims have been to create an internation-

21 Gold and Diamond Department Official Statistics provided by the Gold and Diamond Department (GDD) in July 2007 and Management Systems International (MSI) in February 2007. The proportion of artisanal to industrial exports has been steadily decreasing since Koidu Holdings first began exporting in 2004, while total exports have remained more or less constant. For commentary, see Le Billon & Levin, 2008.

22 Internal changes at the GDD have made disaggregated figures for 2007 difficult to obtain.

Figure 1: Financial, Trading and Governance relationships in Sierra Leone's Artisanal Diamond Sector in Kono District, *Source: From Levin & Gberie, 2006.*



ally competitive and investor friendly mining environment, and promote good governance especially for ensuring compliance with the KPCS.

Yet despite the progress made in rationalising the sector, informal activity in artisanal mining and trading remains high. Although accurate estimates of the size is unknown, one Mines Monitoring Officer (MMO) in Kono recently approximated that up to 50 per cent of the activity in the diamond sector is informal, i.e. mining or trading is done by people who do not have the necessary miner's or dealer's licence.[23]

This section takes a snapshot of the trading, marketing and export regimes in Sierra Leone, examines initiatives put forward by the Government of Sierra Leone (GoSL) with or without donor support, and compares this with activity in the informal sector. It considers government structures, the trading chain, and key themes. To aid conceptual understanding, Figure 1 demonstrates the complicated set of relationships between diggers, miners, supporters, dealers, exporters and authorities and provides a visual basis for understanding the plethora of options available to operators in terms of selling and buying artisanally mined diamonds.

23 Interviews with MMOs, Kono, July 2008.

Regulatory regimes: the legal framework

GoSL efforts to rationalise the minerals sector and improve oversight and control of internal and external trade are taking two principle directions: firstly, the gradual industrialisation of the mineral sector (GoSL, 2003:11), and secondly, the formalisation of the artisanal mining sector with an accompanied move to enhance regulatory oversight.[24]

Although significant effort has gone into reforming the extractive side of Sierra Leone's diamond sector, efforts to address diamond marketing have been limited to some research and analysis into trading structures, some regulatory reform, and one principle development intervention, namely the Integrated Diamond Management Programme's 'Earth-to-Export' scheme, which attempted to bypass traditional traders by creating direct miner-to-exporter relations as a part of their cooperatives scheme.[25] All efforts to manage diamond marketing have been oriented at decreasing smuggling to support the country's efforts at pioneering and successfully implementing the KPCS. Given the government's priority to industrialise the sector, the cursory treatment of diamond marketing may be explained by

24 Le Billon & Levin (2008) explore the compatibilities and contradictions between this 'securitised development' approach in their working paper. For more information on formalisation of artisanal mining activities, please refer to USAID project documents in this regard, as well as Tutusaus, Nelson & Abadje, 2007; and Levin, 2005.

25 Assessment of trading structures in Sierra Leone has often been tied to investigations into credit delivery. For example, Moyers, 2003; Even-Zohar, 2003; MSI, 2004; Levin & Gberie, 2006.

the fact that as industrialisation of production advances, artisanal diamond mining and thus marketing will become less important in terms of economic value.

The main law that governs the extraction and trade of diamonds is the Mines and Minerals Decree, 1994. In 2003, the GoSL published its Core Mineral Policy (CMP), which outlined the strategy and intentions of governance over the mineral sector. Consequently, as part of this strategy, the Mining Code was developed in 2004, and 2005 saw the Ministry of Mineral Resources (MMR) publish a policy document, *Details of Policy Measures relating to Small Scale and Artisanal Mining and Marketing of Precious Minerals*, which clarifies the legal aspects of mining and trading.

Other relevant legislation for diamond traders includes the Banking Act, 2000, the Anti-Money Laundering Act, the Income Tax Act, 2000. Other efforts include policy measures such as the requirement for bank transfers for diamond exports to go through the GDD (MMR, 2005).

Core mineral policy

Developed in the post-war period in conjunction with DFID and the WB, Sierra Leone's CMP has been designed "to create an internationally competitive and investor-friendly business environment in the mining sector" (GoSL, 2003). The policy is intended to outline a clear strategy for governance over the mining sector. Implementation of the CMP should "help to eliminate illicit and illegal diamond mining, trading and smuggling activities and improve the social, environmental and economic performance of artisanal and small-scale mining operators." One way it will achieve is "by ensuring that all licensing fees, royalties, taxes and any other forms of income are collected and properly recorded and that all mining, trading and exporting companies in the minerals sector operate within laws that comply with international trading protocols."

While the CMP is replete with advice on tidying up the artisanal mining sector, any detail for how to deal with the trading sector is absent. The CMP states that the government will "consider the formation of a diamond bourse, professional institutions and training schools that will assist in developing a measure of self-regulation within the minerals industry and in particular the diamond sector". It also states that it will encourage the establishment of jewellery manufacturers and retailers, diamond cutting and polishing facilities and other businesses that will add value to exports and increase earnings.

The KPCS and creating a formal chain of custody

Sierra Leone developed the world's first Certificate of Origin (CO) in response to the UNSC embargo placed upon its diamonds in July 2000.[26] The CO was the forerunner to the KPCS, which eventually came into operation in 2003. The CO and KPCS regimes in Sierra

26 UNSC Resolution 1306.

Leone established a system of checks and balances that are designed to record where a diamond was extracted and to whom it was sold.

In theory, the system is effective and is comparable to other systems in diamond producing countries with large artisanal mining sectors. In practice, however, industry insiders *estimate* that up to 20 per cent of the diamond trade by value in Sierra Leone may be completely unrecorded.[27] The most important operator in making this possible is the licensed diamond dealer. Licensed dealers are highly effective at moving informally mined and traded diamonds into the formal trading chain. As most dealers finance other licensed mines, informally mined diamonds are bought and noted as production from the dealer's supported licences.[28] This demonstrates an industry-wide norm *that legal operators may do illegal acts* as and when it suits their interests.

The crucial question is, to what extent does this matter? From the perspective of revenue collection, Sierra Leone's principle tax on diamonds is collected at the point of export. So long as diamonds mined and traded informally become formalised at some point in the trading chain, then the government can still collect its principal diamond tax. However, from the perspective of KPCS compliance, the laundering of informally mined stones opens a door for the laundering of informally imported stones too, and potentially, conflict diamonds.

It is in the government's interests, therefore, to know the business of the licensed dealers better, especially concerning their role in financing mining, to aid analysis into potential laundering when necessary. Section 6 of the Government's 2005 *Policy Measures* is an attempt to do this (MMR, 2005):

> "Where Artisanal Miner is to be sponsored by a financier, such financier shall show proof of his financial ability to undertake the mining venture and may be a licensed dealer or an exporter. A financier without a dealer/exporter's Licence shall not be allowed to handle any of the precious minerals recovered from the mining operations but may facilitate the sale of such precious minerals to a licensed dealer or exporter."

Registration with the Mines Engineer is also required, along with a fee of 50,000 Leones. In January 2006, seven licences (of over 1,000) were registered under five supporters with the Mines Engineer in Kono.[29]

Institutions for governance and oversight

Oversight in Sierra Leone is chiefly the responsibility of the MMR. The MMR has a number of regional offices run by Mines

27 Current production is approximately 600,000 carats per year worth US$140 million in 2007.

28 Interviews with diamond dealers, June and July 2004, and January 2006.

29 Interview with Kono Mines Engineer, January 2006.

Engineers. Under the Mines Engineers are MMOs and Mine Wardens. Other oversight functions include the now defunct Precious Minerals Monitoring Unit (PMMU), the customs and the police. Traditional authorities also play a part in oversight, although principally at the point of extraction.

Mines monitoring officers

The principle regulators of diamond trading are MMOs. MMOs enforce minerals legislation and monitor the activities of diggers, miners, dealers and exporters. They have the mandate to check records relating to the purchase and trade of diamonds to ensure all is legal. However, one evaluation of their situation described them as "largely unskilled, poorly paid and handicapped by a lack of logistical support" (PAC, 2004). In 2005 there were only 64 MMOs to cover the entire district of Kono, which during the same year issued over 1,100 artisanal mining licences. At that time, they were earning as little as US$40-50 per month (GW, 2006a).Besides paltry salaries, both MMOs and Mine Wardens suffer from an enormous lack of capacity, which severely hampers effective oversight and control of diamond trading. Kono district in Sierra Leone produces half of the country's diamond output, has over a thousand licensed, and many unlicensed, artisanal mining plots, and 36 border crossings to Guinea. Yet, in 2008 the MMR office had only 8 to 10 operating motorcycles to transport the MMOs. Even if basic infrastructure is in place, poor operational planning can mean that there is no money to buy fuel for transport and MMOs routinely complain about the inadequacy of their motorbikes.[30]

This not only means that they are largely *unable* to do their jobs, but that are likely to be *unwilling* as they must commonly seek 'transport' from the miners and dealers that they are supposed to be regulating. Not only does this compromise their independence, but it lays the foundations for patrimonial relations of support and dependency, which provides an incentive for them to turn a blind eye to a dealer's wrongdoings.

In spite of a government incentive scheme which grants 40 per cent of the value of diamonds to the MMO who confiscates them, confiscations rarely occurs.[31] This is partly due to alleged interference by the police, and ensuing disputes over who is entitled to the 40 per cent.[32] In addition to the reward being uncertain, therefore, an MMO also stated that they fear confiscation would make those they have to monitor openly hostile to them as they do not have the necessary back up or power to enforce the law. The stakes for protecting the dealers are clearly higher than those for enforcing the law.[33]

30 Interviews with MMOs, 2006 and 2008.

31 Interview, MMO, June 2008.

32 Telephone interview with MMO, 5th September 2008. The MMO is supposed to hand over the suspect and the diamond to the police. Once matters go to court, cases have occurred where a police officer has claimed to have done the confiscation, leading to disputes between the police and the MMO in question.

33 Interviews with MMOs, 2004, 2006, 2008.

To obfuscate things further, MMOs are not civil servants, are poorly trained and are appointed politically through an unclear and complicated process.[34] Altogether, these overlapping zones of responsibility, accountability and authority puts into question their effectiveness as *government* representatives in the diamond sector.

Alternatively, Mines Wardens are civil servants, although their numbers are also far too few to effectively monitor the industry. Though Mine Wardens are trained and have the power of arrest, their main job is to ensure that licences are paid to the government and they have little influence over the enforcement of other regulations. According to Partnership Africa Canada, mines wardens are also poorly paid and have been known to accept bribes in order to look the other way (PAC, 2004).

Traditional authorities

Chiefdoms have an important role in the regulation and oversight of artisanal mining. For example, though land ownership rights in Sierra Leone differ by district, miners in Kono are required to pay annual surface rent of 100,000 Leones per acre (MMR, 2005). Chiefdoms also play a role in negotiating access for larger mechanised miners, usually in return for a negotiated fee.[35] They are motivated to encourage miners to formalise their activities through the Diamond Area Community Development Fund (DCADF), which allocates 0.75 per cent of export value of diamonds back to the chiefdoms where diamonds were mined.[36] No such motivation exists, however, for traditional authorities to encourage legal diamond trading. Chiefdoms have barely any influence over diamond trading.

The precious minerals monitoring unit

The Sierra Leone PMMU was established in 2004, as part of the mineral sector reform promoted by donors in the post war period. Officers within the PMMU were trained by external experts and worked in conjunction with their counterparts in customs and the police to identify criminality in the diamond and gold sectors.[37] According to the *Policy Measures*, 0.05 per cent of the value of diamonds at export was to go towards the operation of the PMMU (MMR, 2005). At export values of US$141 million in 2007, this would have equated to just over US$70,000 (KPCS Statistics, 2008).

34 Interviews with MMOs, 2004, 2006, 2008.

35 Interviews, Kono district and Freetown, June 2008.

36 Distribution of the DACDF is dependent on the declared origin of the diamonds (based on the number of artisanal mining licences in a chiefdom relative to the national total) and so, in conjunction with the surface rent fee, further incentivises chiefdoms to promote legal artisanal mining operations on their territories. Unfortunately, the DACDF is poorly monitored and political interference has forced the government to make changes to the disbursement procedures, including making public the amount given from the government to the chiefdoms. While in theory this should allow for more transparent use of the funds, in practice, chiefdom leaders are often not held accountable to their constituency for the spending of these funds owing to traditional governance systems which work more as monarchies than democracies. For more information on DACDF, see Temple, 2005, 2007.

37 Interview, Jan Ketelaar, August 2008.

The PMMU was shut down in 2005, a year after it became operational and 'just as it was becoming effective'.[38] According to one observer it was shut down for precisely this reason, in the wake of a sting, which caught the son of a government minister in the middle of an illegal diamond deal.[39] The effective operation and subsequent demise of this department highlights the need for high-level support of such initiatives that can directly interfere with powerful interests.

Cadastre

The newly established cadastre is one of the most successful attempts to formalise the mining sector. Begun as a pilot project for licensing artisanal mining in Kono, it covered around 1,000 plots and is widely regarded as a successful attempt to register the artisanal mining plots and licences in Sierra Leone using up-to-date GPS data and computer software. At the regional level, it does not encompass regulation of the dealers, however.[40]

The cadastre has been important in Sierra Leone for a number of reasons. It has taken away the potential for conflict based on ambiguous demarcation, including conflict between artisanal miners and small- and large-scale concession-holders; it has helped enhance capacity to monitor production; and it has reduced room for discretion in the allocation of licences. Properly used, it would allow the verification of production figures against export figures. However, its proper use depends upon reporting requirements being upheld by licensees and regulators.

Non-government actors

The main actor in the field was without any doubt the USAID-sponsored Peace Diamond Alliance (PDA), which is discussed in more detailed elsewhere in this study. Other stakeholders crucial for good governance of the diamond resource include emergent civil society groups. On the whole however, and reflecting priorities present in other actors' approaches to the diamond sector, their oversight of diamond trading is far inferior to their efforts in relation to diamond mining. The same cannot entirely be said for the labour organisations which assert the rights of diamond miners, including challenging structures which produce 'unfair' trading terms. The dealers too have organised into associations. Altogether, the importance of these civil society and labour organisations in ensuring good governance of diamond trading lies in the need to have stringent oversight of government regulators who, on the whole, are paid too little, have limited capacity to do their job, and thus have few incentives to properly regulate diamond marketing. Building the capacity of these civil society monitors can do much to spur government regulators to do their jobs properly.

38 Ibid.

39 Ibid.

40 Telephone interview with MMO, 5th September 2008.

The value chain: From mine to market

Licensing mining

In artisanal mining operations, a distinction is made between the diggers (labourers), miners (licence holders), dealers, dealers' agents, and exporters and their agents.[41] Diggers are not required to register with the state in any way; however, they are operating illegally if they either a) mine on land that is unlicensed; b) mine on licensed land without the permission of the licence-holder; or c) sell their diamonds (mined on licensed land) to anyone other than the licence-holder. On the other hand, miners are required to obtain a licence for the particular piece of land that they intend to mine. The important distinction here is that, whereas in the DRC, the individual is 'licensed' through the *carte de creuseur*, in Sierra Leone it is the *land* that is licensed for a *specified individual* to mine it. The law requires that artisanal miners be Sierra Leonean by nationality, whereas many of the diamond buyers are considered 'foreign', despite often being the second or third generation of their family born in the country.[42]

The miner, therefore, will be the owner of the licence for the plot, but have a separate arrangement with the financier regarding the division of the proceeds, presuming s/he requires capital. This arrangement muddles the distinction between legal and beneficial ownership of the plot, and is certainly one reason why diamonds mined legally may be traded illegally as miners, or their diggers, seek to avoid their obligations to their financier or 'supporter'.

The Open-Yai

The term Open-Yai is used to refer to diamond peddlers who buy individual stones from miners and sell on parcels to dealers. Notorious for operating in the informal sphere and smuggling, they effectively link the informal and formal sectors. The GoSL and local dealers previously considered formalising this part of the trade "through the creation of brokering licences which could be paid for on a monthly or quarterly basis to enable those with limited capital but sufficient desire to deal legally" (Levin & Gberie, 2006:22). This would help "those who deal diamonds on a smaller scale and who need more experience and a higher turnover to move into licensed dealing" (Levin & Gberie, 2006:22). However, a suggested fee for such a broker's licence at a tiny US$50 per quarter – instead of the US$2,000 per year a citizen dealer must pay – was met with protest by members of the Open-Yai.

Dealers

Alluvial Diamond Dealers must be licensed and can employ up to five agents to operate under their licence. Dealers may be of foreign

41 For the purposes of this paper, a detailed overview of how mining is regulated in Sierra Leone is unnecessary. For more information, please refer to relevant laws, as well as DDI, 2008; Levin & Gberie, 2006; Levin, 2005; Levin, 2006.

42 Interview, Jan Ketelaar, August 2008.

citizenship, but their agents must have either Sierra Leonean or ECOWAS citizenship. Similarly, the licence fee is determined by citizenship, with foreigners paying an annual fee of US$5,000 for a licence, ECOWAS citizens paying US$2,500, and Sierra Leonean citizens paying US$2,000. Dealers' Agents pay an annual fee of US$1,000 for citizens and US$1,500 for ECOWAS citizens (MMR, 2005).

In law, dealers and their agents can only buy diamonds from artisanal or small-scale miners and can sell to exporters; they are prohibited from selling to other dealers. They are required to keep a record of purchases, which specifies the name of the seller (miner) and the mine site where the stone was mined (licence number) for each diamond purchased, and to issue a numbered invoice/receipt for each purchase or sales transaction. The records of purchases and sales (receipts) should be sent to the Director of Mines through the local Senior Mines Officer by the tenth of the succeeding month (MMR, 2005).

Dealers do not need to pay royalties. Royalty payments in Sierra Leone have been largely discarded in favour of a series of upfront fees paid to the MMR for licensing.[43] In addition to the licensing fees paid in order to register, dealers are also required to pay a monitoring fee of US$400 per year, and a rehabilitation fee of 500,000 Leones per year.[44] Dealers are also subject to income tax, which is levied at a standard rate.

Exporters

Exporters are required to pay a number of fees to obtain their licence, including US$40,000 per year for the exporter's licence. Exporters are allowed up to five Exporter's Agents. Two agents are allowed at no fee, while additional agents cost the exporter US$5,000 per agent. Exporters must also pay US$1,500 annually for reprinting the KPCS certificates[45].

Exporters are obliged to purchase diamonds only from holders of diamond mining licences or diamond dealers' licences. They must keep a record of licence numbers of the miners or dealers from whom the diamonds are purchased and issue a receipt showing the weight and value of the diamonds purchased and their own licence number.

Exporters are obliged to export a minimum of US$5,000,000 worth of diamonds per annum. If they fail to meet this target, the exporter must pay a total of 3 per cent on the difference between his total exports and the minimum target as penalty to the Ministry of Mineral Resources.[46] However, a tax break of 0.5 per cent (off the normal export tax of 3 per cent) is offered to Sierra Leoneans who export

43 The three per cent export tax (five per cent for small scale miners directly exporting, plus a one per cent valuation fee) could be viewed as a royalty payment.

44 Approximately US$170 at exchange rate of 2,900L = US$1.

45 National Revenue Authority. (Undated). Undertakings by Diamond Exporters, at http://www.nationalrevenuesl.org/pdfs/ggd/Undertakings_By_Exporters.pdf, accessed 2nd September 2008.

46 Ibid.

more than US$1 million worth of diamonds. For foreign citizens, the limit is US$ 10 million to enjoy the tax break (PAC, 2004).

The law requires exporters to receive payment in US dollars or Sierra Leone's local currency; US dollars must be brought through banking channels. Diamonds purchased by an exporter can only be exported and cannot be sold locally. At the point of export, the GDD values the diamonds. The GDD levies a 3 per cent export tax, which is based on the highest of three valuations done by the exporter, the GDD's valuator and an independent valuator.[47] GDD management is also given an incentive to make high valuations and is given 0.03 of the value of diamonds to be exported (PAC, 2004).

Banking

The CMP outlines the GoSL's strategy for the operation of the financial sector, as it relates to the trade in minerals:

> "The Government of Sierra Leone, committed to a 'free market' approach and economic policies, will ensure the development of the minerals sector in accordance with international best practice. The Government will ensure the sector is managed in a transparent, open and accountable manner."

However, most operations in the diamond sector in Sierra Leone are cash based, using US dollars. The CMP suggests a number of ways to attract businesses to use national and international banking services including the use of market based exchange rates. Exporters are also required to transfer currency through the banking systems, although anecdotal evidence exists that large cash purchases of diamonds still go ahead. Indeed, there is a concerted reluctance to use the banks amongst dealers and exporters. This relates principally to the following[48]:

- Concerns about the integrity of certain banks and inadequate government supervision, based on evidence of previous mismanagement of funds.
- Banks in the main diamond buying towns often do not have the necessary cash available or may be closed when extra cash is necessary as most diamond dealing goes on at night. This means that dealers cannot rely entirely upon the banks, though they may use them for storing funds or receiving advances securely.
- High level of illiteracy amongst Maraka, Fula, and Kono (African) diamond dealer is a deterrent.
- Dealers are suspicious of anything which would enable any scrutiny of their commercial affairs owing to a strong desire to protect privacy to avoid predation by officials, harassment by people seeking relief, and to maintain good relations with their buyers.

47 Interview with GDD, July 2008.

48 Interviews with former diamond exporter, and Maraka and Fula diamond dealers, January 2006.

Key themes and future directions

Unrecorded cross border trade

It is common knowledge amongst dealers and MMOs that unrecorded cross border trade in diamonds occurs between Sierra Leone and Guinea.[49] Traders use diamonds as a form of international currency, as gold has been used historically. The traders, who bring goods into the eastern provinces of Sierra Leone directly from Guinea, receive local currency for their wares, which then needs to be converted into a form of international currency to enable them to purchase more goods outside for import.[50] The size of this informal trade is unknown; however Global Witness identified a similar pattern of cross-border trade in a 2005 investigation, indicating that the trade is well established (GW, 2005).

Sierra Leonean Law prohibits the export of artisanally mined diamonds in Sierra Leone except via an exporter and certified by the GDD, making this trade illegal. Section 2 (b) of Sierra Leone's Money Laundering Act (2005) defines a money launderer as any person who:

> (a) engages directly or indirectly in any transaction which involves property that is the proceeds of crime; or
>
> (b) receives, possesses, conceals, disguises, transfers, converts, disposes of, removes from or brings into Sierra Leone any property that is the proceeds of crime.

The same law prohibits the "transfer to or from any country outside Sierra Leone of any moneys exceeding the equivalent of ten thousand United States dollars otherwise than by or through a financial institution." Section 20 goes on to state that "a person who leaves or enters Sierra Leone with more than ten thousand United States dollars in cash or negotiable bearer securities without first having reported the fact to the Authority commits an offence." Dealers in precious stones are specifically referred to in the Act, as parties who must pay particular attention to the Act. Yet, the Act has apparently had little effect on the operations of the smaller traders who operate between Sierra Leone and Guinea. Besides the illegal export of Sierra Leonean diamonds across the Guinea border, diamonds are allegedly smuggled from Sierra Leone's Lungi airport. A government task team, led by a former Mines Monitoring Officer, was in situ in 2007 to aid customs and airport security in the confiscation of undeclared diamonds and detention of the guilty party.[51]

Citizenship

Citizenship is a contentious issue in Sierra Leone. Much of the artisanal diamond sec-

49 Various interviews with diamond dealers and MMOs, Kono, 2004-2008.

50 Interviews, Dealer and MMO, Kono, July 2008.

51 Meeting with Joseph Kabia, July 2007.

tor is financed and run by 'non-citizen' dealers and exporters, who are predominantly of Lebanese or ECOWAS descent. Since the 1970s, the GoSL has promoted the interests of nationals in the mining and trading of diamonds, including through the Law. For example, Sierra Leoneans pay lower fees for dealers' licences and previously for exporters' licences, and foreigners are forbidden from owning artisanal mining licences. On the one hand, this policy is supposed to be a form of economic empowerment for those most disadvantaged in the country. On the other, it is exclusionary and prevents so-called foreigners, many of them the second or third generation immigrants, from being truly invested in the development of their local community and the country at-large, so encouraging capital flight and a lack of respect for Sierra Leonean laws oriented at capitalising on the diamond resource for the sake of development (Levin & Gberie, 2006). The country's new Citizenship Act expresses that anyone born in Sierra Leone after 1971 is entitled to citizenship, but dual citizenship is forbidden. The new Act is therefore unlikely to reconfigure the priorities of the country's Lebanese- and Maraka-descended communities.

Harmonisation in the Mano River Union

The Mano River Union (MRU) comprises Guinea, Liberia and Sierra Leone. In April 2008, Côte d'Ivoire joined the union. In acknowledgement of the trans-boundary nature of the diamond trade between Mano River countries, the WB's approach to improving diamond governance and surveillance of the industry generally has been to move from a country-based to regional strategy.[52] Based on a comparative analysis of the countries' (excluding Côte d'Ivoire) fiscal regimes, and following meetings in Conakry in February and Monrovia in August, 2008, Sierra Leone, Guinea and Liberia have agreed in principle to harmonise their fiscal policies and legislation (including income tax and mining acts), with the creation of identical terms for the gold and diamonds sectors.[53] Through standardising trading regimes in this way, the objective is to create a governance structure that uses market forces rather than emphasising monitoring and policing to remove some of the incentives to operate informally. This would make formal activities the more rational choice, economically-speaking.[54]

Côte d'Ivoire is currently the only country in the world where conflict diamonds originate and an embargo on their trade has been in place since 2005.[55] A joint UN Security Council and KPCS report in 2006 reported that conflict diamonds may have been passing through Ghana and the resulting sanctions placed on the country by the KPCS did much

52 Interview with Michael Stanley, Ekaterina Koryukin and Francisco Loayza, conducted by Estelle Levin and Philippe Le Billon 5th December 2006.

53 Telephone conversation with Ekaterina Koryukin, 27th August, 2008.

54 Interview with Michael Stanley, Ekaterina Koryukin and Francisco Loayza, conducted by Estelle Levin and Philippe Le Billon 5th December 2006.

55 UNSC resolution 164, 2005.

to deflate local diamond prices and shut down the diamond trade in Ghana.[56] However, very little has been done to address the possible movement of conflict diamonds from Côte d'Ivoire to the other members of the MRU. This is despite an investigation by Global Witness in 2005 revealing that diamonds from Côte d'Ivoire are bought and sold in Guinea and elsewhere (GW, 2005).

A sub-regional conference held in May 2008 with participation from all MRU countries was frustrating according to the head of the organising body[57]. While efforts to harmonise legislation exist, they are not yet being implemented, with a significant amount of confusion over what should and should not be enforced.[58] Furthermore, civil society spokespeople who monitor the harmonisation state there is no clear donor sponsorship for harmonisation efforts within the MRU.[59] DFID's "Trading for Peace" project in the Great Lakes region, which is discussed further below, is leading the way for similar initiatives (Sunman & Bates, 2007).

Towards industrialisation

Industrialisation in Sierra Leone is occurring in two ways. Firstly, there is increasing mechanisation of the artisanal and local small-scale operations in response to diminishing accessible deposits. Secondly, international companies are developing small- to mid-scale exploration and mining operations owing to an increasingly secure investment environment brought on by clear concretisation of peace and the identification of virgin deposits and poorly-processed tailings. Despite the recent violence associated with local elections in July 2008, as well as a riot outside Koidu Holdings in December 2007, which resulted in at least two reported deaths, investor confidence in the long-term stability of the country remains positive.[60]

Further industrialisation is inevitable as accessible alluvial deposits become depleted and artisanal mining operations become uneconomical.[61] In terms of monitoring, this is welcome news for the government, as the monitoring of industrial operations, particularly kimberlite operations, is simple relative to artisanal mining as the number of operators to be surveyed is fewer and industrial mines obtain permission to export their diamonds directly, rather than via other licensed exporters.

56 Hilson judges that 80-90 per cent of buyers went out of business. Interviews with Gavin Hilson, 10 August 2008 and 5 September 2008.

57 Interview, Sofia Gionhas, Conciliation Resources, 06 August 2008

58 Interview, Sofia Gionhas, Conciliation Resources, 06 August 2008. The WB-led effort to harmonise legislation does not yet have a time-frame and relies upon the continued interest of each country to participate, the quality of their respective proposals, and the willingness of their parliaments to pass recommended changes to national legislation to support the move towards harmonisation. Interview with Ekaterina Ekoryukin, 27th August, 2008.

59 Interview, Sofia Gionhas, 06 August 2008.

60 Various Interviews, Kono District and Freetown, June 2008. GoSL. Jenkins-Johnston Inquiry into Events leading to the Disturbances in Koidu City on 13th December, 2007.

61 Various interviews 2004-2008, and focus group 2004.

The impact of industrialisation on diamond trading is huge. Firstly, the necessary mechanisation of artisanal operations has increased the cost of production making the provision of financial support to miners riskier and more expensive for dealers. Secondly, the dispossession of artisanal miners through the allocation of land to foreign-owned exploration and mining companies has depressed artisanal mining activities and thus production, generally. Less production means less trading opportunities. In Kono specifically many diamond dealers have gone out of business and have moved to Kenema and abroad, especially the Lebanese.[62]

Informalisation and the changing geography of production and trade

Another factor in depressing trade for licensed dealers since 2004 has been the changing geography of artisanal mining.[63] Accessible grounds near main towns and villages have been worked out and are decreasingly payable. Many miners have moved to virgin lands in other parts of the district, but far from these urban centres. This makes it harder for them to license their operations but also less necessary as mines monitors are unable to access these places. It also prohibits the town-based licensed dealers from buying directly from these informal miners. Instead, the first diamond trade is more likely to take place between an informal miner and a banabana (diamond peddler), who base themselves in the new mining settlements.

Without the capacity to govern the established – yet depreciating – diamond areas it is no surprise that government regulators are unable to oversee activities in these new growth areas. With proper resources, planning for the changing landscape of production would be more possible, and informalisation could be better tackled.

Besides the opportunities and constraints posed by the geography of production, people are motivated to trade informally for a host of other reasons. Understanding these motivations, and using cultural and social lenses as well as economic ones to do so, is crucial for strategising on how to tackle informal activities. While various studies touch on this subject marginally, no systematic review of the rationale for informal trading has been conducted to the authors' knowledge.

In the case of Sierra Lone, informal trading remains common despite the progress made in rationalising the sector. The principle reasons include:

- Traders are discouraged from seeking licences or keeping necessary documentation (e.g. account books) owing to high rates of illiteracy, especially amongst the Maraka and Fula dealers;

62 Interviews with Lebanese dealers, MMOs, and local consultants, Kono, 2006 and 2007.

63 Based on interviews with traditional authorities, miners, diggers, and dealers 2004-2008, and focus group with licensed miners, 2004.

- Post-war enthusiasm for order and concerted programmes by the GoSL and donors, especially USAID, helped advance the formalisation of the sector from 2002 to 2007. However, popular support for formalisation is likely to wane without the continuation of sensitisation programmes or evidence of benefits from formalisation.
- Informal mining is on the rise:
  - Miners may avoid seeking licences in the face of annulment of their licences and/or denial by the Ministry of Mines on the back of land allocation to foreign mining interests.[64] Unlicensed miners cannot sell a stone legally.
  - The cost of licensing is discretionary in practice, with informal 'taxes' and 'handshakes' inflating the cost and motivating miners to avoid seeking licences.[65]
  - The purely subsistence miners, who operate independently, e.g. overkickers, kabudu workers, or gado gangs working in the bush, cannot sell legally and will mostly sell to the Open-Yai (diamond peddlers) or to a dealer with whom they wish to build a patronage relationship. So long as the Sierra Leonean law does not provide an option for these types of miners to formalise their activities, they will continue to operate illegally.
- Licensed miners may sell their legally mined stones illegally to avoid having expenses deducted by their supporter or to achieve the best possible price.

Establishing a cutting and polishing industry

In 2007, the GoSL passed the Diamond Cutting and Polishing Act as an important first step in establishing a cutting and polishing sector in Sierra Leone.[66] This follows a trend occurring across producing nations in Africa including Angola, Botswana, Namibia and South Africa to encourage the downstream manufacturing of diamonds as a strategy for harnessing a greater proportion of a diamond's potential value within the country. From the perspective of traders, this provides another internal market for their diamonds and may even help increase local prices as costs associated with exporting rough are removed, e.g. insurance, building relations with foreign rough buyers, flights, and so on.

While it is in itself a desirable element to have secondary industries emerging in devel-

64 Interviews with artisanal miners, MMR officials, and local authorities December 2006 and July 2007.

65 Interviews with licensed miners, July 2004 and January 2006. See also Sorius Samura, 2007, *Blood on the Stone*, SW Pictures. Documentary.

66 The Act requires that any cutting and polishing operation submit their purchased diamonds to the GDD prior to being subject to the manufacturing process for the purposes of valuation and also allows the MMR to carry out inspection of the operations as it sees fit. Imported diamonds are subject to the KPCS. As with dealers, the Act requires factories to make complete records of their sales and purchases and submit these schedules to the GDD each month. Sierra Leone Diamond Cutting and Polishing Act 2007, Para 7 (m).

oping economies, the appearance of poorly monitored cutting and polishing factories in producing countries offers a unique opportunity for the laundering of illicit diamonds as the KPCS only applies to the trade in *rough* diamonds, not *manufactured* ones (GW, 2005:21). As such, the establishment of a cutting and polishing industry in Sierra Leone could threaten the integrity of the KPCS if proper oversight is not conducted to ensure rough diamonds are not illegally imported and manufactured. Given Sierra Leone's track record of its ability to govern its rough diamond trade, caution is required.

Regulatory successes and failures

Law

The similarities between the DRC and Sierra Leone diamond trades are striking. In both countries, the legal requirements are very similar, partly as a result of donor intervention in re-writing of these and their orientation towards KPCS compliance. Both the GoDRC and GoSL, with input from international institutions, have put in place new Mining Codes that assume an institutional infrastructure with organisational capacities capable of regulating the trade in artisanally mined diamonds. Both codes make specific provisions with regard to legal obligations of the different actors, which are summarised in Table 2.

Yet, our two cases also demonstrate that neither government has been able to fully apply and enforce the Law at the levels of extraction and trade and a significant share of trading, perhaps even up to 50 per cent - 75 per cent, is allegedly done a-legally or illegally.[67]

Legally taxing an a-legal activity is impossible. Yet, for an a-legal activity to become 'formal' regulations much be applied and enforced. The failure to fully apply and enforce the artisanal mining provisions in the law thus close an avenue to formalisation of the production and initial trading stages in the internal value chain. In practise, provisions in the mining codes do not correspond to the enforcement capacities of the countries' institutions and are based on hypothetical configurations of production and trading relations, which do not relate to reality. This gap is particularly noticeable where middlemen straddle the informal and formal spheres, moving diamonds between them and on the production stage, where operators can be a-legal. This means that the statutory legal sphere largely operates as a parallel rule system that is ignored by a significant proportion of operators.

The Law is more widely enforced at the point of export. This is partly due to the fewer number of operators to be monitored, but also due to the international requirements of the KPCS, which makes the point of export a priority area for the government. Nevertheless, exporters remain vulnerable to political interference and can be heavily influenced by

67 This estimate is based on interviews with industry experts. The real figure is unknown.

Table 2: Actors and Activity in the Diamond Trade in the DRC and Sierra Leone				
	DRC		Sierra Leone	
	Legal	Illegal	Legal	Illegal
ASM	All miners must have the *carte de creuseur.* May dig only in a government-delimited "Artisanal Mining Zone" (AMZ).	Any miner digging without a *carte de creuseur*. Any miner, including those with a card, mining in land that is not delimited as an AMZ. Up to 75 per cent of the trade takes place outside an AMZ.	Diggers do not require a licence. Miners are licensed to exploit a specified area of land, i.e. the *land* is licensed to a specified miner. Licence fees paid to MMR and traditional (chiefdom) authorities.	Any digger or miner mining in unlicensed land. Any licensed miner digging unlicensed land. Anyone mining in licensed land without the consent of the licence-holder. Miners sub-leasing land from a licensed miner, but not selling the stone through the licensee. Diggers may be mining illegally, technically, but have permission (and thus protection) of traditional authorities. "Up to 50 per cent of the trade".
Trade	*Carte de Negociant.* Records of purchase and sale must be kept and distributed to the CEEC.	Unlicensed *negociants* buy and sell between the *creuseurs* and the *comptoirs.*	Dealers obtain licence and can appoint agents who must also be licensed. Licensed dealers can employ 'coaxers', often members of the 'Open-Yai', to entice miners to sell to them. They may only legally sell to licensed exporters. They are required to submit monthly records to authorities.	Unlicensed dealers or diamond brokers (called the Open-Yai) buy from licensed and unlicensed miners, and sell to licensed dealers or on the black market. Licensed dealers buy stones from unlicensed miners or diggers.
Export	*Comptoir* Licence	Smuggling, diamond laundering.	Exporter requires export licence, can appoint agents who also must be licensed. Must keep records of purchase and sale. Must use banking system.	Any unrecorded purchase and export is illegal. Smuggling, inter-MRU trade, diamond laundering, cash purchases (exceeding a certain amount) and money laundering.

financial considerations, which can lead to irregularities in export practices.

This has the following implications:

1. Providing a legal footing, and applying and enforcing this, for the internal trade as it is *actually* conducted at the levels of mining and dealing would pave the way for further formalisation of the sector as a whole.
2. Informal trading structures are not just the product of economic forces, but are also produced by the (sometimes competing) rationales of customary law, socio-political negotiations, and cultural practices. They remain important elements of the trade in artisanally produced diamonds, and of local society. Though they typically operate outside of statutory law, these informal modes of production and trade - inequitable as they may be - are internally functional.
3. Efforts to formalise trade would be more successful if they sought to use these extant structures as the starting point for formalisation, rather than seeking to coerce them into a hypothetically rational structure that is externally imposed, but does not correspond to the realities on the ground.

Governance

The quality of governance of the trade in artisanally mined diamonds should be understood in the context of the significant capacity constraints that prevent governance structures from working efficiently and effectively. Our case studies demonstrate that capacity restrictions are nuanced, and often linked to the geography of the country such as size, geographic position vis-à-vis neighbours, traditional trading routes, and accessibility of production areas relative to trading centres and government offices. For example, the sheer size of the DRC, coupled with the size of the diamond trade, makes monitoring the trade a herculean task.

State capacity should also be seen as an issue of political will rather than just know-how or resources. Traders, as well as the political elite that benefit from the present system, may wish to maintain the status quo as part of their political and economic agenda. Yet, where there *is* political will, knowledge and resources, governance systems can be implemented more effectively. The establishment of the KPCS at the point of export was implemented relatively well in both countries, in part due to the influence of the private sector, substantial support from donors and the dedication of the governments in question.

Alternative domestic interventions in the governance and structure of the diamond sectors of the DRC and Sierra Leone have met with mixed success. *Service d'Assistance et d'Encadrement du Small-Scale Mining* (SAESSCAM) in the DRC and USAID's PDA and Integrated Diamond Management Project (IDMP) in Sierra Leone all championed initiatives that sought to formalise the artisanal and small-scale sector (ASM) and empower

Table 3: Summary of Fees Levied and Statutory Oversight in Sierra Leone and DRC				
	Sierra Leone		DRC	
	Annual Fee (US$)	Statutory oversight	Annual Fee (US$)	Statutory Oversight
Dealer's Agent	$1,000	MMR (MMOs)	N/A	
Dealer	$2,000	MMR (MMOs)	$500	CEEC
Exporter's Agent	$5,000 (5 allowed)	MMR (MMOs)	$3000 (10 allowed) or $15,000 each 'outlet'	CEEC
Exporter	$40,000 Minimum quota of $5m	MMR (MMOs) GDD	$250,000 Minimum quota of $48m in 2008	CEEC
Export tax	3 per cent	GDD	3.75 per cent	CEEC

artisanal miners, giving them a larger slice of the diamond pie. Yet, SAESSCAM has been severely restrained and has thus far not gotten off the ground, the IDMP cooperatives scheme was abandoned by the donor just one year after initiation, and the PDA has largely disintegrated following the closure of USAID's project in December 2007, leaving a question as to what its legacy will really be.

This has the following implications:

1. Vested interests constitute an obstacle to reforming the diamond trade, and can motivate further informalisation of production and trade, particularly if predation on formal sector operators reaches levels which reduce their operational performances to commercially unsustainable levels.
2. Political will coupled with knowhow and effectively applied resources can bring about significant changes in the structures that govern the trade.
3. Any serious attempt to reconfigure trading relations in line with the vision for formal value chains encompassed in the countries' mining legislation would have to engage for the long-term to ensure changes are sustained.

Legal exports, fees and taxation

The summary of fees in Table 3 shows a similar fee structure employed in the DRC and Sierra Leone. Fees for dealers, their agents, and exporters' agents are relatively low, while exporters, who effectively finance the in-country operations, pay significant fees for their licences. The difference in exporter licence fees between the two countries can be understood in the context of their re-

spective market values. For the DRC, official exports in 2007 were valued at US$610 million; for Sierra Leone, official exports were US$141 million.

Export fees are similar for both countries, between 3-3.75 per cent. Both countries revised their export fees downwards after discovering that high taxes incentivised smuggling to neighbouring regimes.[68] The cases show that fees and taxes at the point of export are more widely enforced due to higher effectiveness of existing oversight mechanisms at this point of the value chain and the procedures derived from the international requirements of the KPCS.

If fees were enforced further down the trading chain, it could significantly boost government revenues. For example, if the GoDRC would manage to license half of the country's estimated 100,000 dealers, this would result in additional US$25 million in revenue. In reality, the sheer scale of the sector places doubt on the possibility of effective oversight of the trade, even if oversight capacities of state institutions can be increased.

This has the following implications:

1. Producer countries have incentivised the export of diamonds through legal channels by lowering export fees to an acceptable level. In addition, and though smuggling still occurs, the KPCS's international requirements disincentivise exporters to export goods illegally owing to commercial and legal penalties that they could face at the point of import.
2. Fees and taxes accumulate towards the point of export where international and logistical requirements make oversight and collection of the fees by the state far easier. The implication of this is that exporters effectively collect taxes on the government's behalf by paying a disproportionally larger fee and then pushing the costs of this tax further down the trading chain. By operating in this manner, governments save on the costs on monitoring, but by not having full oversight over the source of production, effectively assume exported diamonds to be of legal origin.
3. An attempt to collect taxes from internal dealers is impossible in the DRC. It would also have the effect of further disencentivising legalisation and drive the trade underground. From a development perspective, it does not make sense to tax individual diggers and petty dealers given their low margins.

Internal trade

In both of our cases, regulation of the internal trade in diamonds is governed by requirements from the point of export, which in turn is governed by the KPCS. This is a chain of invoices and receipts, which tally purchases and sales. Yet, the reality is that continued

68 See for example, the trade between the DRC and Congo-Brazzaville.

informal production produces informal markets, until some point where a licensed dealer can move the diamond into the formal trading chain for legal export.

This has the following implications:

1. The significance of informal mining as a proportion of production, and the mechanism for moving diamonds into the formal sector, as well as porous borders, means that artisanal diamond producing countries cannot assure that the diamonds that are exported as KPCS compliant are not from illegal or 'conflict' sources.
2. Although the internal trade of artisanally mined diamonds is largely informal, it is a functioning and highly sophisticated system, which balances a number of factors that one would see in a regulated market. The fact that governments have been unable to fully govern the trade means that their current approaches and capacities are incompatible with the realities of the internal trade.
3. Countries with any of the following attributes struggle and are likely to fail to properly enforce KPCS regulations: large artisanal mining sectors, specific geographical attributes (e.g. hard to access terrain, long borders, poor infrastructure), and/or the capacity limitations to monitor the sector.
4. Infrastructure and geography matter in the internal trade of diamonds. Underdeveloped infrastructure complicates access to mining areas and increases transport costs. Issues of access cause geographically induced monopolies or oligopolies in many rural mineral markets that translate into unfair prices for diggers and miners. It is not the dealer per se so much as the lack of access to a proper market that allows the digger to be exploited.
5. There are usually several 'levels' of dealers. Unlicensed diamond peddlers, or 'Open-Yai' as they are called in Sierra Leone, play an important commercially logical role in moving diamonds from the informal to the formal trading stages by buying single stones from informal diggers and miners and parcelling the diamonds for sale onwards to licensed dealers (Levin & Gberie, 2006). Yet, the law does not provide for their activities. Therefore creating a legal category for diamond peddlers could help formalise this tier in the diamond value chain. However, if this is done inappropriately it will create a tier which will again be navigated or avoided as these dealers see fit for commercial reasons.

Illegal exports

Legal exports are those which adhere to all requirements made of exporters in the relevant legislation and in compliance with the KPCS. Legal exports in the DRC and Sierra Leone have been outlined in the section Legal exports, fees and taxation, however there remain a number of challenges for artisanal countries when it comes to official exports such as balancing the need to raise revenue

BOX 3 - FISCAL CHALLENGES

As an extremely high value, highly transportable commodity, diamonds pose the following challenges to a country's fiscal regime:

- **Tax avoidance** is a significant motivation for informal trade.[1] The avoidance of taxation at the export stage is often rooted in disparate tax regimes, which make exports from one country significantly more expensive than from a neighbouring country. Failure to harmonise tax regimes across regions with porous borders can thus result in significant revenue losses for the country which imposes higher export costs (Garrett, 2008b:37).
- **Monetary restrictions** contribute to the proliferation of informal trade. For example, if a government restricts the purchase and sale of diamonds to local currency only in an attempt to boost foreign exchange reserves, this can backfire by driving trade underground.[2]
- **Banking systems:** Many countries, including Sierra Leone, require foreign importers to transfer their money through the banking sector. While this potentially provides for safe transfer of funds, high fees and poor rates of exchange make the cost of exchanging cash on the black market significantly lower, incentivising traders to import cash illegally and buy diamonds outside the formal system.
- **Diamonds as international hard currency**. Traders from neighbouring countries use diamonds as a form of convertible currency to avoid the costs or difficulties of changing between local currencies. A trader from Guinea selling imported goods in Sierra Leone will be left with a significant quantity of Leones which he will then exchange for diamonds (or gold) to transport back to Guinea and sell.
- **Money Laundering and other criminal activity:** Specific examples of money laundering and other criminal activity in the diamond trade are notoriously elusive. The US Treasury's National Money Laundering Strategy 2007 notes that diamonds are attractive to money launderers because they are "easily transported and concealed" and "virtually untraceable to their original source". It further states that "even when diamonds are transported openly, it is relatively easy to mislabel the quality/value of a diamond for money laundering purposes" (US Treasury, 2007:59).
- **Undervaluation and profit declaration:** Undervaluation of diamonds at the point of export is a contentious issue in the diamond sector. Diamond valuation is not an exact science, and significant differences can exist between valuators' estimates. Buyers come to producing countries looking for cheaper diamonds than those found at the international exchanges. Implicit in the declared value difference at the point of export from a producing country and the value at the point of resale is the exporter's expenses and profit margins. However, KPCS statistics reveal that profit margins are often declared in tax free trading zones such as the United Arab Emirates and Switzerland. In the case of United Arab Emirates, the US$ per carat value of rough diamond imports in 2007 was US$45.83, but US$70.28 at point of export. A difference of US$24.45, or over 50 per cent, per carat. Switzerland, another tax free zone, also sees a similar difference in declaration between import and export of US$23.51 (KPCS Statistics, 2008).

1 Informal taxation includes extortion and bribes to facilitate trade.

2 Both Guinea and the DRC previously enacted legislation like this resulting in the trade fleeing across borders to other MRU countries and Congo-Brazzaville respectively.

through taxation while providing a market sensitive valuation to deter smuggling.

Most research which has been conducted on the illegal export of diamonds from artisanal producing countries has tended to remain confidential and for use only by the funding agencies and chosen collaborators.[69] As a result, understanding the motivations of the various actors who operate on this level is very difficult without conducting primarily research in this field. Therefore evidence of smuggling is predominantly anecdotal. For example, it is widely claimed in Sierra Leone that traders who have long operated between Sierra Leone and other ECOWAS countries use black market diamonds (and gold) as a form of convertible currency. This activity would contravene Sierra Leone's Money Laundering Act, yet would not appear to be on the same level as deliberate and concerted acts of money laundering. At the same time, such traders buying and selling on the black market could easily move conflict diamonds between nations.

This has the following implications:

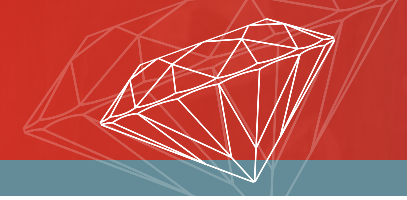
1. Moves to monitor and stamp out the black market trade in diamonds seem unlikely to be successful, given capacity limitations and the well-established nature of the trading routes. Simplification may make more sense than tighter regulation. Incentives to trade outside officially acceptable procedures would need to be removed before measures to enforce formal/legal trade are implemented. It is often inappropriate regulation that drives producers/traders to circumvent it.
2. Trade harmonisation between nations, currently moving slowly in the MRU and the Great Lakes Region, could eventually remove incentives to use diamonds as a form of hard currency and therefore take a proportion of the trade used by traders out of the black market.
3. Reducing the number of 'a-legal' operators will increase the percentage share of explicitly criminal activity in the black market. Re-establishing, funding and supporting investigative units such as the PMMU in Sierra Leone, could work to identify and halt serious criminal activity.

Conclusion

This chapter examined internal and external trade mechanisms in artisanally mined diamonds in the DRC and Sierra Leone with the aim of determining optimal practices for regulating the trading chains and harnessing them for developmental ends. In both countries diamonds are traded within and between two parallel systems: the formal and the informal spheres.

The informal artisanal diamond trade has proven to be recalcitrant, and many interventions and proposals for regulation and over-

69 In the course of field research in 2004 and 2006, one author was made aware of attempts by the UN and bilateral donors to scrutinise illegal exports and smuggling as part of their efforts to keep the peace and inform diamond sector reform. Documents produced were not for publication or distribution.



sight have had only marginal success or have failed outright. Our findings suggest that the principal reason for failure of many interventions is because they have not taken into account the mechanics of an already functioning trading system, which has an unrivalled resilience. Often these interventions have been designed with unrealistic expectations of the regulatory capacities of the relevant institutional infrastructure, which is fundamental to effective application and enforcement. This is a misjudgement in two ways: firstly, the fact that existing informal institutions are internally functional (although often inequitable) has been disregarded. Secondly, the institutions that were supposed to impose the new regulatory regime over existing rule systems were not provided with sufficient resources to build the capacity to do so effectively.

The KPCS is the principal scheme that attempts to control production and trade in the diamond sector. For this KPCS to work effectively requires a significant increase in the monitoring capacities of implementing countries. In a country like the DRC with fledging democratic institutions, an estimated 100,000 dealers and up to 1.1 million artisanal diamond miners operating over a vast area, and 10,700 kilometres of porous borders, this is an impossible proposition.

The geography and social processes which structure these trading chains will not be changed in the short-term, potentially not even in the longer-term. The sheer scale of the trade in both countries, but especially the DRC, leads us to suggest a fundamentally different starting point, which is to ***work with the existing trading structures as much as possible***. This approach would seek to both remove penalties for the informal sector, while simultaneously incentivising formalisation. Our recommendations below are written to this effect.

For internal diamond trade control systems, which complement the external regulatory regime of the KPCS, this means that controls should work in line with the existing trading system - seeking to formalise the status quo *first* and rationalise it *second*. Formalisation should be an incremental process, proceeding through progressive rationalisation of the sector in line with the increasing regulatory capacities of the state. This is a realistic path towards achieving the point of origin requirements of the KPCS, the regulation of the artisanal diamond trade, and harnessing this resilient and dynamic trade for developmental ends.

Artisanal diamond miners' cooperatives: What are they good for?

Shawn Blore

Introduction

The concept of cooperatives for alluvial diamond miners has traced out a steeply parabolic trajectory in the development community. Initially, cooperatives were greeted with near universal enthusiasm. In Liberia, the programme framework laid out by the UNDP's Diamonds for Development initiative envisioned cooperatives as one of the critical tools for transforming the relationships between diggers, buyers and suppliers, and thus re-fashioning the artisanal mining landscape into one more just and more favourable for artisanal producers.[1] In the Democratic Republic of the Congo (DRC), the government-run *Service d'Assitance et d'Encadrement du Small Scale Mining* (SAESSCAM) similarly made cooperatives one of the keystones of its efforts to organise and formalise the country's estimated one million alluvial diamond diggers[2] (PAC, CENADEP, 2005/2007).

The poor results from SAESSCAM's efforts[3], and particularly the failure of the cooperatives set up by the Peace Diamond Alliance in the Kono region of Sierra Leone[4], have lead to a re-appraisal of the artisanal diamond diggers cooperative. A 2008 paper by Levin and Turay noted that the cooperative scheme in Sierra Leone has been "held up as a failure by the investors, USAID's programme evaluators, and development professionals at-large" (Levin & Turay, 2008). The danger is that the failure of these two experiments might come to tarnish the reputation of diamond miners' cooperatives in general. Somewhat absent from the debate so far has been any empirical

1 D4D Programme Framework, November 2005, UNDP Liberia; also interview with Luigi Tessiore, UNDP, April, 2007, Freetown, Sierra Leone.

2 Interview with Baudouin Iheta, SAESSCAM General Coordinator, June 2008, Kinshasa.

3 As of 2008, SAESSCAM's initial coop in Tshikapa has folded, as have two new cooperatives SAESSCAM set up based on the Tshikapa model. Interview with Baudouin Iheta, SAESSCAM General Coordinator, June 2008, Kinshasa.

4 Interview with Paul Temple, Management Systems International, November 2007, Brussels.

data on successful small scale diamond mining cooperatives – data showing whether and under what circumstances diamond coops can function, and how they can or cannot serve as a vehicle for development. Before pronouncing on cooperatives – as either impossible dream or helpful community building tool – it would seem only fitting to delve into a few, the better to assess to what degree they can or can not play a valuable role in development.

The lion's share of the chapter, then, is a series of profiles of the working diamond miners cooperatives of Brazil and Venezuela, several of them with decades of service to their members. The profiles show what lead to the formation of the cooperatives, how they function internally (particularly how the finances and member contributions work), the range of tasks and services they are capable of providing, and by extension the range of tasks and services they are less capable or un-interested in providing to their membership. The information is these sections is drawn from field visits to cooperatives in Brazil and Venezuela, on-site interviews with the elected executive and administrative staff of these cooperatives, and interviews with rank and file artisanal miners, undertaken from 2005 to 2008 (PAC, 2006c).[5] Where possible, the founding documents and administrative records of the cooperatives were also obtained or examined.

The study then moves from Brazil to Guyana, where a majority of miners are Brazilian, but where there are no miners' cooperatives. Making use of these almost laboratory conditions, the study poses the question: what is the key difference between the situation in Brazil and Guyana, that Brazilian miners in Brazil form coops, but Brazilian miners in Guyana do not? The answer to this question dovetails neatly with the data from the profiles of the various miners' cooperatives. This section is based upon field visits over a two-year period to Guyana diamond mining areas, interviews with artisanal diamond diggers in Guyana, as well as interviews with personnel from the Guyana Geology and Mines Commission (GGMC) and the Guyana government (PAC, 2006b).[6]

The results show that what alluvial diamond miners' cooperatives are particularly good at is ensuring access to mining territory for their members. They tend to be formed either where the barriers to a legal right to mine – in the form of mineral claims and environmental impact studies – are relatively high (or higher than a single miner can afford on his own) or where alluvial miners with a long-standing tradition of working informally suddenly find their access threatened, for reasons

5 Field research for the current paper took place from January to March, 2008. Previous research on the legal status and working conditions of Brazilian *garimpeiros* was undertaken in January to March, 2005 and January to February, 2006 (see PAC, 2005 and PAC, 2006a). A previous research visit to study Venezuelan artisanal diamond producers was conducted in October through November, 2006 (PAC, 2006c).

6 Research for this paper took place in February to March, 2008. Previous research on the working conditions and organisation structure of Guyana artisanal diamond producers was undertaken in March through April, 2006 (PAC, 2006b).

of competing mineral claims or, more often, of increasing environmental standards. Once formed, miners cooperatives often take on secondary functions such as providing education to their members, particularly on environmentally appropriate mining techniques. They also provide a focus and a vehicle for miners' engagement with the political system, often becoming a valued and effective voice on behalf of their membership and alluvial diamond miners generally. The results also show that, at least in the South American context, cooperatives of alluvial artisanal diamond miners are not particularly good at distributing either the risks, or the profits of diamond mining. Indeed, they are universally uninterested in attempting this task. The final part of the chapter extracts some of the lessons learned from the cooperative profiles, listing them as a series of guidelines that may be used in considerations of how best, or whether, to foster the creation of cooperatives in the alluvial diamond fields of Africa.

Diamonds, *Garimpeiros* and cooperatives in Brazil

The first discovery of diamonds outside of India took place in 1729 on a desolate high plateau in the interior of Brazil, near a settlement that would soon be renamed Diamantina, in a state that would come to be called General Mines (*Minas Gerais*). Portuguese colonial authorities in 1734 put the entire area under direct control of the Crown, with soldiers guarding the mule trails leading in and out, and a system of pass-books for all residing in the diamond areas, not excepting the slaves put to work on the diggings (Boxer, 1995).

The system worked, well enough at least to vastly enrich the Portuguese crown and court, and yet as early as 1731 royal proclamations were being issued, threatening dire punishments for *grimpas das serras*, ('scratchers of the mountain'), working without permission, in areas beyond royal control. The phrase gave rise to the Brazilian term *garimpeiros*, now used throughout the Lusophone world to refer to artisanal alluvial miners.[7] This basic pattern – the crown asserting control where it could, *garimpeiros* having free reign elsewhere – continued until the fall of the Brazilian monarchy in 1888. With the passage of a new republican constitution in 1891, mineral rights devolved upon individual landowners.[8] The federal government reasserted control of the sub-soil in 1934 with a new Mining Code[9], which separated surface and sub-soil rights, and made access to the sub-soil conditional upon the filing of a claim. *Garimpeiros*, however, which the 1934 Mining Code legally defined and recognised for the first time[10], were exempt from this requirement, requiring instead only a generic permission of the federal government.

7 Dicionário etimológico da língua portuguesa. 2ª Edição, 1989. Antonio Geraldo da CUNHA.

8 Article 72-8, Constitution of the Republic of the United States of Brazil, 24 February 1891.

9 Decree 24642, of 10 July 1934.

10 Article 71 of the 1934 Mining Code defines a *garimpeiro* as a worker who, working individually, through a rudimentary mining process, extracts useful mineral substances.

As a practical matter, *garimpeiros* remained beyond government control.

The military government that ruled Brazil from 1964 to 1985 looked kindly on *garimpeiros*, seeing in them yet another means to reinforce its sovereignty in the Amazon and elsewhere that they saw as threatened. During this era, a *garimpeiro* license could be had for a nominal sum, granting the right to dig anywhere across Brazil's vast and lightly occupied interior. Up to a half-million *garimpeiros* hacked and scraped their way across the Brazilian countryside in this era.[11] The return of democracy to Brazil actually made things more difficult for the country's independent *garimpeiros*. Though the new constitution of 1988 included a pair of clauses ostensibly giving priority access to the sub-soil to *garimpeiros*, the same clauses reserved that priority access exclusively to *garimpeiros* organised into cooperatives; this was something, the clauses noted, that the state itself encouraged.[12]

Brazil has a fairly long tradition of cooperative organisations. A 2007 study by the *Organização das Cooperativas Brasileiras* (OCB) (Ninaut & Matos, 2008), the umbrella organisation of Brazilian coops, showed 7,672 cooperatives active within its network, nearly 30% more than in 2000. The combined coop membership in 2007 amounted to 7.69 million people. While that sounds impressive, it should be noted that over 85 per cent of those members belong to coops in the service sector. Perhaps more tellingly, exports in 2007 by cooperatives amounted to US$3.3 Billion, with just over 93 per cent of that coming from the agricultural sector. The mineral sector, by way of contrast, is so small as to hardly exist.

In the entire mineral sector (which includes mining, ore processing, brick making, quarries, etc), the 2007 OCB census found a total of just 45 cooperatives, involving 17,628 members. How many of those cooperatives are involved in mining, or include *garimpeiros*, cannot be determined from the data available. However, as detailed later in this study, in the alluvial diamond sector there were just four miners coops active in 2007, with a combined total of just under 650 members. Clearly, the cooperative tradition had been slow to penetrate into the world of *garimpeiros*. The reasons are partly legal, partly structural, and partly cultural. In a 2002 study, researchers at the Federal University of Rio de Janeiro noted that the clauses in the 1988 Constitution marked a fundamental change in the character of the Brazilian *garimpeiro*. "Despite cooperativism being seen as the salvation of *garimpeiros*, its basic principals go against the traditional organisation of *garimpeiros*… historically *garimpeiros* always had a individualist dream of getting rich quickly." (da Silva Teixeira & Rocha Lima, 2003) Nor

11 Interview with Jane Resende, former head of National Union of *Garimpeiros*, Brasilia, 2006.

12 Article 174, Paragraph 3: The State will favour the organisation of *garimpeiro* activity in cooperatives, taking into account the protection of the environment and the socio-economic promotion of the *garimpeiros*.

Article 174, Paragraph 4: The cooperatives referred to in the previous paragraph will have priority in the authorisation of prospect ion of mineral resources and deposits exploitable by *garimpeiros*…

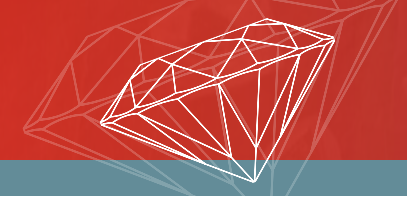
did it help that, while demanding a virtual revolution in *garimpeiro* culture, on the legal side the state reneged completely on its constitutional promise of priority access to mineral title. A federal law passed just a year after the new constitution (Law 7805/89) revoked the licensing system that had granted *garimpeiros* simple legal access to much of Brazil's subsoil, while giving back no priority access of any kind to mineral title. Instead, the new law set up a form a mineral title for *garimpeiros* – called a *Permissão de Lavra Garimpeira* (PLG) – which differed only very little from that required of any regular mining or exploration company.

Unlike a regular mineral claim, a PLG was smaller in area – only 50ha for an individual, or 300ha for a cooperative – implying lower annual land rental fees. In addition, Brazil's National Department of Mineral Production (DNPM), which administers the Brazilian sub-soil, simplified some of the application procedures, and waived the kind of full feasibility study normally required before regular (non-*garimpeiro*) claim holders are allowed to move from prospecting to full production.

For the environmental requirements, however, there could be no such leniency. Not only did the federal constitution require the government to take into account the protection of the environment, but more critically Article 3 of the new PLG law made having all the requisite environmental permits a condition of issuing a *garimpeiro* claim. For the most part, environmental regulation of mining activity is a state responsibility in Brazil, so requirements vary from state to state. In *Minas Gerais*, before the DNPM would issue a PLG, a *garimpeiro* with a pending claim had to obtain permits from *Fundação Estadual de Meio Ambiente* (FEAM), the state environmental agency, the *Instituto Estadual de Florestas* (IEF) or state forestry institute, and the *Instituto Mineiro de Gestão das Águas* (Igam), the state water management authority. Each agency required a detailed impact assessment, prepared by a professional recognised in the appropriate discipline.

Obtaining this range of permits was well beyond the financial or managerial means of the average hand miner. Not surprising then, given this range of disincentives, that *garimpeiros* didn't rush to form coops in the years following the promulgation of the new constitution. By 1993, the DNPM's first National Survey of *Garimpeiros* revealed that there were just over 300,000 *garimpeiros* active in Brazil, and that just 10.79 per cent of them had joined unions or cooperative associations of any kind. The remaining 90 per cent of *garimpeiros* carried on as they had always done, in spite of government regulations which, more often than not, went unenforced. However, the squeeze on *garimpeiro* access to land continued, from both competition and environmental regulation, and it was this pressure that eventually lead to the formation of *garimpeiro* cooperatives.

A 1995 amendment to the 1988 Constitution re-opened Brazilian mineral claims to foreign-owned Brazilian companies. Foreign-owned exploration firms soon



claimed or bought large numbers of likely properties in Brazil's mining hinterlands. These new firms aggressively enforced their mineral title, to the detriment of *garimpeiros*. *Garimpeiros* were also increasingly coming into conflict with a growing environmental awareness in Brazil. The country's first major environmental law – A National Environmental Policy[13] – had been passed in 1981. That law mostly outlined broad policy goals that should guide environmental management. By the end of decade as public awareness grew, regulatory agencies began to put these goals into practise, particularly when it came to regulations concerning the proper conduct of alluvial mining.

In 1989, making use of the new PLG *garimpeiro* law, the state governor of *Minas Gerais* moved to enforce a ban on all *garimpeiro* activity in the upper basin of the Jequitinhonha River in *Minas Gerais*, leading to immediate widespread unemployment for the *garimpeiros* of the Diamantina region. The response to this crisis spurred the formation of Brazil's first diamond mining coop – COOPERGADI, the *Cooperativa de Garimpeiros de Diamantina* (see below for further details).

In 1998, IBAMA, Brazil's federal environment agency, took measures to stop *garimpeiros* from washing their diamond-bearing gravels in river-side protection zones. All rivers in Brazil have streamside protection zones, known as Areas of Permanent Preservation (APP) that vary from 30 to 50 metres in width depending on the breadth of the river. Though the law is more often honoured in the breach, any kind of deforestation or environmentally detrimental activity is prohibited inside the APPs. IBAMA's new rigorous enforcement policy forced *garimpeiros* to move their washing activities inland (while opening a market for water provides, who sell *garimpeiros* the water they need to wash their diamonds for a percentage of the proceeds, usually 5-10 per cent).[14]

Beginning in 2000, the *Minas Gerais* Public Prosecutor carried out widespread operations across the state aimed at shutting down irregular *garimpeiro* operations. Raft mining and mechanised *garimpeiros* were particular targets.[15] It was this crackdown that brought Brazil's second diamond mining *garimpeiro* cooperative to the fore. The *Cooperativa de Garimpeiros de Coromandel* (COOPERGAC) had actually been formed in 1994, but had gone into disuse. In response to the new regulatory environment, COOPERGAC was revived by local *garimpeiros*, who set to work using it as a vehicle for securing an area in which they could legally operate. Though COOPERGAC was able to secure the mineral rights to a PLG, as usual obtaining the full suite of environmental permits proved impossible. As an interim measure, the public prosecutor's office agreed to allow COOPERGAC to undertake mining

13 Law 6902, 28 April 1981.

14 Garimpos de Coromandel: Diagnóstico e Perspectivas (Belo Horizonte 2002), Fundação João Pinheiro (FJP) - Centro de Estudos Econômicos e Sociais, contract number 42/01 for the Ministério de Trabalho e Emprego - Delegacia Regional de Minas Gerais, pp. 111.

15 Ibid., pp. 111.

operations under a *Termo de Ajustamento de Conduta* (TAC), a legally binding agreement setting out the terms and conditions with which the coop had to comply, or forfeit its mining privileges and face prosecution.

In breathing space provided by the TAC, the coops in Coromandel and in Diamantina have worked at lobbying the state authorities for changes to the system of environmental licensing, with no small success. (That numerous other mining enterprises wanted similar changes certainly helped their efforts). In 2004, the state environmental council COPAM (composed of representatives from FEAM, Igam and the IEF), issued a new set of guidelines[16] for environmental licensing. Extractive industries were classified both by the volume of material they processed, and their potential for polluting the air, water and forests. By virtue of their low ore volumes and low to medium potential for pollution, *garimpeiro* enterprises fell within Class I or II of the new scheme, and thus qualified for simplified licensing procedures.

The primary challenge now facing Brazil's artisanal diamond cooperatives is in finding land to work unencumbered by other mineral claims. Cooperative leaders had great hopes for a new *Garimpeiro* Statute, which has been working its way through the Brazilian congress for some time. While the law[17] was finally enacted on June 2, 2008, the final text proved to be something of a disappointment. The new *Garimpeiro* Statute updated the definition of a *garimpeiro*[18], and re-affirmed the requirement for *garimpeiros* to work only on legal mineral claims. However, it did nothing to advance the promise, contained in Article 174 of Brazil's constitution, of giving preferential subsoil access to *garimpeiros* organised in cooperatives. The best it could offer was a pair of articles[19] simplifying the procedures by which *garimpeiro* cooperatives could obtain legal access to lands held under a research or mining license, subject always to permission of the license holder.

Diamantina – Brazil's first diamond cooperative

Formation

The primary challenge facing *garimpeiros* in Diamantina remains access to land upon which to mine, and legal permission to engage in mining. Much of the activity of COOPERGADI – *Cooperativa de Garimpeiros de Diamantina* – centres on resolving these two issues. The coop was formed in 1989, in response to a large scale crackdown on *garimpeiro* activity in the headwaters of the Jequitinhonha River, imposed by the then governor of *Minas Gerais*, Newton Cardoso. The

16 Deliberação Normativa COPAM nº 74, de 9 de setembro de 2004.

17 Law 11685/08, 02 June 2008.

18 Article 2 – Every person of Brazilian nationality who, individually or in association, works directly in the process of extracting mineral substances amenable to *garimpeiro*-extraction (*garimpáveis*).

19 Articles 6 and 8.

Cooperativa de Garimpeiros de Diamantina (COOPERGADI)		
Location	Diamantina, Minas Gerais, Brazil	
Founded	1989	
Total Membership	70	
Mechanise Miners	70	
Artisanal Miners	0	
Dues:	R$41.5 per month (10% of one minimum wage, currently set at R$415), plus 4% of gross production	
Area under exploitation	625.05 ha	
Details of Mineral Claims		
Year of Claim	**DNPM Process Number**	**Area**
1935	2334	270.39 ha
1974	800574	47.5 ha
1974	806650	176.04 ha
1994	838044	131.12 ha

governor's enforcement measures included a public declaration of an end to alluvial mining in the Jequitinhonha headwaters, along with an influx of state police and surveillance helicopters.

Garimpeiros poured in to Diamantina to vent their anger, overflowing the city square with a sit-in protest that lasted months. They found a sympathetic listener in Diamantina's mayor and city council. An ad-hoc committee of city officials and senior *garimpeiros* set to work organising soup kitchens to feed the protesting *garimpeiros*. Gradually, through discussions between the mayor and the ad-hoc *garimpeiro* committee, the outlines of a solution emerged. If the *garimpeiros* could organise themselves into a cooperative and obtain a legal lease or mineral title, the Diamantina city council thought they could find a way to supply or circumvent any further environmental permits. The miners founded a cooperative, and then set to work searching for a claim.

Finding a suitable piece of land took the better part of 1990. The parcel they found was a 270 ha parcel on the banks of the Jequitinhonha River, previously worked by a diamond dredge operated by *Mineração Rio Novo*, a subsidiary of the Brazilian construction giant *Andrade Gutierrez*. The company was willing to sub-lease the land in return for a 2.5 per cent royalty.

As for the environmental permits, the mayor's plan for circumventing that involved a unique piece of Brazilian jurisprudence called a *Termo de Ajustamento de Conduta* (TAC). In practise, the TAC functions very much like a contract, with a government as one party and an individual, corporation of coop as the other.

In the absence of established regulations (or often despite and in contravention of established regulations), the corporation or coop agrees to conduct its business according to norms and procedures spelled out in the TAC; the government agency agrees not to fine or prosecute. The TAC for the coop's mining parcel involved the cooperative, the city and the local public prosecutor's office. All of them signed on, and by 1991, the *Cooperativa de Garimpeiros de Diamantina* was in business.

Type of membership

COOPERGADI's 70 members are nearly all owners of mining jigs. They are, to use the West African parlance, *miners*, as opposed to the *diggers* who man the hoses and move the earth. Members pay monthly dues equal to 10 per cent of the government-determined minimum wage (currently US$250, making the monthly dues US$25), plus 4% of gross diamond production. On the leases negotiated by the coop, members are additionally required to pay 2.5 per cent of production to the mining company which ceded mineral rights to the claim, plus to 1 per cent to the inspector who verifies the volumes of diamonds produced. In its better years, cooperative members produced on the order of US$300,000 worth of diamonds, giving the cooperative some US$12,000 in revenue, not counting the monthly membership dues.

The members of the cooperative executive are elected for three-year terms, and serve voluntarily.

Mining claims

The first mining area established by COOPERGADI was a riverside claim that had previously been worked by a bucket-line dredge, operated from a river barge owned by an *Andrade Gutierrez* company. The size of the dredge had caused it to pass over this smaller side creek. The company agreed to cede its rights to the 8km section of riverbank (some 270 ha), in return for a 2.5 per cent share of any diamonds found.

The formula used by the cooperative to divide this claim among its membership has been repeated with all subsequent mining areas. First, the parcel was divided into strips 100 metres wide, running back from the riverbank. The strips were numbered 1 to 80. Coop members with an interest in mining the area were required to pay a deposit, equal to 1/80 the cost of establishing the claim. With payment came the right to take part in a lottery. Numbered strips of paper were tossed into a hat, and then drawn out one by one. Drawing a slip gave the right to mine the corresponding strip of land. Those unhappy with their choice could opt not to mine, but their deposit was forfeit. So far as any of the current membership can recall, there was never any consideration of the idea of working the land in common and pooling all diamond production. The vagaries of diamond mining, the *garimpeiros'* personal history as independent operators, and the independent provision of capital for each mining jig all mitigated against such a scheme.

Since opening its first claim in 1991, the cooperative has gone on to open and then exhaust two more claims, one of nearly 50 ha, and one of just over 175 ha. It is now in the process of bringing two more mining claims on stream. The cost for registering the claims and obtaining the requisite environmental permits now runs close to R$50,000 (US$30,000) according to COOPERGADI's president Alberto Pinho. The coop finances the cost of these new areas by having garimpeiros interested in the site pay a deposit to cover the set-up costs. In the case of the latest area, located on a creek called Rio do Peixe, some 35 miners have each paid R$1,500 (US$1,000). Once the claim is ready, these miners will be eligible to take part in the lottery assigning individual areas within the larger claim.

Political activity

In addition to its work securing mining concessions for its own membership, the Diamantina coop has been active in the political realm working to simplify the process by which *garimpeiros* can obtain permission to mine. As much of the difficulty involves obtaining environmental permits, COOPERGADI has devoted a good deal of effort to lobbying the state government to simplify the environmental permitting process. In response this effort (both by the coop and by numerous other parties), the state government in 2004 simplified the licensing requirements for small scale *garimpeiro* activity, and devolved decision making regarding environmental permits to a number of regionally based councils called SUPRAM, often located in the communities in which *garimpeiro* activity takes place. Though each SUPRAM is composed of technical staff from the three state environmental agencies (FEAM, IEF and Igam), it is open to representations from local politicians and local stakeholders. This local, somewhat more sympathetic decision making, has greatly simplified the process for obtaining environmental permits, not just for COOPERGADI but for many other *garimpeiros* working in the Diamantina region.

Services coop does not engage in

Diamond buying

COOPERGADI does have the right of first refusal on any diamonds produced by cooperative members. When the coop was founded, it was thought it might be possible to circumvent local middlemen buyers and in so doing achieve better returns, which could be invested in the coop or passed back to the membership. None of this came to pass, however, because the coop has always lacked the relatively large amounts of ready cash required to engage in diamond buying.

Investment in individual Garimpeiros

Capital investment in individual miners is not a task carried out by Coop, or one that membership ever considered necessary. Coop members either fund their own mining operations, or more often find an investor in Diamantina. A common arrangement is for an

experienced *garimpeiro* with all the necessary equipment to form a partnership with financial backer for a single digging season. The backer provides upfront costs for food and fuel, which are paid back out of the proceeds of mining. Once the backer's costs are paid back, any profit remaining over the remainder of the season is split 50-50.

Current status, future prospects

At present, COOPERGADI is at something of a low ebb. Its old mining claims have run their course, and its new areas have not yet received all the necessary environmental permits. The coop only collects dues from its members while they are mining, with the result that the coop's cash flow has been reduced effectively to zero. The cooperative is kept alive by occasional contributions of members, and the volunteer work of its president, Alberto Pinho. Once the two new areas come on line, sometime in late 2008 or early 2009, according to Pinho, the cooperative should return to its old level of activity.

Coromandel: Cooperativa de Garimpeiros de Coromandel (COOPERGAC)

Cooperative formation

Coromandel, located in the far west of the state of *Minas Gerais*, is known for its rare but spectacular stones. As with its sister coop in

Summary Cooperativa de Garimpeiros de Coromandel (COOPERGAC)		
Location	Coromandel, Minas Gerais, Brazil	
Founded	2002	
Total Membership	134	
Mechanised Members	14	
Artisanal Members	120	
Dues: (all members)	R$300/US$180 initiation fee	
Mechanised	2% of the gross value of diamonds produced Dues as follows: Less than 5 truckloads of ore per day – R$100/month Greater than 5 but less than 10 truckloads per day – R$200/month Greater than 10 truckloads per day – R$300 month	
Artisanal	2% of the gross value of diamonds produced	
Gross Production (2007)	US$ 5.4 million	
Area under exploitation	745.06 ha	
Year of Claim	**DNPM Process Number**	**Area**
2004	833660	133.8 ha
2004	833662	53.26 ha
2007	834298	558 ha

Diamantina, COOPERGAC's primary preoccupation has been obtaining land for mining. As in Diamantina, much of the impetus driving the formation of the coop has been the increasing rigour with which state environmental authorities are enforcing environmental laws. Beginning in 2000, the state environmental agency, FEAM, working with the state public prosecutor's office, began a widespread crackdown on unlicensed *garimpeiros* in the region. Re-activated in 2002[20], COOPERGAC managed to obtain from the state government a series of TAC, legally binding agreements allowing *garimpeiros* to continue working under certain prescribed conditions. The coop also organised a series of volunteer efforts to recuperate and replant areas previously degraded by mining, as well as working to educate *garimpeiros* on how to work within the environmental regulations. In the meantime, the cooperative set to work to obtain mining claims of its own, which turned out to be a challenge equal to that that posed by the environmental licensing.

When COOPERGAC set about looking for a mineral claim to call its own, the coop discovered that most of Coromandel county had already been claimed. One company, a Canadian junior resource firm named Brazilian Diamonds, held some 41% of the land area in the county, totalling up the claims from its three subsidiaries. Neither Brazilian Diamonds nor any of the other large claim holders were particularly interested in relinquishing any of their holdings for the benefit of the region's *garimpeiros*.

What broke the deadlock, in 2003, was the advent of the Kimberley Process (KP) in Brazil. In order to sell diamonds abroad, Brazilian exporters had to be able to show that their stones had originated from a legal mining site. An illegal *garimpeiro* dig somewhere in Coromandel wasn't acceptable. The federal DNPM found themselves saddled with the task of ensuring that the *garimpeiros* producing the country's diamonds had legal places to work. A team from the DNPM arrived in Coromandel and began pressuring some of the large claim holders to relinquish land to the cooperative. Brazilian Diamonds remained obdurate, but another company, Triangulo Mineração, eventually ceded some areas.

Executive

Coromandel's COOPERGAC has a paid executive. The coop president is paid a monthly salary equal to ten times the minimum wage (currently US$250/month). The coop has an office in downtown Coromandel, staffed by a full time secretary.

The coop also makes regular representations to the regional SUPRAM council, a decision making body made up of state environmental officials that determines how best to implement environmental policy in the region.

20 The coop was actually formed in the early 1990s, but went into disuse after only a couple of years

Type of membership

COOPERGAC has two types of members: artisanal *garimpeiros* (hand miners), and small scale mechanised *garimpeiros*. Both pay a one-time initiation fee of R$300 (US$180) to join the coop, plus 2 per cent of the gross value of any diamonds produced. In addition, mechanised miners pay a monthly fee based on the size of their jig, measured in the number of truckloads of earth the jig can process in one day (a truckload is taken to equal 3 cubic metres). Ordinary *garimpeiros* who work on a mechanised jig are not required to belong to the cooperative, or pay dues, or a percentage of production.

COOPERGAG has been criticised locally in Coromandel for putting the interests of its mechanised members ahead of its artisanal diggers. These critics have characterised COOPERGAC as the 'rich *garimpeiros* cooperative'. Artisanal miners consulted did complain about the lack of areas within the coop's mining territory set aside for artisanal workers. The coop's president says this is simply because the claim as a whole is coming to an end. Mechanised *garimpeiros* are also running out of ore. That said, COOPERGAC does have a less transparent system for dividing territory than its sister coop in Diamantina. Rather than assign individual slices of a claim by lottery, the system in Coromandel is to place all the jigs in a central processing location, and then bring the ore to the jigs. The ore can come from anywhere in the mining claim. Luck determines what it contains. Hand miners can make use of this ore, or stay in the area reserved for artisanal mining. Whether this is fair to the artisanal miners is a matter of debate. Before the claim reached exhaustion, some of the hand miners in the COOPERGAC area did report finding high value stones.

The schism between mechanised miners and hand miners lead, in 2006, to the formation of a new cooperative, COOPEMG, dedicated exclusively to artisanal miners.

Mining claims

COOPERGAC currently has two active mining areas on two claims, which together total some 187 ha. Both are reaching the end of their exploitable life. The coop has a third, larger claim of over 550 ha, but has been unable to obtain environmental permissions to mine the site.

Services coop does not engage in

Diamond buying

Unlike the coop in Diamantina, COOPERGAC does not have first right of purchase for diamonds produced by cooperative members. However, the prices received locally for large, rare diamonds remains an ongoing source of frustration for Coromandel *garimpeiros*. Efforts by the coop to move into diamond buying have long been blocked by a lack of capital. As a partial remedy, the coop has recently applied for accreditation as a diamond exporter. The plan, still in the formative stages, is to convey some of the larger, rarer

goods directly to buying centres, thus leapfrogging local middlemen who, the coop feels, may be capturing value that should by rights remain with the *garimpeiros*. In buying centres abroad, the coop executive believes, there will be a wider circle of bidders for Coromandel's rather rare goods.

Investment in individual Garimpeiros

The coop does not provide backing for individual *garimpeiros*, nor is there any revenue sharing between cooperative members, nor was this ever contemplated.

Current status, future prospects

Total production of cooperative members in 2007 totalled R$8,590,000 (US$5,369,090). At 2 per cent of gross, the coop's share came to R$171,800 (US$104,121). In addition, the coop brought in R$42,000 (US$25,450) in monthly dues, largely from the mechanised membership. Revenues exceeded expenditures, allowing the coop to add to its cash reserves, which at the beginning of 2008 stood at R$380,000 (US$230,000). With a comfortable bank account, productive membership and strong local political representation, COOPERGAG is one of Brazil's strongest *garimpeiro* coops. However, the coop is faced with the imminent exhaustion of its current mining areas, and is experiencing serious difficulties arranging new ones. On the local level, the coop is facing a challenge for political legitimacy from the new 'poor *garimpeiros*' cooperative. The next couple of years may well prove a challenge.

The "Poor Garimpeiros" cooperative: Cooperativa dos Pequenos e Médios Garimpeiros (COOPEMG)

Cooperative formation

COOPEMG, the Cooperative of Small and Medium *Garimpeiros*, shows its origins in its name. COOPEMG is composed exclusively of non-mechanised, fully artisanal *garimpeiros*. It arose out a complex dispute with the longer-established COOPERGAC, also located in Coromandel. The latter has in its membership a mix of artisanal and mechanised miners, and is lead by an influential

Summary Cooperativa dos Pequenos e Médios Garimpeiros (COOPEMG)	
Location	Coromandel, Minas Gerais, Brazil
Founded	2006
Total Membership	375
Mechanised Members	0
Artisanal Members	375
Area under exploitation	500 ha
Dues:	R$100 initiation fee, R$10 per month, plus 2% of production

city councillor. COOPEMG was formed specifically for artisanal miners only, at the instigation of the mayor, a political rival of the COOPERGAC president. The founders of the new COOPEMG coop claim that the older coop was for 'rich *garimpeiros*', that it was ignoring the concerns of smaller miners.

While it's difficult to separate the truth of this argument from the thickets of local politics, it is certainly true that the fully artisanal miners rank at the bottom of the *garimpeiro* hierarchy, and are the ones in most need of assistance. A comprehensive 2002 study[21] by the João Pinheiro Foundation involving questionnaires and extended interviews of more than 500 of the estimated 3000 *garimpeiros* of the Coromandel region found that about half of them (46.8 per cent) earned the monthly minimum wage[22], another 17.8 per cent made above the minimum wage, while 19.2 per cent earned below minimum; fully 13.2 per cent had no income, and received only payment in kind.[23]

The situation was not all bleak. The study had been commissioned in part because of concerns within the state ministry of labour and child labour might be rife in Coromandel's diamond diggings. In reality, researchers found that on the contrary, *garimpeiros* age profile tilted heavily towards higher age brackets. Under 1 per cent of diggers were in their teens, while those in their 20s and 30s comprised just 23 per cent of the active *garimpeiro* population. The bulk of the *garimpeiros* were in their 40s (24.5 per cent, of diggers), 50s (28.82 per cent) and 60s (21.18 per cent). Digging for diamonds would appear to be an older man's game. Fully one-quarter (25.87 per cent) had been digging more than a decade. Nearly one-third (29.51 per cent) had been digging over two decades.

When surveyed as to why they worked as *garimpeiros*, some 41 per cent gave generally positive reasons, such as family tradition (8 per cent), or a liking for the work and the freedom (10.4 per cent), or a belief or hope of getting rich (22.6 per cent). About an equal number (38.6 per cent) gave negative reasons, including not having any choice for reasons of education (12.8 per cent), age (7.6 per cent), or lack of other employment in the region (18.2 per cent).[24] Finally, just over half the *garimpeiros* surveyed (50.4 per cent) said that they wouldn't abandon being a *garimpeiro* for any other activity, even if the opportunity arose.

When it comes to organising a cooperative of fully manual *garimpeiros*, the João Pinheiro Foundation study revealed some of the opportunities, and some of the challenges. When asked about the importance of *garimpeiro* or-

21 Garimpos de Coromandel: Diagnóstico e Perspectivas (Belo Horizonte 2002), Fundação João Pinheiro (FJP) - Centro de Estudos Econômicos e Sociais, contract number 42/01 for the Ministério de Trabalho e Emprego - Delegacia Regional de Minas Gerais.

22 A benchmark set by the Brazilian federal government for unskilled labour.

23 Ibid., pp. 114.

24 The remaining 20.3 per cent had no opinion or did not respond.

ganisations, close to 100 per cent of the *garimpeiros* replied that they felt such organisations were important. However, when asked whether they could see themselves participating in a cooperative, only 41 per cent answered in the affirmative. Those who looked positively on coops gave a wide variety of purposes they felt a coop could serve, including representing *garimpeiro* interests, environmental education, bulk purchasing, and many others. One of the most significant advantages is one those surveyed never mentioned: security of tenure.

As noted in the 2002 study, the landowner or '*dono de terra*' exercises a great deal of power over the *garimpeiros* working on his land. Those surveyed said it was often customary for the landowner to insist on the right of first purchase for any diamonds found on his land. In cases where ongoing good fortune showed a site to be especially rich, landowners were also known to close the area to manual diggers in order to bring in equipment of their own.

The advent of cooperatives in Coromandel has changed this situation. *Garimpeiros* can commercialise any diamonds they find as they see fit (though this is always done in partnership with the financial backer). *Garimpeiros* also now have the security to continue exploiting a particular site for as long as exploitable ore is available.

In the case of Coromandel, as the area set aside by the older COOPERGAC coop for manual *garimpeiros* is coming to the end of its exploitable life, and the older coop has yet to find a new mining area, a number of the older coop's artisanal members have switched to the new COOPEMG.

Unfortunately, COOPEMG's founders are politicians, not *garimpeiros*. Their lack of specialised mining knowledge may have resulted in a poor choice of mining site. The mineral rights to the 500 ha parcel were ceded by Sam Sul Mineração (one of the subsidiaries of Canadian junior Brazilian Diamonds), a company that for years refused to surrender any lands to local *garimpeiros*, preferring to engage in a long and bitter fight with the other coop and its president.

The costs for the legal and environmental work related to the transfer were covered by a R$100 initiation fee, paid by every new coop member. Results so far have been disappointing. Yields have been low, and the diamond quality below average for the region. A number of *garimpeiros* have expressed disappointment with the relatively steep initiation fee, in return for so far poor returns in the field.

Type of membership

The COOPEMG membership consists exclusively of fully artisanal hand miners. They pay the coop a one-time membership fee R$100 (US$60), along with monthly dues of R$10 (US$6), plus 2 per cent of any diamonds they produce. The *garimpeiro* pays a further 15 per cent to the land owner, plus 5 per cent to the person who provides the water the *garimpeiro* uses to wash for diamonds.

The coop does not provide its members with any financial backing. Each individual *garimpeiro* is responsible for arranging this on his own. According to the 2002 João Pinheiro Foundation study, just over 1/3 (37 per cent) of *garimpeiros* are solvent enough to finance their own digging activities. The remaining 2/3 (62 per cent), normally arrange an outside financial backer by offering a percentage of the diamond production to one or more outside partners. In field interviews, COOPEMG diggers said that the financial backer normally pays the miner a monthly minimum wage (currently set at US$250/month) in return for an approximately 40 per cent share of diamond production, leaving 40 per cent for the *garimpeiro* himself

These funding relationships are often quite stable and long term. Nearly 60 per cent of the *garimpeiros* surveyed in the João Pinheiro Foundation study had had the same financial backer for more than a year. Just under one in seven *garimpeiros* (13.8 per cent) had stayed with the same financial backer for more than 5 years.[25] Perhaps the interesting thing about the stability of the financial relationship is how seldom it pays off for the backer. When asked about their diamond discoveries during the previous 12 months, just 114 individuals, 52.29 per cent of the *garimpeiros* surveyed, admitted to finding any diamonds. The total of their discoveries amounted to 315 stones weighing 609.31 carats. This works out to 1.93 carats per stone, and 5.35 carats per *garimpeiro*. While the monetary value of these diamonds will depend on factors such as clarity and individual size, what these numbers show is that on average, the diamonds dug up by these manual *garimpeiros* don't pay for the money it takes to keep them in the field.

These findings correspond well with the results on *garimpeiro* income. For over 50 per cent of the *garimpeiros* surveyed, the monthly salary from their financial backer was their principal source of income. A mere 6.42 per cent of *garimpeiros* listed *garimpo* itself as their principal source of income.[26] For financial backers, investing in a *garimpeiro* clearly means long odds and little chance of a payoff.

Interviews for the present study with financial backers in the city of Coromandel confirm this state of affairs. Most backers invest in a *garimpeiro* not in the expectation of a steady return, but in hopes of striking it rich, to *bamburrar* in *garimpeiro* jargon. The João Pinheiro Foundation study revealed that just 6 per cent of *garimpeiros* surveyed had ever hit the big time, had ever *bamburrou*. The executive of COOPEMG serve as volunteers. The coop has an office, and part-time secretary.

25 Garimpos de Coromandel: Diagnóstico e Perspectivas (Belo Horizonte 2002), Fundação João Pinheiro (FJP) - Centro de Estudos Econômicos e Sociais, contract number 42/01 for the Ministério de Trabalho e Emprego - Delegacia Regional de Minas Gerais, pp. 100.

26 The balance of responses listed miscellaneous income sources such as pensions (7.34%), assistance from relatives (11.01 per cent), rent/investiments (4.13 per cent) other source (9.63 per cent), other job (3.21 per cent) and no response (7.80 per cent).

Mining Claims: COOPEMG has one mining claim, a 500 ha parcel called Douradinho, located 10km outside the city of Coromandel.

Services Coop does not engage in: As with the other cooperatives, the COOP does not engage in diamond buying, nor invest in individual *garimpeiros*.

Current status, future prospects

The coop is currently not financially viable on its own. The receipts from members' production do not cover the costs of running the coop. The funds from the initiation fees have largely been spent getting the coop's 500 ha mining site legalised. That said, COOPEMG has the strong support of the mayor of Coromandel, and with that a great deal of administrative and technical support, funnelled through city hall. If the incumbent mayor wins the next election, scheduled for October, 2008, the coop will certainly continue. If not, COOPEMG may well face serious difficulties.

Brazil – Juina

Cooperative formation

COOPRODIL may be the least cooperative cooperative in all Brazil. Though *garimpeiros* have been a mainstay of the economy of the Juina area for decades, the cooperative dates to only late 2003, when Brazil joined the KP. Prior to that date, Juina's *garimpeiros* showed little regard for mineral title when choosing where to locate their digging sites. This lead

Cooperativa dos Produtores de Diamantes de Juína (COOPRODIL)		
Founded	2003	
Total Membership	45	
Mechanised Members	21	
Artisanal Members	0	
Dues:	R$500 initiation fee 1% of production	
Area under exploitation	5338.82 ha	
Details of Mining Claims:		
Year of Claim	**DNPM Process Number**	**Area**
2003	866620	290.96 ha
2003	866622	50 ha
2003	866624	50 ha
2003	866626	50 ha
2003	866628	50 ha
2003	866634	50 ha
2003	866635	50 ha
2006	866321	4747.86

to frequent conflicts with mining exploration companies. However, given Juina's relative isolation, and the lack of support for mineral claims from federal authorities, exploration companies often found themselves obligated to come to some understanding with local *garimpeiros*, and mining continued peacefully, albeit illegally.

When Brazil joined the KP, however, the chain of custody system developed by the DNPM necessitated that the *garimpeiros* producing the diamonds have some legal mineral claim to show as the source of the production. As government policy was to work only with cooperatives, the government set about creating cooperative in Juina.

Teams from the Ministry of Mines and Energy and the DNPM visited the Juina area and in a relatively short period convinced one of the major claim holders in the Juina area, a Canadian-owned exploration company named Diagem, to cede some 600 ha for the use of *garimpeiros*. On the other hand, whether through a lack of trust, or a lack of effort on the part of the government team, the region's traditional *garimpeiros* were largely left out of the new cooperative. Instead, members of the new cooperative were by and large local businessmen, the sort of people who might have invested in a *garimpeiro*, but had neither the know-how or interest to mine on their own.

Rather than establish an area in common, the 12 original cooperative members each selected a 50 ha piece of land which would become their own *garimpeiro* claim. Though these claims were filed in the name of the cooperative, it was understood that they were for all intents and purposes the private domain of each particular cooperative member. The cooperative did contract geological and legal services in common, reducing each members expenses in filing the mining claims.

Type of Membership: COOPRODIL has only mechanised *garimpeiros*. Members pay a one time R$500 initiation fee, plus 1 per cent of their production.

Executive: The cooperative executive are elected for three year terms.

Mining Claims: The coop began with 12 areas of nearly 600 ha, divided into 50 ha parcels for the use of each member. In 2006 the coop acquired a much larger 4747 ha parcel, which has yet to come into production.

Services Coop does not engage in: As with the other cooperatives, the COOPRODIL does not engage in diamond buying, nor invest in individual *garimpeiros*.

Current status, future prospects

The cooperative in 2006 took out a claim on a much larger area, nearly 5,000 ha, recently vacated by a junior exploration firm. The coop's plan is expand the membership beyond the original businessmen members, allowing more of Juina's mechanised *garimpeiros* a legal place to work, and perhaps set aside some

room for manual *garimpeiros*. Much remains under discussion, including the exact method for allocating territory in the new claim. Mining has not yet begun on this new site, as some of the remaining environmental permissions have not yet been finalised.

Guyana

Guyana diamond sector

Guyana Diamond Mining Profile	
Diamonds Discovered	1892
Production (2007): volume	269,541.42 cts
Production (2007): value	US$ 35,494,577
Production (5-year avg): volume	391,894.57 cts
Production (5-year avg): value	US$ 40,691,791
Producing Dredges	1500
Brazilian owned	16%
Guyana owned	84%
Estimated Number of Miners	7500
Number of Cooperatives	0

Diamonds were first discovered in Guyana in the late 1880s, by miners working placer gold deposits on the Potaro River in Guyana's sparsely populated interior. By 1923, Guyana's production had reached 220,265 carats. Diamond production remained in the low six figures until 1929 when the Great Depression took the sparkle out of the diamond market. With recovering demand after World War II, Guyanese production levels rose once again, from 35,000 carats in 1950 to 98,000 in 1968[27]. After 1968 the official production figures show a precipitous drop, to 30,000 in 1975 and 16,000 in 1979. The official production figures remained depressed in the 10,000 carat range for all of the 1980s, and didn't begin recovering again until the early 1990s. These decades are generally regarded as a dark period in Guyana history, not just for diamond miners but for the country as a whole.

Guyana achieved its independence from Great Britain in 1966, and like many other former colonies in this period, the newly independent Co-operative Republic of Guyana set off on ultimately disastrous experiments with state-lead socialism and single-party rule. Miners and exporters in this period had numerous incentives to hide their stones from the government, and tens of thousands of carats left the country clandestinely for Antwerp and New York.[28] Representative democracy returned to Guyana in the early 1990s, at the same time as new life was breathed into the Guyanese diamond fields with the arrival of significant numbers of Brazilian *garimpeiros*. These Brazilian small scale miners were attracted by Guyana's relatively *laissez-faire* mining code, by the country's new openness to foreign workers and foreign investment, and its relatively large, easily identified, easily accessible diamond fields, which the Brazilians could successfully exploit using the new-to-Guyana technology of a portable, mo-

27 All production figures from Guyana Geology and Mines Commission (GGMC).

28 Interviews with Guyana diamond dealer James Krakowsky, Georgetown, 2006 and 2008; Interview with GGMC Commissioner Robeson Benn, Georgetown, 2006; Interview with Guyana Prime Minister Samuel Hinds, Georgetown, 2008.

tor-driven diamond jig, known in Guyana by its Brazilian name, the *resumidor*.

Production rose from 9,000 carats in 1989 to 52,000 carats by 1995, and to 81,000 in 2000, before soaring off into the stratospheric (for Guyana) heights of 248,000 carats in 2002, 412,000 in 2003 and 444,940 in 2004, a new all-time Guyanese record. Though fallen off slightly to some 250,000 carats in 2007, diamond production remains strong.

History of cooperatives in Guyana

Cooperatives in Guyana date back to 1948, when the *Co-operative Societies Act* was passed into law in what was then still a British colony. The act allows for the formation of co-operatives with a minimum of seven members, with the most of the same rights as a limited liability corporation, including, notably, the right to hold a mining license.[29] Cooperatives have the added advantage of freedom from income tax on co-operative profits. There are no restrictions on non-citizens serving as co-operative members.

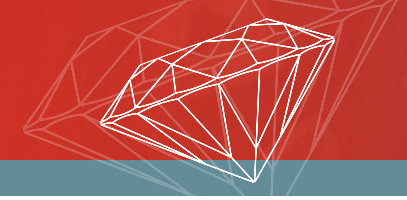
Despite, or perhaps because of this history, co-operatives have a very poor reputation in Guyana. Just after independence in 1966, Guyana embarked on an experiment in single party rule and state-driven socialism, renaming itself the Co-operative Republic of Guyana, nationalising several key industries, implementing and encouraging cooperative economic development. Interviewed in his Georgetown office, Guyana's current Prime Minister, Mr. Samuel Hinds, who held government posts through much of this period, said the experiment was a mistake, one which only set back national development. It also, Mr. Hinds believes, discredited cooperatives in eyes of most Guyanese. The only cooperative currently in existence is a fisherman's co-operative on the northwest coast.

Why no co operatives?

There are currently no diamond mining cooperatives in Guyana, and no talk of forming any. As noted above, native Guyanese have a predisposition against cooperatives, as a result of their recent unhappy experience of state-sponsored socialism. However, the dominant population in the Guyana diamond fields is not native Guyanese, but recently arrived Brazilians.

The exact proportion of Brazilians to Guyanese is difficult to determine. The register of dredges maintained by Guyana's Geology and Mines Commission (GGMC) shows that vast majority of dredges – 83.5 per cent – are registered to Guyanese citizens, while just over 16 per cent are registered to Brazilians. In the field, however, the ratio appears to be almost reversed. The vast majority of working dredges appear to be owned and run by Brazilians. The discrepancy between the official figures and the on-the-ground reality has only little to do with Guyanese regulations – dredges

29 Chapter 1, Part 17-3c, Guyana Mining Act.



can be registered Guyanese nationals and foreigners, with or without residency permits.[30] Furthermore, the requirements for registering a dredge are not especially onerous, but they do require applicants to travel to the capital, and then correctly fill out the proper forms in English. Brazilian *garimpeiros*, however, are not known either for their language skills, or their tolerance for bureaucracy. In preference to registering for a work permit, most ordinary *garimpeiros* prefer to remain in the bush, paying the occasional bribe as needed to placate any mines officer who inquires too closely about their legal status.

As for dredges, as often as not these pass through an elaborate chain of ownership, from an original Guyanese national who filled out the proper forms in Georgetown, through one or more Brazilian owners who purchased the equipment in transactions accepted and acknowledged in the jungle but never recorded in the capital. Given such demonstrated aversion to officialdom, it is an open question whether Brazilian *garimpeiros* would even be capable, should the need arise, of navigating through the requirements of Guyanese law in order to form a cooperative. To date, however, the need has never arisen.

As noted above, the primary motive driving the creation and continued existence of cooperatives in Brazil is access to land. Brazil's first two coops were formed after a sudden denial of access to mining land; two further cooperatives were founded either to gain or maintain access to mining claims. In Guyana, little or nothing has hampered miners' access to the diamond fields of the interior. On the contrary, the government of Guyana has been encouraging mining activity in the interior in every way possible.

Founded as a plantation settlement for producing sugar, Guyana's economic focus has in the centuries since remained in the thin strip of rich agricultural land hugging the Caribbean coast. The interior remains largely undeveloped and very sparsely inhabited. Indeed, in the four decades since independence, Guyana has been a net exporter of people, generating large expatriate populations in North American cities such as Toronto and New York. When Brazilian miners arrived and began populating the interior, Guyana's leadership was both surprised and openly delighted. Though the presence of Brazilians has generated some resentment among ordinary Guyanese, the country's political leadership has gone out of their way to make the incoming *garimpeiros* welcome. "We want to see the interior opened up and developed," said Guyana President Bharrat Jagdeo. "There is plenty of room in Guyana. We want to see more people living here, wherever they are from."[31] Nor is this openness simply a matter of words. In Guyana's mining regulations, there are only minimal restrictions on

30 Section 97, Mining Act (1989); Section 223, Mining Regulations.

31 Interview with President Bharrat Jagdeo, Lethem, Guyana, 2006.

foreigners. The Guyana Mining Act of 1989 has four categories of mining title: small scale claims, medium scale prospecting and mining permits, prospecting licenses and geological survey permits.[32] The latter two are directly open to foreign nationals or foreign corporations. The first two (small and medium scale permits) are officially restricted to Guyanese nationals or companies, but in practise foreigners access these permits by entering into joint-venture agreements with Guyanese nationals.[33]

In practise in the Guyana interior, as long as they pay the 10 per cent share of production by tradition owed to the claim holder, dredge owners can locate their mine sites pretty much wherever they want. Environmental regulations, while enforced, are held within a standard that miners consider acceptable, even intelligent. There is, in short, nothing in the Guyana diamond fields impeding miners' access to land. Nor are any such impediments likely in the figure. According to Guyana Prime Minister Samuel Hinds, the only possible future impediment to mining activity in the interior might come with the move to certify some of Guyana's forests under the Forestry Stewardship Council (FSC). The FSC has not yet defined what – if anything – would be considered acceptable mining practise on FSC certified lands. But even if, as Prime Minister Hinds suspects, the FSC would prefer no mining at all, the Guyana government remains committed to setting aside a substantial portion of Guyana's interior for mining.

Venezuela

There are literally dozens of diamond mining cooperatives in Venezuela. The following section will concentrate on the oldest and largest of these coops, at the same time exploring the recent explosion in diamond cooperative formation.

Associación Cooperativa Mineiros de Icabarú

Cooperative formation

Venezuela's Cooperative Association Law dates back to 1961. The law allows for the formation of limited liability associations much like corporations, with the added advantage that profits accruing to a cooperative are not subject to taxation. It was under this law that Venezuela's largest diamond mining coop, the *Associación Cooperativa Mineiros de Icabarú* was formed in 1982. The town of Icabarú is located in the deep southeast of Venezuela, almost on the border with Brazil. Icabarú's diamond miners opted to band together for a number of reason. Firstly, they had the option of taking out a pair of sizeable mineral claims in what appeared to be a rich mining area. However, the claim fees and technical work required to file the claim were beyond the reach of any single miner.

32 Small scale claims cover 1500ft by 800ft; Medium scale permits 150-1200ha; Prospecting licenses 500-12,800 ha; geological surveys involve large scale reconnaissance, often by air.

33 The Mining Sector in Guyana, GGMC, 2006.

Associación Cooperativa Mineiros de Icabarú	
Founded	1982
Total Membership	225
Mechanised Members	74
Artisanal Members	0
Dues:	Bs 250,000 initiation fee (US$100) Bs 20,000 monthly dues (US$ 8) 5% of production to coop
Area under exploitation	7,500 ha
Details of Mining Claims:	
Year of Claim	**Area**
1982	1,000 ha
1982	1,000 ha
1988	500 ha
1992	5,000 ha *(leased from Corporacion Venezuela de Guyana)*

In Brazil, of course, miners would simply have occupied the site and begun mining informally. However, unlike in Brazil, where the federal government's control of the distant interior has always been somewhat tentative, in Venezuela the presence of the armed *Guardia Nacional* has always dictated a somewhat greater respect for at least the forms of the rule of law. In addition, the terms of Venezuela's mining act impose fairly rigorous reporting requirements, even on small scale alluvial miners. Reports are required on a monthly basis, detailing the specific area being worked, the equipment used, the amount of overburden removed and ore processed, fuel usage and the volume of gold or diamond produced, along with relevant accounts and receipts. These reports must be prepared and filed by a registered geologist or mining engineer. Associating together in a cooperative allowed the miners to submit a common report, sharing the administrative burden and technical costs between many members.

Lastly, there was the matter of subsidised fuel. An OPEC member and major oil producer, Venezuela has long pursued a policy of shielding its citizens from world oil prices. Gasoline, for example, currently sells in Venezuela for approximately US$5 cents per litre. To obtain gasoline and diesel fuel at these prices, however, one is required to have a legitimate registered enterprise. For miners, forming a cooperative took care of this requirement, and gave them access to a sizeable monthly quota of deeply discounted fuel.

These basic incentives for cooperative formation – sharing of administrative costs, tax-free status and access to subsidised fuel in industrial quantities – have remained constant since the first coop law in 1961. However, the formation of cooperatives received a substantial new impetus with the election of President Hugo Chavez in 1998. As part of his drive to

create a socialism for the 21st century, Chavez modified the cooperative law, simplifying the applications procedures and fast-tracking coop registrations.

The impetus towards coop formation received a further boost in early 2005, when the government declared a form of limited martial law in the diamond fields. The entire southern state of Bolivar was declared to be a military zone, Theatre of Operations No. 5 (T.O. 5). The Venezuelan armed forces took over the duties previously held by the *Guardia Nacional*, among them overseeing the disbursement of subsidised gas and diesel at the fuel pumps. While it had been a relatively simple and inexpensive process to bribe the *Guardia Nacional*, the Venezuelan army was another matter. Those without the paperwork from a coop proving their right to subsidised fuel soon found themselves scrambling for much more expensive black market diesel. That measure alone spurred the formation of at least a dozen new miners cooperatives.

Ironically, the implementation of T.O. 5 had been aimed at least in part at eliminating miners in southern Bolivar state, part of a federal government policy of eliminating alluvial digging in waters feeding into the enormous Guri Hydroelectric Project. Instead, the measure spurred the formation of numerous organised coops, most of which have gone on to become bitter opponents of the Chavez regime that facilitated their creation. (See Current status below).

General description

Type of membership: There is only one category of membership for the Icabarú coop. Fully alluvial miners could join, but in practise do not. The membership consists of fully mechanised miners. Others in the town of Icabarú who do not mine also joint the coop in order to have a say in its direction, given its role in the social and economic development of the town. Members pay a one-time initiation fee of Bs 250,000 (US$100)[34], plus monthly dues of Bs 20,000 (US$8). Jig owners pay 5 per cent of their production to the coop. In addition, the coop also collects a 3 per cent tax of diamonds, and a 4 per cent tax on gold (most miners seek for both simultaneously), which it passes on the government revenue agency. Because of these taxes, most miners declare as little production as they can to the coop and government. The coop book-keeper estimates that only some 20 per cent of production gets declared. This would drop to zero, the book-keeper believes, were it not for the subsidised fuel quota, which the coop only disburses to miners who can show declared production.

This evasion of what the coop executive sees as relatively low contribution levels is a constant source of conflict in the coop, mitigated only by the fact that nearly every producing member engages in fee evasion to some extent. Individual jig owners interviewed say that this evasion doesn't reflect dissatisfaction

34 Actual conversion depends on whether one uses the government rate of Bs 2150 to the dollar, or the parallel rate of Bs 3120 to the dollar. This report has compromised at Bs 2500.

with the cooperative management. Most are very supportive of the coop executive and indeed proud of their association with the coop. However, they also say that with the difficulty in obtaining fuel, they are operating very close to the edge of profitability, and the extra 8 per cent (or 9 per cent in case of gold) is more than they can currently afford.

Executive: The executive of the Icabarú coop are elected at annual general meetings, and serve one year terms without remuneration.

Mining claims: The Icabarú cooperative's current 7,000 ha of mineral claims still have years of viable mining in them, according to coop officials. There are no plans to make new claims. In any case, the Venezuelan government is no longer accepting new mining claims in the Caroní watershed, which covers much of southern Bolivar state.

Services coop does not engage in: Neither the Icabarú coop, nor any of the newer coops invest coop funds in individual cooperative members, nor do they involved themselves in the buying or selling of diamonds.

Current status, future prospects

The miners of the Icabarú coop, in conjunction with the miners in all the new and numerous cooperatives in southern Venezuela, have since 2004 been engaged in a bitter and sometimes violent struggle with the Venezuelan federal government over the continuation of mining in southern Bolivar state. In order to protect the large Guri Hydroelectric project, the Venezuelan government has declared an end to all alluvial mining in the watershed of the Caroní River, which covers 95,000 square kilometres, including most of the best diamond territory in Bolivar state. Miners have accepted the closure in principal, but are awaiting resettlement and re-training funds promised by the government.

According to the miners of Icabarú, the promised resettlement funds never arrived in their town. The Venezuelan government has been unable to satisfactorily explain what happened to the promised resettlement funds, but even in their absence the government is demanding the miners cease operations. It has backed up these demands by cutting off the miners' supply of subsidised fuel. The miners have resorted to using black market fuel, which costs some ten times more, but is still cheap by world standards. The army, in turn, has retaliated by raiding mining encampments in force, destroying mining equipment, and on occasion shooting at miners. Five diamond miners have so far died in the conflict, during an army raid in 2006 at a mining camp above the town of La Paragua.

Leaders of the Icabarú coop say that if they can resist the closure until the October elections for state governor, they may be able to elect an opposition governor and with his support avoid the mining closure. Until then, they plan to continue mining, in defiance of yet another demand from the army commander in

charge of Bolivar state that they cease. Rank and file miners around Icabarú fear the army may move in well before the fall elections. A delegation from nine cooperatives travelled to Caracas in May, 2008 to speak with the mining and defence ministers, but failed to win a reprieve.

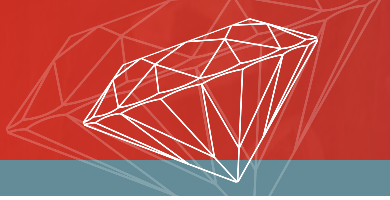
Cooperative formation and alluvial diamond miners

The present examination of alluvial diamond mining in South America was intended to answer a set of related questions: are cooperatives of artisanal diamond miners viable?; if so, what factors lead to their creation, what services do they provide their members, and what role do they play in the artisanal sector?

The answer to the first question would seem to be an unqualified yes. In two of South America's three diamond mining countries, cooperatives are an established part of the artisanal mining landscape. Brazil's four diamond miners cooperatives boast a combined membership of over 600 *garimpeiros* (with probably 500 more *garimpeiros* working on jigs owned by coop members), while in Venezuela the number of cooperatives comes close to 50, with a membership that likely exceeds 1,000 miners. In both Brazil and Venezuela, the key factor driving the creation of cooperatives has been access to legal mineral title or mining concessions – areas where *garimpeiros* or *mineiros* can legally mine. In Brazil, more stringent government enforcement of environmental regulations, mineral claims and KP controls forced formerly free wheeling *garimpeiros* to band together to file proper mineral claims, learn and observe environmental standards and follow KP procedures on diamond origins, in return for a continuing right to mine. In Venezuela, miners initially formed coops to help defray the administrative costs associated with filing mineral claims and complying with government reporting requirements. Over the longer term, the ability of cooperatives to receive government quotas of deeply subsidised diesel fuel and gasoline has been a further strong incentive for cooperative formation.

In Guyana, the third South American diamond mining nation, cooperatives have not evolved precisely because there has yet to be any threat to miners' access to land in the sparsely population Guyana interior. Given historic settlement patterns, and a firm government commitment to alluvial mining at the very highest levels, that is unlikely to change anytime in the near future.

In both Brazil and Venezuela, cooperatives, once formed, have taken on strong political and advocacy roles. In Brazil, cooperatives were instrumental in re-establishing mining in places where government agencies had threatened it with closure. Mining cooperatives have since become effective advocates at regional environmental bodies charged with implementing state environmental regulations, and members of a federal consultative panel discussing the implementation of KP. In Venezuela, the cooperatives located in



southern Bolivar state are currently engaged in a bitter battle with the Venezuelan federal government and army over the continuation of mining in the Caroní watershed.

Political advocacy, then, is one of the services provided to their membership by cooperatives of alluvial diamond miners. The brief sections that follow detail some of the other services diamond cooperatives provide, and highlight some of the characteristics common to successful diamond mining cooperative. These guidelines may prove useful in efforts to establish miners' cooperatives in African diamond producing nations.

Coops are made of miners, not diggers (but diggers benefit)

In Liberia and Sierra Leone, there are distinct words for those who own a claim but do no digging – *miners*– and those who do the digging but own no claim – *diggers*. Coops in Brazil and Venezuela are uniformly organised and directed, and also largely made up of jig owners, what in African terms would be called *miners*. In banding together in cooperatives, these miners are clearly acting out of their own self interest. However, the existence and activities of the various miners cooperatives have none-the-less brought benefits to the diggers one step down.

Diggers have benefited first of all through direct employment with miners on the mining claims opened in the name of the cooperatives. These are not insignificant numbers. Factoring five diggers for every miner, the Diamantina coop provides work for some 350 diggers, the Coromandel miners coop (COOPERGAC) some 50 diggers, the Juina coop 100 diggers, and the Icabarú coop in Venezuela some 370 diggers.

In addition, diggers have benefited from the political engagement and lobbying of miners cooperatives. In both Diamantina and Coromandel, miners and diggers were faced with a shut down of all local artisanal mining activity. The miners, by banding together into a coop and then lobbying local and state governments to allow a resumption of mining, rescued the artisanal sector not just for themselves but for a large but uncounted number of independent miners and diggers who returned to work, sheltered under the exemptions and waivers negotiated by the coop.

In Africa, some analyses have suggested that diggers might be the more appropriate class upon which to concentrate organisational efforts, being both more numerous and more in need of assistance as a result of their exploitation by those higher in the production chain.

There are two responses to this suggestion. First, the difference between miners and diggers may not be as large as is sometimes assumed. A companion study to the present one determined that in Guyana a digger on the most common type of dredge receives on average approximately US$86 per week.

The owner of that dredge receives a gross of US$1435, from which he must deduct fuel costs (approximately US$575), plus food and equipment costs (about US$100) for a weekly net of US$800, which more often than not he must then share out 50-50 with his financial backer, leaving a weekly net of US$400. That is to say, the boss makes just under 5 times the amount of a basic worker. This is less than the 7:1 ratio in many Japanese corporations, often held up as examples of egalitarian virtue, and far less than the 12 or 13 to one common in US corporate world.

In addition, the boss often eats, sleeps and works with his crew. Indeed, for the most part dredge owners are ex-diggers, who learned the trade from the bottom and invested their earnings in equipment of their own. This may be why in the South American diamonds fields at least, there is no linguistic distinction between capital and labour, miner and digger.

The second response is that despite (or because of) their demonstrable need, diggers may not be a population that can be usefully organised. Among other reasons, they are mostly too mobile a population, and often lacking in some of the key skills necessary for any mining enterprise. This lack was demonstrated at least partially in the case of the breakaway coop in Coromandel, Brazil, the one South American cooperative organised specifically for the lowest, totally artisanal hand miners. The organisers in this case were not artisanal miners themselves, nor in point of fact miners of any kind, but local politicians with an interest in bettering the lives of the poorest local *garimpeiros*. Without any guidance from a miner, unfortunately, the new coop leaders wound up selecting a site poor in diamonds, one which in all likelihood will work for only a short period of time and then close for lack of returns.

Many of the diggers who stuck with the old coop (the "rich" miners' coop) have actually done better. In the formation of any new coop, though it may stick in one's egalitarian craw, it is likely better to enlist miners in the organisational effort, and then work with them through the resulting cooperative in order to better the lot of the diggers one level down.

Diamond mining coops don't share revenue

Diamond miners don't share diamonds. In none of the successful cooperatives anywhere in South America was their any provision for the sharing out of revenues between cooperative members. When the idea was mooted with the directors or members of any of the various cooperatives, it met with either blank looks or outright ridicule. In large measure, this is a commonsense reaction to the inherent risks of diamond mining. Alluvial diamond concentrations are notoriously uneven. Where one miner may be striking it rich, his neighbour 100 metres over may be coming up empty. Miners have come to accept this.

There is also a measure of psychology at work. Even if it could be shown, through a

mathematical analysis with probabilistic calculations of risks and payoffs, that a majority of miners would be better off pooling both risk and reward, a majority of miners would likely refuse to accept it. Miners are gamblers. They like the risk. They like the feeling of control in sifting a large piece of earth, sifting out the stones it contains and taking those stones, themselves, to market. Rather than attempt to change this, development efforts should accept this aspect, and concentrate efforts on areas where miners are willing to share, some of which are listed in the following section.

Diamond mining coops can share land, services, information, Know-how, and further community development

While miners in the South American cooperatives surveyed in this study were completely unwilling to share revenue, there were a wide variety of goods and services they were willing to use in common:

1. Land (mining rights, concessions) – the majority of the cooperatives were set up in order to share the overhead costs involved in establishing a mining claim. These costs include the cost of filing the claim itself, along with related environmental impact studies and reporting duties.
2. Services – governments increasingly require artisanal miners to act like small businesses, with official receipts and records of income and expenditures. Venezuela, in addition, requires miners to file monthly reports on both production, fuel usage and geological and environmental impact. Pooling these administrative requirements, cooperatives reduce these costs to individual members. Sharing administrative costs also allows cooperatives to branch into new areas. The COOPERGAC in Coromandel, for example, is registering as a diamond exporter, in order to see if it is possible to sell their diamonds abroad, by-passing local middlemen and so achieving better prices for their membership.
3. Know-how – in Brazil, as environmental requirements have gotten more stringent, one of the primary vehicles for dissemination of environmentally acceptable mining techniques to common *garimpeiros* has been the cooperative.
4. Information – miners will not share diamonds, but they will happily share information as to where best to look for diamonds, and how best to maximise profits from the diamonds found. Cooperatives, in particular in Brazil, but also in Venezuela, play a substantial informal role in disseminating information about current market price for diamonds of various sizes with various buyers.
5. Community Development – Though their primary role is facilitating their memberships' access to land, cooperatives in both Brazil and Venezuela have taken on social projects for the betterment of the larger community. In

Coromandel, Brazil, the COOPERGAC has sponsored and organised a number of volunteer work brigades, to repair the environmental damage caused by previous *garimpeiro* activity (largely, though not exclusively, in compliance with court orders or conditions set out by public prosecutors in the TAC). In Venezuela, the Icabarú cooperative paid for much of the town's central meeting hall. The hall is used for cooperative general meetings, but otherwise put at the disposal of Icabarú residents.

Diamond miners do need capital (but getting them to pay it back is not at all simple)

None of the diamond miners' cooperatives detailed in this analysis provided working capital to individual members. That's not to say miners don't require investors. On the contrary, they have a chronic need of working capital. Development projects in Africa may be tempted to supply this working capital – perhaps in return for certain concessions (i.e., in return for working capital, a miner might be encouraged to divide his profits more equitably with his diggers). If the South American experience is any guide, this should be approached with deep caution.

Outsiders – most often diamond exporters, or field buyers – who have invested in alluvial diamond miners report grave difficulties getting the money repaid. Miners are a mobile population, and courts in South America are largely ineffective as a forum for contract enforcement and debt collection, at least when it comes to the artisanal mining sector. For this very reason, exporters and field buyers in Brazil and Guyana have largely ceased investing in miners.

The miners' working capital comes, most often, from informal lenders with some social connection to the miner – relatives, friends, small businessmen in the miner's home town who know his family. Absent this kind of connection, outsiders may find it difficult to get their investments repaid.

Development and peacebuilding: Artisanal and industrial diamond exploitation in 'post-conflict' countries

Philippe Le Billon and Estelle Levin

Introduction

Development and security concerns for the diamond sector are most acute in five 'post-conflict' countries: Angola, Sierra Leone, the Democratic Republic of Congo (DRC), Liberia, and most recently Côte d'Ivoire. If post-conflict diamond reforms over the past five years have taken different shapes, they have generally sought to promote rapid industrialisation at the expense of artisanal mining. This policy preference was based on arguments that the poverty alleviation potential of artisanal mining was questionable, whereas industrialisation would yield greater tax returns and a better ability for the state to govern the sector through a small number of major corporate partners.

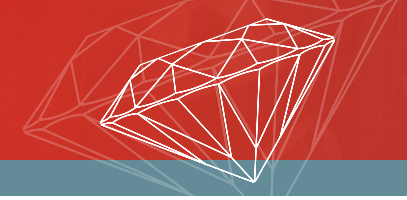
Our central argument is that the artisanal diamond mining sector has been unduly identified as a major source of economic and political instability for the country, with reforms focusing on poverty alleviation and state consolidation being partly misdirected as a result of this overemphasis. In the first part of this chapter, we briefly review the main initiatives seeking to target these linkages between security and development in relation to the diamond sector and explain why peacebuilding perspectives tend to support industrial over artisanal mining. In the second part, we examine the case of Sierra Leone, building on an artisanal mining livelihood survey conducted at the high of the 'post-conflict' diamond rush in 2004 in the Kono District, to suggest that misperceptions about artisanal mining encouraged excessive emphasis on legalisation, rationalisation and industrialisation of the sector as a peacebuilding strategy. We then review 'post-conflict' diamond sector reforms in Sierra Leone, with a focus on

US Government-funded initiatives. The final part of this chapter provides a very brief comparison of diamond sectors in 'post-conflict' countries, focusing on Angola, the DRC and Sierra Leone. We conclude by discussing implications for reforms in the diamond sector.

Conflict diamonds: a peacebuilding and development perspective

Five major arguments have framed peacebuilding and development diamond reforms, most of which relate to the respective advantages and drawbacks of industrial and artisanal mining, the two main modes of diamond production.[1] First, greater diamond abundance should provide more revenues for the state, thereby contributing to political stability and economic growth (Davis, 1995). Reforms should thus aim at increasing resource production through fostering investment in production and prospecting. Although artisanal mining can also increase production, especially if programmes aimed at enabling mechanisation and preventing high grading are implemented, reforms generally encourage a Foreign Direct Investment (FDI)-driven industrialisation of the sector. Second, translating resource abundance into fiscal revenues requires an efficient 'tax handle' (Oomes & Vocke 2003; Snyder & Bhavnani, 2005). In this respect, industrial exploitation offers the best avenue for efficient tax collection (Killick, 1973). In comparison, the taxation of hundreds of mining operations and dozens of marketing intermediaries offers significant challenges and costs due to increased risk of undeclared mining activities and diamond smuggling. Third, reforms should seek to minimise the negative impacts of resource sector growth on other sectors – such as local currency overvaluation and labour shortages – and seek to consolidate resource management institutions. Industrialisation reduces labour diversion into the diamond sector, especially as returns from labour in artisanal mining are described as lower than in other economic sectors (Oomes and Vocke, 2003). Privatisation supposedly clarifies boundaries between government regulators and producers (Weinthal & Luong, 2006). Fourth, industrial ventures are presented as modern, efficient, and governable, and as agents of development through contributions to government revenues, infrastructure building, national employment and staff training. Reforms should thus promote large-scale foreign-direct investments that signal optimism for a durable return to peace and often constitute a major objective of donors and local governments alike. Finally, industrialisation through foreign companies may also strengthen foreign relations with the home government of these companies. Donor countries tend to allocate more aid to trading partners (Berthélemy & Tichit, 2004), and are more likely to put a premium on domestic political stability. Awarding industrial mining

1 In Sierra Leone, artisanal mining is defined as "operations carried out in the course of mining that do not involve capital expenditure in excess of US$0.5 million or the equivalent, the use of specialised technology for the production of limited amounts of a mineral from deposits with few known ore reserves of a character not amenable to mass mining" (GoSL, 1994).



contracts can thus win friends, and aid, for the host government.

In contrast to industrial mining, artisanal production is frequently presented as being technologically backward and inefficient, with only limited potential as a poverty reduction activity in the case of 'rushes' – typical in the case of post-conflict situations – given their negative social and environmental impacts and their brief time span (Labonne, 2002). Artisanal mining is also perceived as ungovernable due to the large number of actors involved and their transient character (Goreux, 2001). The artisanal sector is frequently depicted as generally anarchic, violent, and crime-ridden 'fertile ground' for insurrection (Le Billon, 2006). The general hypothesis is thus that industrialisation will do more for peace through governance consolidation and poverty alleviation than artisanal mining.

There remain four points of contention, however, as the effects of artisanal mining on governance consolidation and poverty alleviation are more complex and nuanced. First, the positive economic impacts of artisanal mining may be underestimated. In fiscal terms, 'high risk' contexts tend to reduce taxation rates, and the establishment of tax holidays to attract foreign industrial ventures are not uncommon in post-conflict countries. In contrast, imported goods used in the artisanal sector are often channelled through fully taxed circuits, and the Value Added Tax (VAT) paid by many small-scale operators, when it exists, is not reimbursed (Hentschel, Hruschka & Priester, 2002). The macro-economic contribution of artisanal mining can also be underestimated due to lack of accounting for smuggled production, and use of Gross Domestic Product measures rather than Net National Product (Stewart, 1989). At the micro-economic level, artisanal mining can contribute to poverty alleviation despite significant occupational and community health costs and environmental impacts (Hilson, 2002). Financing of artisanal mining is generally performed by financial intermediaries connecting rural economies with broader markets (Zack-Williams, 1995). Although often described as 'predatory' and enticing miners into the consumption of non-productive 'luxury goods', these 'supporters' do provide an important relay and source of capital for rural economies and provide relief as patrons when necessary. Whereas artisanal mining is negatively presented as impoverishing, it is frequently a poverty-*driven* activity. People typically turn to it in the face of natural disasters, conflict, or economic decline (De Boeck, 1998). Artisanal mining booms have followed rather than preceded economic recession, and have contributed to the stabilisation of the economy, thereby reversing the resource curse argument while providing a valuable source of income for the poorest members of society (Heemskerk, 2001). Artisanal mining is also attractive when compared to subsistence agrarian livelihoods, due to its potential to provide cash returns, which is proving increasingly important as African economies are modernised. Artisanal miners spend this cash in the local economy, stimulating local economic growth and stability through the

provision of livelihood opportunities to local farmers, traders, and service providers, both in settled and rush communities.

Second, artisanal mining generates a high level of employment with a potential for consolidating peace. At its most basic, artisanal mining provides a form of 'occupation' – in the sense of keeping in particular male youth busy. As argued by a foreign aid official, who "prefer[s] to see these guys knee-deep in the mud digging for diamonds, than roaming the streets of the capital".[2] Such employment can reduce conflicts and crime, notably by providing a means of subsistence and hope for disenfranchised youth.

Third, evidence suggests that natural resource export dependence increases the risk of corruption (Leite & Weidmann 1999). Industrialisation concentrates resource revenues and can thus increase the risk of corruption at the highest levels of government and skew revenue allocation at the expense of producing areas.[3] Ross (2004) has suggested that 'lootable' resources amenable to artisanal exploitation, such as alluvial diamonds, are less likely to be associated with secessionist conflicts than those only open to industrial exploitation.[4] Even if 'lootable' resources are more easily accessible to rebel groups, their mode of exploitation and associated mode of revenue allocation would be less likely to motivate insurrection in the first place.

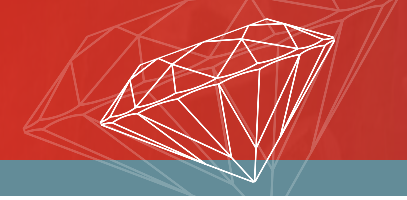
Finally, the industrialisation of a mining sector can pit local mining communities against the state and the companies it is protecting (Gedicks, 1993). Compared to artisanal mining, industrial mining may have a higher risk of violence escalating. This proposition remains untested, however, with arguments on both sides. Large-scale violence has resulted from the expulsion of artisanal miners by army-backed industrial ventures, and from the mobilisation of grievances by local communities against industrial ventures (Handelsman, 2002; Le Billon, 2005a).

To sum up, building peace through state consolidation and poverty alleviation involves choices between increasing fiscal revenue through industrialisation and providing more direct employment opportunities through artisanal mining. This choice may be dictated by geology: primary diamond deposits (kimberlite pipes) are mostly, and sometimes only, suited to industrial exploitation through deep-shaft or open-cast mining. In contrast, poor secondary deposits (placer or alluvial reserves) may only be commercially viable through artisanal exploitation, though mechanised mid-scale alluvial operations are increasingly common in Sierra Leone. Furthermore, large-scale

2 Interview with donor agency official, London, December 2005.

3 This may have an ambivalent effect. On one side high-level corruption reduces the legitimacy of the ruling elite. Yet industrial exploitation is also more likely to result in monopolistic forms of corruption that may not have as much of a negative impact on political stability as competitive forms of corruption potentially associated with artisanal mining (Le Billon, 2003).

4 Comparing the case of diamonds according to their accessibility, Ross (2006) does not find supporting evidence in favor of this argument. Buhaug and Rød (2006), however, find that more easily accessible diamond deposits have a negative effect on the risk of secessionist conflicts.



and small-scale mining can also co-exist (ILO, 1999; CASM, 2007). Diamantiferous areas with the most adapted features for particular modes of exploitation, such as shallow alluvial deposits conducive to artisanal mining, can be set aside where the law allows for this. Many governments, however, are wary of legalising and promoting artisanal mining for fear of undermining fiscal revenues, deterring FDI, and facing population movements and diamond smuggling that are difficult to control, while companies are wary of artisanal miners encroaching upon their concessions.

Sierra Leone's diamond sector

Sierra Leone is among the lowest ranking African countries in terms of poverty and human development. In 2007, diamond exports accounted for nine per cent of a Gross National Income estimated at around US$260 per capita. Characterised by reserve depletion, political clientelism, corruption, and abusive labour relations, the diamond sector has been widely portrayed as a liability for security and development. (Silberfein, 2004; Keen, 2005; Reno, 1995; Zack-Williams, 1995; Davies 2006).

Diamond exploitation dates back to the early 1930s, first through the Sierra Leone Selection Trust (SLST), a British mining company holding a countrywide mining and marketing monopoly, and from the mid-1950s onwards through both industrial and artisanal ventures (Hayward, 1972). In 1974, after over a decade since the end of British colonial rule, Sierra Leone's leader, Siaka Stevens consolidated his hold on power by nationalising and clientelising Sierra Leone's diamond sector. As demonstrated by Reno (1995), diamond mining and revenue allocation were closely intertwined with corruption and the consolidation of a "shadow state" bringing diamonds into the private sphere of rulers and marginalising formal institutions and bureaucracies. Pressed by the International Monetary Fund (IMF) and motivated by his loss of control over diamond-funded patronage, Stevens's successor failed to re-industrialise the sector in the last years before the war started in 1991. The diamond sector was then engulfed for a decade into the logics of a regionalised conflict and a civil war. From the mid-1990s onward, diamonds provided the bulk of the Revolutionary United Front (RUF).

Several studies examine the viability and complexity of artisanal diamond mining livelihoods in Sierra Leone (King, 1979; Binns, 1981; Zack-Williams, 1995; Levin, 2005; Maconachie & Binns, 2007a). Yet the policy perspective on diamond miners is predominantly that of young male migrants who rush to the diamond fields to make a quick buck. Alluvial diamond fields, from this perspective, became the breeding ground for terror and a threat to political order. As a World Bank (WB) paper (Goreux, 2001:3, emphasis added) stresses:

> "These so-called alluvial diamonds are collected over extended areas by a mul-

titude of independent small enterprises and artisans (diggers) using rudimentary technologies. These mining sites cannot be fenced; controls are loose and are frequently ineffective. This is *where* the problem of conflict diamonds arises."

By 2002, when hostilities officially ended, the diamond sector had remained largely 'de-industrialised'. An estimated 200,000 people were mining diamonds artisanally, of which the majority were believed to be former combatants (Pratt, 2003). In this light, artisanal mining was widely presented as a threat to security and development, with industrial mining presented as the best solution, as argued by Sierra Leone's president Tejan Kabbah (cited in PAC, 2005a:1).

Merging security and development agendas, Kabbah had awarded a prime diamond mining concession five months after his election in 1996 to Diamond Works/Branch Energy, a Vancouver-based mining company related to a British and South African mercenary outfit contracted a year before to oust the RUF (Sheppard, 1998; Francis, 1999). Many companies followed suit, the largest of which – African Minerals Ltd – held in 2006 mineral rights covering 57 per cent of the country. By 2006, artisanal production still represented about 81 per cent of official exports by value, but its share was in decline while alluvial mining by industrial companies was on the rise. Mineral rights held by industrial mining ventures covered close to 94 per cent of the country, including 99 per cent of the land mined artisanally, while the number of artisanal mining licenses remained high with a peak of 2,184 in 2006 and slight decline to 1,968 in 2007.[5]

The electoral victory of the opposition All People's Congress party in 2007 may mark a turn-around, however, as the government is undertaking a contractual review of some of the 140 mineral rights licenses issued to industrial mining companies under the previous administration.[6] The new Vice-President has also stressed the employment importance of diamond mining, being cited as suggesting that "by 2010 the sector will employ 900,000 *citizens*" – an unlikely figure as current direct employment stands at an estimated 150,000 but a more credible one in terms of indirect jobs and household dependents (cited in Katz & Lieberman, 2008, emphasis added). Following the deaths of two protesters at a demonstration against the largest diamond mining project in the country, mining operations were suspended pending the results of a commission of enquiry. The mine was considering laying off 25 per cent of its workforce, a move also considered by the second largest company. Although the new government stressed that it remained committed to industrial diamond mining, its position could have been interpreted at the time as a 'popu-

5 Mohamed B. Mansaray, Director of Geological Survey, "Minerals Sector Reform: Context and Economic Potential", presented at the Presidential Workshop: Minerals Sector Reform; available on http://www.slmineralresources.org/docs/pres_wksp_presentations.pdf.

6 http://www.slmineralresources.org/docs/review_pressrelease08.pdf.

list' agenda seeking to promote artisanal mining and to take advantage of a renegotiation of mining contracts.

Diamonds and peacebuilding in Sierra Leone

Peacebuilding in Sierra Leone involved diamonds in four major ways. First, reforms *within* the diamond sector sought to address the diamond-related dimensions of war. Second, and, because diamonds provided many of the narratives about the causes of war, other dimensions were addressed *through* the sector. In this way, the diamond sector became a space for implementing wider reforms that were seen to be key for addressing the broader causes of war, such as underdevelopment. Third, broader reforms *outside* of the sector were also instrumental in allowing for transformations in the diamond sector. Finally, diamond exploitation deterred some peacebuilding and development initiatives. Diamond areas were among the last ones to be relinquished by rebel forces, and were those longest disputed in the conflict. As a result, the presence of peacekeepers and activities of development agencies were delayed by about three years compared to other parts of the country. Furthermore, many non-governmental organisations (NGOs) have proven reluctant to work in diamond areas and/or to engage in any diamond-related activities.[7]

Initiatives seeking to address the diamond-related security and development nexus in Sierra Leone initially focused on the territorial control of key diamond mining areas through military interventions, first through the deployment of ECOMOG forces in 1992 and then mercenary forces recruited by the government in 1995 (Reno, 1995; Francis, 1999). Following Kabbah's reinstatement in Freetown in 1999 under the Lomé Peace Agreement, several donors and development agencies, in partnership with local authorities, international corporations, diamond industry associations, and local and international NGOs, renewed their diamond sector programmes. The two main objectives of the US Agency for International Development's (USAID) Office of Transitional Initiatives were to bring diamonds under control of the Government of Sierra Leone (GoSL) and to curtail trading in conflict diamonds (Hansen et al., 2002). As part of the Lomé Agreement RUF leader Foday Sankoh took the Chairmanship of a Commission for the Management of Strategic Resources, National Reconstruction and Development (CMRRD). The CMRRD was to have authority over all diamond related activities, with its Chairman only answerable to the President, and with all proceeds from diamond transactions "to be spent exclusively on the development of the people of Sierra Leone, with appropriations for public education, public health, infrastructural development, and compensation for incapacitated war victims

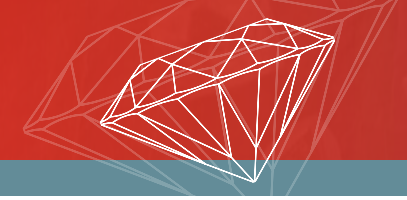
7 This reluctance to engage in diamond areas is not recent. British commissioners had difficulties in bringing in the Red Cross and development agencies into the diamond fields as early as the 1950s.Interviews with current and former NGO employees, July 2004, and mining company management, 2007.

as well as post-war rehabilitation and reconstruction. Priority spending shall go to rural areas" (Lomé Agreement, 1999, art. VII.6). Riddled with institutional contradictions and poorly supported by the parties in conflict and by donors, the failure of the CMRRD and subsequent arrest of Foday Sankoh amidst renewed hostilities led the UN Security Council to impose sanctions on non government-certified diamonds in 2000.

A chain of custody for rough diamonds exported through government channels between Sierra Leone's capital Freetown and the main international rough diamond market in Antwerp was also created to certify that these did not come from RUF-controlled areas, according to Resolution 1306. Established with the assistance of HRD, the Antwerp-based Belgian diamond industry organisation, the system served as a pilot for the future international Kimberley Process Certification Scheme (KPCS). The sanctions were strictly monitored through the UN expert panels' investigations that led to the imposition of 'secondary' sanctions on diamond exports from neighbouring Liberia. The UN Mission in Sierra Leone (UNAMSIL), established in 1999, initially played a minimal role in reforming the diamond sector, deploying last in the richest diamond area of Kono in mid-2001. UN military observers on the ground reported many clashes around the control of diamond fields.[8] By 2002, UNAMSIL troops had intervened in at least one major confrontation between RUF miners and youths from local communities. Peacekeepers progressively increased their presence in diamond areas through a mines monitoring programme including airborne and ground patrols. UN patrols conducted in co-operation with Ministry of Mineral Resources (MMR) officials were reported as "keeping the pressure on diamond miners to license their operations" (Ketelaar, 2004:1). UNAMSIL also recruited a diamond security specialist and provided regular intelligence and security advice on the diamond sector to the Sierra Leonean government. UNAMSIL's activities were coordinated with donor governments, including through monthly intergovernmental meetings at the ambassadorial level in Freetown (the 'High Level Steering Committee').

Peacebuilding initiatives have dominated the 'conflict diamond' agenda since 2002. Structural reforms (institutional, legal, regulatory, fiscal), transparency, increased foreign investment, reduced diamond smuggling, decriminalisation of the sector, and poverty and inequality reduction (i.e. grassroots beneficiation) constitute the overarching programmatic objectives of peacebuilding diamond programmes. Improvement of governance involved two main international initiatives, the KPCS and the Extractive Industry Transparency Initiative (EITI). The UK's Department for International Development (DFID) also funded a 'presidential adviser on diamonds', and an independent diamond valuator oversaw diamond exports. A core mineral policy and eleven relevant pieces of legislation were drafted, a cadastral system

8 Interviews, Kenema, April 2001.



was initiated, and the Gold and Diamond Department was relocated from the MMR to the National Revenue Authority. Donor agencies also provided policy advice and funding for the creation in 2004 of a Precious Minerals Intelligence and Investigation police unit, which was dismantled after several high level arrests by newly trained police officers, suggesting that 'smugglers' benefited from political protection.[9]

One of the major arguments pursued by reformers was that industrialisation would increase fiscal revenues. By early 2008, six years after the end of hostilities, very little data was available to demonstrate this claim. On the contrary, several key fiscal transparency and accountability projects had either stalled or remained delayed, while anecdotal evidence suggested that fiscal revenues were well below those expected from the level of industrial activity in the country. A Public Information Unit (PIU) project, designed for promoting transparency and accountability had also stalled. Whereas donors actively promoted industrial mining through international advertising, tax policies, preferential loans, and the transfer of competence, progress to ensure that fiscal revenues increased and promoted the type of 'good governance' hoped-for by donor agencies was slow to materialise.

Most notably, a cadastral project aimed at streamlining licensing and taxation was also successfully resisted by the MMR, whose officials pointed in turn to a lack of donor support. Surface measurement for the payment of mineral rights licences continued to be done by companies, while high-level bureaucrats continued lucrative discretionary decisions over the licensing process. Such discretion, for example, maintained 'confusion' about the activities of industrial mining companies, most notably between prospecting, exploration, and production licenses. As a company expatriate candidly argued, "with alluvial deposits, mining is prospecting and prospecting is mining".[10] Stones found under exploration licences are legally the property of the Sierra Leonean government. Yet hundreds of tons per day of 'box sampling' were processed by industrial companies under prospecting or exploration licences, with diamonds found by companies reportedly treated as if produced under mining licences, leading to the new government banning export of all exploration samples in late 2007.[11] Anecdotally, fortuitous access to fiscal data allowed consultants to aggregate total MMR fiscal revenues for a three and a half year period. The total of US$5 million contrasted with their estimation of rental fees *alone* at US$12 million. Such findings pushed donors to successfully lobby for moving mineral revenue collection and management from the MMR to the National Revenue Authority.

9 Corkill, 2004; Interview with governance reform official, Freetown, 5 December 2006.

10 Interview with diamond mining company official, December 2006.

11 Interview with diamond mining company official, January 2008.

Overall, the two main donor agencies – USAID and DFID – expended about US$15 million for diamond reforms between 1999 and 2007. Whereas DFID covered industrialisation and macro-policy issues, including through a fiscal transparency approach, USAID mostly focused on formalising the artisanal sector through its Diamond Sector Reform Programme (see also the chapter by Paul Temple in this study).

The case of the Diamond Sector Reform Programme

The Diamond Sector Reform Programme (DSRP) was a US government-funded initiative that originated after the 1999 Lomé Agreement, and ended in 2007. Upon the recommendation of an embassy advisor, the US Office of Transition Initiatives contracted a Washington D.C.-based private development consultancy to implement the provision of the Peace Accord which called for the establishment of the Strategic Minerals Committee to be chaired by the leader of the RUF, Foday Sankoh. Overall, the consultancy operated five successive projects financed by US$6.4 million (GAO, 2006).

The DSRP is best understood as a process, whose actors, agendas, objectives, and methods evolved between 1999 and 2007 in response to new knowledge, deeper understanding of the problems to be tackled, and the changing capacities, commitments and priorities of its 'owners'. We deal with this transience by focusing on the programme's rationale and macro-objectives, which remained largely constant. We present in turn the structure, agendas, objectives, methods, and some of the most salient outcomes of this programme.[12]

Delineating the structure of the DSRP is complicated, principally because it was not to be organised around a command-and-control philosophy but rather owned and directed by a variety of actors, each with different motivations for being involved, and each able or willing to commit to different facets of the programme to different extents at different times. The principal organisations involved in the DSRP were USAID, the consultancy company, the GoSL, and the Peace Diamond Alliance (PDA). DFID had its own diamond policy project, which was closely coordinated with the DSRP (DFID, 2004). The Community and Small Scale Mining (CASM) Secretariat at the World Bank also supported the Executive Committee of the PDA (PDA, 2004). Through 1999 to 2007, USAID remained the primary donor to the DSRP, but responsibility for programme planning and implementation rested with the consultancy.

The DSRP addressed two main agendas. The first was security, perceived in terms of domestic and regional stability as well as counter-terrorism. Regional security is a key priority of the US Department of State, while

12 The term diamond reform programme was used for USAID's intervention in 2004, and was later used for DFID's diamond sector interventions after that date, while USAID's programme came to be called the Integrated Diamond Management Programme. For ease, we will refer to USAID's total programme as the DSRP.

a USAID official confirmed having more success in raising funds when putting on a "war on terror hat".[13] A founding declaration of the multi-stakeholder program stated that it was "designed to ensure that revenues from Sierra Leone's diamond mines would never again fall into the hands of drug lords, terrorists, money launderers or the various warring factions in Western Africa's civil wars".[14] The second agenda was development, through "transparent and just diamond production and marketing systems … [so that] smuggling will become a thing of the past …[and] Sierra Leoneans produce and market 'peace diamonds' and 'development diamonds' to rebuild lives devastated by a decade of diamond-fed civil war".[15]

The DSRP sought to make the diamond sector and mining areas 'governable' through three main sets of projects. A first set of projects was to support national-level governance through assistance for the High-Level Diamond Steering Committee (HLDSC), a policy forum including Sierra Leonean government ministers, the US ambassador and UN and donor country representatives. Capacity-building for the MMR has been minimal (i.e. motorcycles for provincial mines monitors) until 2007, when DFID managed to convince the government to accept an expatriate Director General for the MMR (a long standing condition for institutional support).

A second set of projects sought to improve local governance and empower local communities. The main initiative was the creation of the PDA, a multi-stakeholder forum to provide a voice to local actors and a space for dialogue and information exchange. The PDA constituted both a programme and a partner in the DSRP, with members initially including international donors, national and local government officials, community-based organisations, international NGOs, and industry actors. The PDA was expected to serve many functions in the DSRP, but its main role was to nurture a style of participatory governance incorporating industry and community in the formulation of law and policy, and in monitoring and disciplining the industry. Initiatives set up to provide alternative modes of governance faced at times challenges amidst allegations of consultant-driven centralisation and distrust between various components of the governance structure.[16] By mid-2007, the PDA was largely considered 'dead', both in Kono where the organisation had not had a general meeting for two years, and in its global outreach with its website closed. The final DSRP evaluation report noted that the consultancy "administered many of its programs under the label 'PDA' which provided an *illusion* of an actively functioning indigenous Peace Diamond Alliance" (Tutusaus, Nelson & Abadje, 2007: vi, emphasis added). There was hope that the

13 Interview with US government official, Freetown, December 2006.

14 Declaration made at the first annual general meeting of the Peace Diamond Alliance (PDA), December 2002.

15 Declaration made at the first annual general meeting of the PDA, December 2002.

16 Interview with former PDA spokesperson, Freetown, December 2006.

PDA would be sustained through the initiative of the Diamond Development Initiative (DDI) and the Network Movement for Justice and Development, a Sierra Leonean NGO long involved in a campaign for 'just mining'. Yet the DDI appear to have only limited activities on the ground and involve only partially the voices of artisanal and small-scale mining (ASM) at national policy levels.

A large number of projects aiming at community grassroots empowerment and poverty alleviation were conducted under the PDA umbrella, but largely through the program of work decided by its 'secretariat' – the Integrated Diamond Management Program (IDMP). These projects included: smallstones classification and valuation; mining cooperatives, environmental reclamation, community sensitisation through zonal meetings; and community revenue allocation (for further analysis, see the chapter by Paul Temple in this study).

Whereas DFID had followed a peacebuilding strategy by actively promoting the industrialisation of the diamond sector, USAID had mostly sought to legalise the artisanal sector. The DSRP in this regard provided a valuable effort to legitimise artisanal mining and improve its developmental impact. Yet, the DSRP was driven by a security perspective that identified the immediate post-conflict diamond rush as a threat in need of intervention. Among the assumptions driving diamond reforms were an overestimation of diamond production (US$400 million), level of smuggling (90 per cent), as well as number and character of artisanal miners (up to 400,000 'dangerous' male youth). Reforms were also driven by a perception of supporter-miner relation as 'debt-bondage', and focused on alternative labour relations (cooperatives) as well as increased production and fairer profit sharing to alleviate poverty (MSI 2003; Tutusaus, Nelson & Abadje, 2007), rather than alternative livelihoods which constitute the end-goal of many artisanal miners (Levin, 2005; see also Levin & Turay, 2008).

As the program was coming to an end, and when prompted about its relationship with industrialisation, several participants expressed wariness and recognised a failure to engage more systematically with the impact of industrialisation on artisanal mining and local livelihoods. As a DSRP senior consultant acknowledged, "the impact [of industrialisation] is very clear. In Sandoh chiefdom 529 square miles of land was given to a company, and we had two riots already. Without any comprehensive plan we are now in an emergency situation. We will have other conflicts in diamonds areas".[17]

There was also a common perception that poverty was worsening in mining communities, notably due to the lack of land access for mining and the associated departure of Lebanese traders and 'supporters'. The son of the largest diamond exporter wryly noted

17 Interview with John Kanu, consultant for DSRP, Freetown, December 2006.

about industrial ventures that "when you can't beat them, join them", suggesting that Lebanese capital may shift from financing multiple artisanal and small-scale ventures to fewer but larger scale operations.[18] Industrialisation was also removing labour input from local communities. As argued by a town chief, whose land had been allocated to an industrial mining company, "the only place to mine now is the courtyard behind the house".[19] Given the lack of income alternatives, miners were thus not mining 'at home' alongside other economic activities. Rather, some had departed for remote districts where mining lands were still available; leaving other tasks undone or to be performed by those left behind, mostly women, elders and children.

Overall, success in diamond reforms has been mostly measured through official diamond export figures, which tripled from US$41 million in 2002 to US$142 million in 2007. Few other indicators have been used to measure the impact of diamond reforms. In terms of security, there has been neither a systematic attempt at assessing the level of (dis)satisfaction with reforms, nor a recording of instances of conflict and violence in diamond mining areas. In terms of development, there has been no systematic assessment of poverty and inequality levels among mining communities, despite a relatively late attempt at drawing a 'base-line' through a livelihood survey among artisanal diamond miners in 2004 (Levin, 2005; Temple, Levin, Turay & Renzi. 2006).[20] Nor has there been a census of artisanal miners, a study of the linkage effects of artisanal mining, or an assessment of the Net National Product contribution of artisanal mining as compared to industrial ventures. The decline in artisanal mining opportunities has produced a concomitant decline in the local economies generally, and especially in Kono, the traditional heartland of artisanal diamond mining. As a result, thousands of people have migrated to Freetown and the other diamond areas, such as Bo and Kenema which, though currently flourishing may suffer economic contraction once the companies exploring their artisanal hinterlands start to fence off land and convert it to industrial production. While an economic transition reducing the overdependence on diamond mining would certainly benefit the country, reducing opportunities for artisanal miners may not achieve that goal. Inter-sectoral labour mobility requires market opportunities and capitalisation. The movement of labour into other sectors of the Sierra Leonean economy is further frustrated by low levels of education and a lack of cash in the economy, making entrepreneurialism difficult for many. This tentative assessment augurs poorly for the peacebuilding impact of diamond reforms, at least in terms of local conflicts and poverty alleviation in mining areas.

18 Interview with diamond exporter, Freetown, December 2006.

19 Interview with town chief of Fenima, December 2006.

20 Census data for 2004 indicate that the main diamond district, Kono, has medium level poverty but the highest level of inequality (SLIHS, 2004). The next census may allow for some assessment.

Comparing diamond sectors in 'post-conflict' countries

The trajectories of the diamond sectors and 'post-conflict' reforms have varied between 'post-conflict' countries. A rapid industrialisation took place in Angola, where a sustained if incomplete government crackdown on artisanal mining reduced the ratio of artisanal to industrial mining from a quarter to an eighth between 2002 and 2005. In contrast, artisanal and small-scale mining has thrived in the DRC, while industrial has failed to take-off and official production collapsed. Industrialisation rose relatively rapidly in Sierra Leone while co-existing increasingly awkwardly with artisanal mining. In Liberia, industrialisation was postponed due to sanctions until May 2007 and has since remained limited due to relative lack of reserve prospects; official production for 2007 was only US$2.6 million. UN sanctions against rough diamonds exports from Côte d'Ivoire were still in place at the time of writing (UNSC Resolution 1643; BICC, 2008).

Overall, Angola and Sierra Leone constitute the best successes in terms of *official* production and fiscal revenues since the end of hostilities – respectively in April 2002 and December 2001. Official diamond production in Angola rose from US$638 million in 2002 to US$788 million in 2004 and reached US$1,272 million in 2007. Sierra Leone's official production increased from US$42 million in 2002 to remain relatively stable around US$125-142 million during the 2002-2007 period. The DRC, in contrast present a major failure over the later part of the post-conflict period under review. While official production had climbed from US$320 million in 2002, when several peace agreements were signed between most parties to the conflicts, to peak at US$615 million in 2005, official production had declined to US$365 million by 2007.[21] Angola surpassed Sierra Leone and the DRC in terms of fiscal rate (securing about 14 per cent of production value compared to about 3 to 5 per cent), and fiscal revenues.[22]

If Angola presents the best outcomes at the aggregate macro-economic and fiscal level, there also remain some questions about the overall impact of industrialising the sector, fiscal transparency on diamond revenue flows and the security situation of the diggers in the artisanal diamond mining centres. The impact of the sector in terms of contribution to peacebuilding and human security has thus varied greatly between these countries (see Table 1).

Each of these post-conflict countries also experienced different levels of external interventions into their diamond sector reforms. International donor agencies and non-governmental organisations were largely absent from Angola, besides the limited impact of the IMF in bringing about some degree of transparency until 2003, and reports from the Open Society

21 Statistical figures from the Kimberley Process for 2004-7, from Partnership Africa Canada (PAC) reports citing government sources for 2002.

22 Figures from PAC and IMF reports using government sources.

Table 1 – Summary review of peacebuilding and development dimensions of diamond sector.				
Dimensions	**Angola**	**DRC**	**Liberia**	**Sierra Leone**
Main policies	Aggressive industrialisation and crack-down on artisanal mining	Failed industrialisation and *laissez-faire* approach to artisanal mining	UN moratorium on diamond exports (lifted May 2007). Limited reforms.	Promotion of industrialisation and formalisation of artisanal mining.
Economic	Doubling of industrial production and stable artisanal production	Decline of industrial production; 35 per cent rise in artisanal production	Sustained level of artisanal mining	Tripling of industrial and official artisanal production
Fiscal	Tripling of tax receipts	Doubling of tax receipts	No tax receipts	Quadrupling of tax receipts
Conflicts and violence	300,000 migrant diggers expelled, reported human rights violations, diplomatic tension with the DRC	Continued links with armed factions in limited areas, violence between artisanal miners and industrial companies	Demonstration against formalisation attempts by ministry officials	Demonstrations and vandalism against industrial projects
Political legitimacy	Regional grievances, allegations of corruption	Allegations of corruption related to export undervaluation	n.a.	Rising tension with industrial mining, sustained allegations of corruption

and Médecins Sans Frontières documenting human rights abuses in relation to the diamond sector. In the DRC, the government set up in 2003 the Service d'Assistance et d'Encadrement du Small-Scale Mining (SAESSCAM), but it has remained underfunded and foreign aid agencies were largely absent from the sector (PAC, CENADEP, 2007). Finally, in Liberia, the role of international actors was the most stringent through the continued imposition of a sanctions regime and direct oversight of government activities through the 'anti-corruption' Governance Economic Management Assistance Programme (GEMAP); even if in practice artisanal diamond mining continued unabated with diamonds being laundered mostly through Sierra Leone's KPCS (Smillie & Brownell, 2007). As discussed above, Sierra Leone's diamond sector reforms were also heavily influenced by donor agencies.

Conclusion

A central underpinning of the merging of security and development is that there can be neither development without security, nor security without development. Yet, as pointed out by critics, merging security and development entails limitations, dilemmas and contradictions (Duffield, 2001). Beyond the rhetoric of 'win-win' solutions, such merges reflect and prioritise particular assumptions, interests, and capabilities. This paper has examined the case of reforms targeting 'conflict diamonds', with a focus on Sierra Leone. Having reviewed the main links between diamonds and wars, as

well as the peacebuilding perspective focused on state consolidation and poverty alleviation, we found that industrialisation of the sector and the legalisation and rationalisation of artisanal mining were promoted as the solution. Our survey of Sierra Leone suggests that a developmental approach unencumbered by security priorities would have been more sensitive to the needs and potentials of artisanal miners and their communities. A security-driven state consolidation approach in Angola had a certain cost for artisanal miners (many of them from the Congo) and local communities. Ironically, lack of security delayed industrialisation in the DRC and possibly contributed to easier access to alluvial diamond fields by artisanal miners, although arguably with limited evidence of poverty alleviation.

First, in terms of *state consolidation*, eagerness by the international donor community and government to increase foreign investments, improve fiscal returns, and limit government corruption legitimated industrialisation. Yet the limited will or capacity of donors to improve contractual agreements between companies and the government has left the industrial sector prone to excessive tax incentives, lack of transparency, allegations of corruption, and local community level conflicts. Outside of the diamond sector, a rutile project benefited from massive tax incentives "in order to showcase the world that Sierra Leone is open for business".[23] Within the diamond sector, the contract for the largest mineral rights holder was not publicly accessible. Clashes between police forces and protesters against the largest diamond mining project resulted in several deaths. Furthermore, donors financially sidelined public governance and managerial capacity because of corruption concerns, possibly exacerbating the problems of corruption and mismanagement and creating a crisis of capacity in core government arms.[24] As argued by a Sierra Leonean independent mining engineer, "donors can become part of the problem. They push for reforms but without providing the capacity to carry these [out]."[25] Donors have now recognised this lacuna while government agencies accepted conditions for assistance (e.g. nomination of expatriate with rank of director). DFID is currently investing £2 million on governance improvement generally, of which a large share is going to capacity-building support to the MMR. The MMR is also receiving some support from the European Commission and the UNDP, and may benefit from a future WB programme, currently being negotiated with the GoSL, to improve institutional capacity across the board.[26]

Second, in terms of *poverty alleviation*, attempts at reducing poverty and grievances among artisanal diamond mining communi-

23 Interviews with donor agency officials, Freetown, December 2006. This project is now in financial trouble, following a major accident when a one-year-old dredge flipped, killing two people. At the time of interview, the WB had halted credit to the company. Interview with WB official, August 2008.

24 Interviews with local consultancy firm and MMR Official. Freetown, December 2006.

25 Interview with John Kanu, consultant for DSRP, Freetown, December 2006.

26 Telephone interview with Jonathan Pell, October 2008.

ties were superseded by the fiscal argument of state consolidation through industrialisation. Progressive initiatives seeking to increase the benefits accruing to artisanal miners had a limited impact. The commercial failure of the PDA cooperative scheme undermined the credibility of the idea of artisanal sector reform generally, and basic diamond valuation courses have not significantly altered power relations between diggers, supporters, and exporters generally, though individual miners claim to have benefited (Levin & Turay, 2008; Tutusaus, Nelson & Abadje, 2007).[27] Reforms also had a limited impact on the power of customary authorities, even augmenting their authority, and maintained the perception of corruption in the general population; two factors identified as central grievances in the emergence of the war in the early 1990s (Fanthorpe, 2006; Jackson, 2007; Peters & Richards, 1998). Some chiefs hold shares in industrial projects (supposedly on behalf of the chiefdom), with clear conflicts of interest as they side in favour of their commercial partners (the mining companies) rather than defending their subjects' access to deposits as artisanal miners. The distribution of community development funds and company contributions have frequently been biased by the personal interests of chiefs. Formalisation programmes also diverted funds away from addressing the wider issues of socioeconomic underdevelopment, which were a crucial factor – and outcome – in the war and in promoting artisanal mining as a desirable livelihood for the poor (Levin, 2005).

Overall, the project of democratic governance of a pro-poor artisanal diamond mining sector was superseded by an elite-driven industrialisation with questionable fiscal benefits for the state. Although industrialisation does have an important place in the post-conflict development of the diamond sector, the development potential of the sector would be enhanced by ensuring a more nuanced understanding of what industrial modes of organisation can and cannot deliver, relative to artisanal mining. Our analysis suggests that the prioritisation of industrialisation is not necessarily the optimal avenue for ensuring state consolidation and poverty alleviation. Rather, this could be better achieved by viewing the minerals sector not as a locus for revenue collection, directly, but as a vehicle for longer-term socio-economic development to produce an economy healthy enough to enable alternative means of revenue collection by the state. Unlocking this potential, however, requires a different approach to the minerals sector generally and to artisanal miners in particular. It requires investment in human capital first, to ensure that the mineral resource is converted into other capitals which form the basis of local and national economic development in the longer-term. Lessons learned from the Sierra Leonean experience, and indeed from worldwide efforts to achieve poverty alleviation in artisanal mining communities, therefore suggest that the following approaches might en-

27 Interviews with miners who had participated in the PDA programme, July 2007.

sure greater returns for donor efforts in this regard.

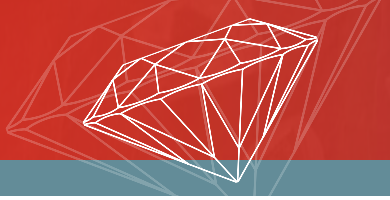
Firstly, the decision as to who should receive title to the resource should be based on a more nuanced analysis of benefits beyond the maxim that 'industrialisation is better than artisanal mining'. For example, initiatives should focus on assessing the most suitable mode of exploitation in response to the profile of the diamond reserves, and a cost-benefit analysis of how the different modes would affect the politico-socio-economic situation of local communities as well as broadly conceived developmental objectives. Such a profiling would not only protect the interest of artisanal miners, but also help reduce the risk of unprofitable ventures by larger-scale operations.

Secondly, minerals policy strategy would derive greater national and local benefit should it be oriented at increasing national and local ownership of the industrial sector. This does *not* necessarily mean nationalising mining companies (though Botswana is evidence that joint ventures between large-scale mining companies and central government can bring high fiscal returns and institutional consolidation), but rather means moving from the view that artisanal miners should be *replaced* by industrial operators to believing that they should be helped to *become* larger-scale operators. This evolution can only happen if human capital is built and the appropriate legal context is created to unleash the entrepreneurial spirit amongst ASM by enabling them to organise and formalise their activities, *in ways which make sense for them*, and thus evolve technologically and institutionally into properly capable, legal, equipped, and productive small-scale mining enterprises.[28]

Thirdly, it should be recognised that artisanal mining, as it is currently organised, is rational given the landscape of commercial, political, legal, personal, and social opportunities and constraints which artisanal diamond miners and dealers are navigating. Governance systems need to be restructured to remove the barriers to successful advancement and evolution of mining operations. This means formalising *existing* structures to make legal title and access to the diamond resource easier for artisanal miners, rather than aiming to adjust existing political economies of artisanal mining to theoretical models of organisation and production, as attempted by the PDA cooperatives scheme (see Levin & Turay, 2008; see also the contribution by Garrett, Mitchel & Levin in this volume).

Fourthly, it is commonly understood that the best way to make money out of artisanal mining operations is not to mine, but to sell to the miners. Thus, if artisanal mining is to act as a basis for wider economic growth, generally, then attention should not just focus on developing the capacity of artisanal miners to be economically productive, but to also improve

28 Much discussion at the 8th Annual CASM Conference in Brazil in October 2008 focused on this issue, presenting examples of artisanal miners who, with the right support and opportunities, have managed to move from being subsistence miners to owners of medium-scale operations in their countries, and leaders of artisanal miners' associations.



the ability of those who sell to them to be better at business. This is the basis for the mineral capital being converted into other, productive capitals, and stimulating wider sustainable development.

However, should a country pursue industrialisation as the principle path towards economic development, then efforts should also be devoted to help artisanal mining communities re-orient themselves into other parts of the economy through a concerted campaign providing vocational training (including literacy, financial management, and business training) and start-up capital, in order to capture miners' entrepreneurial spirit and thus stimulate local and national economic diversification. Without such a strategy, and without changing its approach to the ASM and industrial sectors, unemployment in the diamond areas will continue to grow and Sierra Leone may once again host a mass of 'youths' frustrated by poverty, a lack of opportunity, and marginalisation from the country's main hard currency sector.

Mining and rural development: The trajectory of diamond production in Ghana

Gavin Hilson

Introduction

There has been a wealth of analysis carried out that provides critical perspective on the progress made to date in minimising the production and trafficking of 'conflict diamonds' in sub-Saharan Africa, particularly Sierra Leone, the Democratic Republic of Congo (DRC), Côte d'Ivoire and Angola (Olsson, 2006; Ndumbe & Cole, 2005). These discussions, however, have heavily overshadowed how the KPCS and ancillary efforts made to halt trade in 'conflict diamonds' have affected the region's 'lesser' producers. One particularly intriguing case is Ghana: despite being situated at the heart of an area of sub-Saharan that has been scarred by widespread civil violence fuelled by diamonds and being a major producer of rough stones for nearly a century, very little is known about the nature of the country's diamond mining sector, and more significantly, how it has been affected by the KPCS. The widespread uncertainty surrounding diamond mining in Ghana – particularly the dynamics of small-scale production – led to it being implicated by UN officials in civil conflicts in neighbouring Côte d'Ivoire. This would eventually lead to a temporary embargo on diamond exports from the country, a move that would have severe economic impacts in its main diamond-producing locality of Akwatia.

This chapter provides an extended analysis of the effects of this embargo, outlines some of the changes that have come about legislatively and administratively in Ghana since the launch of the KPCS, and identifies ways in which to increase diamond mine production in the country. The analysis draws heavily upon findings from recent fieldwork carried out in Akwatia, and feedback from interviews with key government officers and industry personnel. After providing an overview of diamond mining in the country, including a critique of the regulatory framework in place for the industry, the report critically examines the socio-economic impacts of the recent embargo on diamond exports in the country. The discussion that follows comes to grips with how to bolster production in the diamond mining economy, drawing upon experiences

from the small-scale gold mining sector. Concluding remarks are then provided.

Akwatia: Ghana's 'boom-bust' diamond town

Akwatia is a small town located in the Kwaebibirem District, Eastern Region of Ghana (Figure 1). Its fate has long been linked to local market conditions for diamonds, which, in recent years, have not been as favourable as in the recent past. A lengthy campaign aimed at embargoing Ghanaian diamonds and concurrent depletion of alluvial reserves has effectively transformed Akwatia into a ghost town. Its diamond-buying area, the 'Belgium Market', was once populated by hundreds of licensed agents, sub-buyers, middlemen and producers; today, it is what one buyer described as a 'shell of its former self',[1] with only 15-20 stalls at the best of times. Unlike in the country's prosperous artisanal gold mining towns, such as Noyem, Bibiani and Damang, Akwatia's lorry station is virtually barren throughout the day and taxi runs into town are far more sporadic. Even the banana seller, in the words of another licensed buyer, has fled town because 'there is now no market'.[2] There are indeed only a few remnants of Akwatia's recent heyday or 'boom periods', times when residents no doubt enjoyed more luxurious lives.

1 Interview 02/08/08.

2 Interview 03/08/08.

Figure 1: Location of Akwatia and Ghana's main diamondiferous area

Diamonds were first discovered in Ghana in February 1919 in the Abomosu stream, along the Birim River some 19 miles north-west of Akwatia. Kitson and Junner would subsequently discover the Birim Diamond Field in 1920, which paved the way for the discovery of the Bonsa Diamond Field in 1921. The Akwatia mine commenced operation in the 1920s, initially under the ownership of the Consolidated African Selection Trust (CAST). The company effectively put Ghana 'on the map' as a major global player in the diamond industry: by the late 1930s, production in the country was in the range of 1.5 million carats, which at the time ranked it as the world's second largest diamond producer by quantity, and fourth by value. With a head office in Akwatia,

CAST would coordinate significant infrastructural development in the town as well as provide numerous skilled and unskilled workers with employment. The company operated the mine until 1982, at which time the government seized ownership and subsequently renamed it 'Ghana Consolidated Diamonds' (GCD). To date, the locality's diamond fields have produced more than 100 million carats of diamonds (Aryee, 2003; Canales, 2003; Nyame & Danso, 2006).

Since the government's takeover of the mine, however, Akwatia has gone through a turbulent period socially and economically. In desperate need of re-capitalisation, GCD was almost immediately placed by the government on the divestiture list, shortly after which, management began downsizing operations. The company's managers have long maintained that all efforts to rehabilitate the company have yielded no meaningful result but this in all likelihood is a reference to their inability to lure outside investment: the fact remains that since becoming state-owned, no attempt has been made to improve plant maintenance, or more importantly, to replace the mine's obsolete machinery, which is projected to be 30-60 per cent efficient. It has even been alleged that the majority of functional plants consume so much electricity and have such low efficiency that the company would be better off not turning them on (Nyame & Danso, 2006).

There was some noise early on about acquiring GCD, particularly in 1989, when both the nickel giant INCO (now a wholly-owned subsidiary of Vale) and the diamond conglomerate De Beers expressed lukewarm interest. But the former withdrew before negotiations began, citing a fall in the world market price for diamonds at the time, and the latter, despite claiming that GCD *was* viable, withdrew on account of drilling not being able to meet its expectation. Downsizing inevitably led to a significant retrenchment of workers and the collapse of ancillary industries, a move that proved catastrophic for the people of Akwatia: families were fully dependent upon the mine for their livelihoods either directly or indirectly, and with few prospects for alternative incomes, many became rapidly impoverished.

Unable to attract sufficient investment, desperate to increase production and under mounting pressure from the community, the company had little choice but to enter what Nyame and Danso (2006) describe as a 'marriage of convenience' with local illegal small-scale diamond operators. This spawned the company's Tributor System, or a symbiotic arrangement in which GCD leases out small plots of land within its 185.35 square mile concession in the Birim diamond field to small-scale miners or 'tributors' keen on extracting diamonds using manual implements. The arrangement, which effectively amounted to an 'outsourcing' of production to a labour-intensive group, had, up until only recently, helped to keep Akwatia 'afloat', providing the company with a temporary means of compensating for decreased production as well as thousands of residents with a source of employment.

But without a clear sense of direction, GCD succumbed to an unavoidable fate in August 2007: that of outright collapse. Despite being a last ditch effort to revive the company, the Tributor System proved surprisingly successful, netting the company tens of thousands of carats in diamonds that would have otherwise not been mined. Yet, as opposed to supporting small-scale diamond miners, the Ghanaian Government continued to look for outside investment to operate GCD, reopening its divestiture file in 1999. It immediately received a bid from Mard Gold but it soon emerged that it was unable to pay the bidding price of US$17 million, and eventually rescinded on the agreement. A subsequent bid of US$34 million was won by Sapper Mining Company but it, too, was unable to pay the bid price.[3] Community protests to fast-track GCD's divestiture stem from the failure of the company to pay arrears to its workforce of 806 strong, which, it is claimed, is contributing to poverty in Akwatia and its high school dropout rate (a result of parents' inability to pay school fees).

The view here is that the priority should not be to divest the company, a move which could spell the end of the Tributor System and cause even more hardship. Rather, emphasis should be placed on sourcing funds from elsewhere, such as the *Mineral Development Fund*,[4] to both pay GCD arrears and more importantly, provide support to the small-scale miners currently operating on the concession and elsewhere. After detailing the regulatory framework in place for diamond mining and marketing in Ghana, these issues will be revisited.

Small-scale diamond mining in Ghana: An overview

In 1989, small-scale mining was officially legalised in Ghana. Today, the industry is dominated by gold mining activities, which employ as many as one million people and produce as much as 15 per cent of national (gold) output. With gold occurring in roughly one third of the country, small-scale gold mining activities are, not surprisingly, ubiquitous. By comparison, small-scale diamond mining activities are localised, confined to Akwatia and surrounding localities, the locations of Ghana's diamondiferous areas. An estimated 15,000-20,000 people are directly involved in the sector. This section of the report provides an overview of Ghana's small-scale diamond mining activities, which, because of their comparatively lesser economic importance, is often overlooked in analyses of small-scale mining in the country.

Looking beyond the GCD concession

In Ghana, laws for small-scale diamond mining have evolved independently to those for small-scale gold mining; only recently has an attempt been made to regulate both indus-

3 'Okyenhene, others intervene in Akwatia Diamonds issue' http://www.thestatesmanonline.com/pages/news_detail.php?newsid=4533&section=1 (accessed 9 August 2008).

4 The *Mineral Development Fund* was set up by the Ghanaian Government in 1993. It is financed each year with 20 per cent of mining company royalties, half of which supports the Geological Survey departments and the Minerals Commission. The remainder is allocated to mining areas for development purposes.

tries under one legislative umbrella. Outside of the GCD concession, prospective small-scale diamond miners are required to secure a small-scale mining license. According to the newly-passed *Minerals and Mining Act 2006*, any Ghanaian interested in mining on a small scale, whether it is the extraction of gold, sand or in this case, diamonds, must secure a license. Previously, a *Diamond Digging License* was awarded by the former Mines Department. Prospective licensees would approach the Minerals Commission to obtain the relevant forms, officers would write to the Mines Department, and if it was approved, the license was granted.[5]

When moves were made to fully legalise small-scale mining in the country in the late 1980s, the Chief Inspectorate of the Mines Department at the time insisted that the regulatory framework be instituted solely for gold, on account that adequate regulations and a policy framework for diamond mining and marketing were already firmly in place. Specifically, a case was made for how the government had recognised the importance of small-scale diamond mining well before small-scale gold mining, and should therefore continue to treat both industries separately legislatively. There was little refuting this argument: in addition to the law for a *Diamond Digging License* having been in place since the 1970s, diamond marketing was a well-established agency at the time, receiving considerable attention by the government over the years. The Diamond Marketing Board was established in 1963 under Legislative Instrument 401, and empowered with the responsibility of marketing all diamonds in Ghana. Recognising the need to actively promote diamond production and marketing, the government passed, in 1972, the *Diamonds Decree* (NRCD 32), a move that transformed the Diamond Marketing Board into the Diamond Marketing Corporation. The organisation was given expanded responsibilities for controlling and promoting the country's diamond industry, as well as the marketing of its product.

In 1989, *PNDCL 217* (Mercury Law), *PNDCL 218* (Small-Scale Gold Mining Law 1989) and *PNDCL 219* (Precious Minerals and Marketing Corporation Law) were passed, which officially brought small-scale gold mining into the legal domain. Apart from the Diamond Marketing Corporation being absorbed by Precious Minerals and Marketing Corporation (PMMC), all diamond mining legislation at the time was virtually preserved. The industry would continue to be regulated separately from small-scale gold mining, which would cause considerable confusion: often, the Mines Department found itself awarding a *Diamond Digging License* in areas where the Minerals Commission had awarded a *Small-Scale Gold Mining License*, and *vice versa*. Eventually detecting the futility in having two separate regulatory frameworks, government officers would repeal the *Diamonds Decree*, *PNDCL 217*, *PNDCL 218* and *PNDCL 219* under the *Minerals and Mining Act 2006*.

5 Following the passing of the *Minerals and Mining Act 2006*, the Mines Department became the Inspectorate Division of the Minerals Commission.

But whilst there may now be significantly less confusion legislatively, few diamond miners outside of the GCD concession have a license. As of August 2008, there were only six *licensed* small-scale diamond miners in the country not operating on GCD land, and at the time, only one was active. Four were not working because of excessive flooding and a lack of water pumps to deal with the flooding of their pits. The remaining concession holder – S.O. Lamptey and Kwao Group (two companies owned by brothers) at Fiankoma Nkwanta – has abandoned diamond mining altogether, turning to gold mining at Kibi near Osenase (also in the Eastern Region, approximately 12 miles from Akwatia). The rapid depletion of diamonds on the GCD concession, however, has fuelled an upsurge in illegal *galamsey*[6] activity, particularly southwest of Akwatia toward Oda and as far as Assin Fosu. The drivers of this rampant illegal diamond mining activity are likely similar to those of illegal artisanal gold mining: time delays with processing licenses, costly fees payments for processing applications, and an unavailability of geologically-viable land on which to register (Hilson & Potter, 2005).

The GCD tributor arrangement and production dynamics

Miners operating on the GCD concession are subjected to separate sets of rules and regulations entirely. Although GCD itself ceased operating in August 2007, it continues to play an instrumental role in managing the Tributor System its officers instituted specifically for small-scale miners nearly 20 years ago.

In the late 1980s, mine managers found themselves working around the clock removing *galamsey* miners who had encroached on the GCD concession. They eventually decided – allegedly as early as 1989 – to forge a production-sharing agreement with encroachers. According to GCD officers, the Tributor System was something that emerged more in response to the difficulties of policing the concession, and the-often violent clashes that took place between *galamsey* and onsite security. A decision was made to demarcate plots, in the form of a tributor arrangement, to small-scale operators. The aim, in the words of the Managing Director, was to ensure that 'tributors were always behind us [GCD]' by demarcating areas that were 1) low grade; 2) 'mined-out'; and 3) inaccessible or where the company was unable to operate with its heavy equipment.[7] In exchange, tributors and their employees were required to register with GCD, carry their ID cards with them at all times, and most importantly sell all product to GCD buyers. Economically, the move paid immediate dividends for the floundering company, and the country as a whole. Whereas between 1980 and 1989, the artisanal

6 A local label for illegal mining, the literal translation of which is 'gather them and sell'.

7 It was explained that land was given outside of GCD's 'reserve', which is presumably an area determined to be rich in diamonds, earmarked for incoming investment but which cannot be mined viably by the company because of the dilapidated state of its equipment.

Table 1: Diamond production in Ghana, 1989-2007

Carats (000)	Value (US$million)	Av.Price/CT US$	Contribution of Small-Scale Mining to Total Diamond Production (%)
151.61	2.11	13.92	40
484.88	14.28	29.45	
541.85	17.44	32.19	
479.87	13.04	27.17	
368.19	11.57	31.42	
411.40	11.55	28.07	
335.17	7.31	21.81	
450.35	9.82	21.81	
558.90	11.75	21.02	
570.19	11.40	19.99	
490.40	9.26	18.88	
626.84	10.63	16.96	
870.49	18.51	21.26	95
969.12	20.24	20.88	
916.69	21.78	23.80	
920.28	26.32	28.60	
1013.62	33.88	33.42	
978.73	30.96	31.63	
865.61	27.86	32.18	98

Source: Minerals Commission reports

mining sector produced only 207,272 carats of diamonds, in comparison with 5,328,054 carats by GCD (Ghana Consolidated Diamonds, 2003), between 1990 and 1999, small-scale diamond mining product drastically increased to 4,637,093 carats, whilst GCD production declined by about 50% to 2,244,240. In 1980, artisanal mining accounted for less than 1% of total diamond output in Ghana, but by 1999, it was producing in access of 70% of the country's diamonds, most of which was owed to the Tributor System (see Table 1 for an overview of diamond production in Ghana). In the words of the Managing Director, by 'giving them their small piece in areas we would not work, we [at GCD] gained a lot' financially.

Prospective tributors are required to locate a parcel of land and complete an application, after which the GCD Survey Department carries out inspections. If the plot meets the three criteria listed above, the application is forwarded to the GCD Tributor Committee, whose members further inspect the plot to determine its suitability and ultimately, the fate of the application – a decision made on the basis of the plot's proximity to plant machinery, roads and the GCD 'reserve'. If approved, the tributor is required to pay compensation, determined by GCD, to the respective landowner, and must purchase 'tokens' for ID cards, priced at one Ghana cedi each, for every employee; failure to produce an ID card upon spot inspection

will result in immediate arrest. Most tributors are former GCD employees and residents of Akwatia.

To minimise paperwork, GCD officials encourage prospective tributors to complete their applications by the beginning of the year. As of August 2008, there were 474 registered cooperatives on the GCD concession; only 100, however, were functioning, in all likelihood because of flooding problems. These groups range in size: generally, those working tailings number between five and 30, whilst those mining along the River Birim in areas deemed 'inaccessible' by the company are in the range of 90-250. As part of the KPCS, to which Ghana is signatory, GCD officials, with the assistance of Minerals Commission officers from the local Akyem Oda office, are 'registering' all miners operating on the concession, and educating them about 'conflict diamonds'. To date, over 3,700 operators have been issued with additional identification cards.

Company managers credit the institution of the Tributor System with reviving Akwatia during the 1990s. As one official explained during an interview:

> "The system has really helped the indigenes. The standard of living has changed completely in this town. The town used to be cut off 20 years ago from surrounding towns…it was all forest, with one bus going to Accra, and you had to buy your ticket at 3 AM and hope. Now, there are transport links everywhere. The Tributor System has affected the town, developed Akwatia, its road networks and the [Saint Dominic's] hospital."

Its abolishment, which could happen with the eventual sale of GCD, would be disastrous, economically, for the already-floundering town.

Perspectives on the embargo

Today, GCD no longer buys diamonds from its tributors because of a shortage of funds. Its diminishing role as a buyer has been a major coup for buyers based in the 'Belgium Market', which became the 'new' end destination for produce after it had filtered though a complex network of ground-level buyers and middlemen. The market was being kept afloat at the time by produce derived from outlying areas; the progressive addition of GCD produce would transform it into an even more vibrant market.

In December 2005, however, a KP Review in Ghana concluded that the country had lax and inadequate internal controls in place to prevent the smuggling of conflict diamonds from neighbouring countries, particularly Côte d'Ivoire. Following this, the United Nations published a report, arguing that there was a 'possible' run of conflict diamonds taking place from rebel-held areas of Côte d'Ivoire through Ghana, and into the international market. Perspectives on these issues, however, are highly polarised.

The report pointed out how exports had increased in the country, specifically how between 2000 and 2005, levels had increased by an astonishing 210 per cent (Asante, 2007). The Ghanaian Government, however, has argued vociferously that these claims were largely unfounded, foremost because the report failed to take into account the diminishing productivity of GCD and subsequent empowerment of tributors. Certain officials also argued during interviews that there is no means of readily differentiating between Ivorian and Akwatian diamonds: that only isotopic analysis – not even petrological studies – can verify the source of each. Even buyers consulted at the 'Belgium Market', many of whom have been involved in the industry for over 10 years and no longer need to use equipment to value the diamonds they purchase, claimed that they could not identify an Ivorian diamond if given the opportunity.

The view of many stakeholders in Ghana is that claims of the country being a potential haven for conflict diamonds arose at a time when the KPCS was receiving intense criticism over its limitations as a voluntary initiative. One government officer pointed out that Ghana, with its more 'localised' diamond production in and around Akwatia, likely proved a convenient target to help alleviate mounting criticism. Subsequent moves made to organise a Special Envoy to Ghana and a Review Mission, carry out spot checks, tighten border controls, and educate field-level buyers, would alter local market dynamics, and in the process cripple Akwatia economically.

A sudden crash in the local market price for diamonds came about following announcement of the suspension of exports of rough diamonds from Ghana on 24 November 2006; between 25 November and 5 December, all diamonds purchased by Licensed Buying Companies were held by PMMC. Experts from the World Diamond Council (WDC) would visit Ghana three times over the next three months (5-9 December 2006, 16-19 January 2007, 16-18 February 2007) to conduct pre-shipment inspections of produce. Whilst waiting for instructions from the KP Chair, exports of rough diamonds were once again suspended between 17 February 2007 and 7 March 2007, with all product held at PMMC headquarters in Accra. Shipments resumed under the condition that digital photos of diamonds were made by PMMC evaluators, and that advanced transmission of digitised diamond photos were sent to a working group of experts on the day of export.

In order to appreciate the extent to which this embargo has affected Akwatia, further clarification of the organisation of Ghana's diamond market and its key constituents is required. There is a complex hierarchy of sub-buyers, buyers, middlemen and 'go-betweens' in place, each individual helping to channel 'deliverables' to the 'Belgium Market' and eventually, PMMC Diamond House in Accra. The process by which a diamond travels from its place of origin to Accra is often lengthy: each individual in the chain typically holds on to their diamonds for an unspecified amount of time before passing along their

product to the next individual. With no international bank[8] in the locality, certain buyers explained that they would keep hold of many of their diamonds as reserves in vaults or storage, putting aside the product to pay for, *inter alia*, children's school fees when the time was right, housing repairs, and use during what one buyer described as 'trying times'. In addition to what one GCD manager described as the 'bush buyers' or sub-buyers in possession of ID cards, who physically patrol mining sites and purchase diamonds directly from the producers, there are several 'local buyers', who, for a fee of ¢5[9] per annum, are issued a 'green' license by PMMC. This authorises an individual to buy and sell product in the 'Belgium Market'. The market license, also issued by PMMC, is blue and costs ¢200 annually. It entitles an individual to buy diamonds from 'local buyers', and to sell their product to, and transact business at Diamond House with, Licensed Buying Companies. These merchants are issued permits by PMMC in Accra, are authorised to buy diamonds from people in possession of a blue license, and have a license to export. Individuals who are interested in registering a Licensed Buying Company to export diamonds must complete an application form provided by PMMC, and pay a US$200 processing fee. Upon approval, the applicant must pay a US$30,000 license fee, and is issued a license for one year, with the option for renewal, which is dependent upon PMMC officials' assessment of their performance for that year. Licensees must conduct all business at PMMC Diamond House in Accra, where they are provided a furnished office.

Buyers and middlemen consulted in Akwatia maintain that this complex, yet fragile, system was upset following a sudden visit by PMMC officials to the town in late-2006. It was announced, over loudspeaker, that 'conflict diamonds' originating from Côte d'Ivoire were potentially being trafficked through the town, and that in accordance with international regulations, measures were being instituted to address the problem. As one buyer explained during an interview:

> "The price for diamonds, following that announcement, was immediately spoiled because buyers in Accra were not buying diamonds or if they were doing so, it was at a low price. We were informed of the news over a megaphone. At the time, lots of people lost their money because the news of the embargo was sudden, and people were holding lots of diamonds and forced to sell at a low price."

The same buyer reported losing well over US$5,000 as a result of diminished confidence in Ghanaian diamonds and the consequent depressed prices being paid for product at the 'Belgium Market'. Another buyer who reported absorbing a significant loss sold all of his product to purchase a car, which he now uses as a taxi. In an effort to recoup financial losses and feed their families, hundreds of others

8 The closest international banks to Akwatia are the Standard Chartered and Barclays in Oda. The only bank in Akwatia at the present time is the South Birim Rural Bank.

9 ¢1 is approximately US$1.

have either been forced to work as labourers in the diamondiferous areas, work as occasional labourers in shops, work as taxi drivers, or have tried their luck as gold miners in adjacent localities. Other buyers, who had at one time sponsored mining activities, in the process assuring themselves of some produce, are no longer able to do so because of their dire economic situations: they simply do not have the money to purchase expensive diamonds. On one occasion, a miner working as a tributor on the GCD concession sought ¢150 for two diamonds but had to approach four buyers at the 'Belgium Market' before he was able to sell his produce. According to several individuals consulted in Akwatia, between 80 and 90 per cent of local buyers lost their money as a result of the embargo because they were in possession of diamonds; others insisted that the local market price for diamonds continues to be depressed because of what one buyer described as 'a [continued] low confidence in Ghanaian product'.

An absence of sponsorship in the system, in turn, has confined the Akwatian diamond economy to 'salt money', a local label given, in the words of one buyer, to 'second grade stones that look like the lumps of salt you put in your soup'. In other words, an absence of sponsorship has meant fewer pumps, less digging, and consequently, the retrieval of fewer and fewer high grade diamonds, which are now only found at greater depths. An oversupply of opportunistic middlemen await on the streets daily, hoping to intercept miners travelling to the 'Belgium Market' from the GCD concession, with the aim of carrying this 'salt money' themselves into the town for a small mark-up.

Justification for the embargo was Ghana's lack of production figures for its diamonds: that exports of diamonds were increasing despite the reported decline in production from GCD itself. At a KPCS Plenary Meeting at Gaborone, 6-9 November 2006, a case was made by PMMC officials of there being no evidence behind the UN's claim that 'conflict diamonds' were being smuggled through Akwatia from Côte d'Ivoire. It was explained that the noticeable increase in the export of Ghanaian diamonds was linked to the spike in the price of diamonds at the time, which led to increased local-level investment and ultimately, production. The KP Plenary nevertheless rejected these claims and proceeded to send experts from the WDC to carry out their review.

The view of the government and indeed in Akwatia is that the decision to move ahead with the embargo was a questionable one for a number of reasons. The first highlighted by many interviewees was the issue of verifiability. Experts from the WDC found no evidence of diamonds coming in from Côte d'Ivoire, often arriving, unannounced, at the 'Belgium Market', posing as buyers and carrying out random spot checks. Those interviewed also pointed out how difficult it is to differentiate between an Ivorian and Ghanaian diamond. Moreover, as pointed out by one buyer, security was fortified at the relevant border towns – Dormaa-

Ahenkro, Gonokrom, Kofi Badu Krom, Elubo, Bole and Wa – and PMMC officials educated border officers about the KPCS and 'conflict diamonds': that the shuttling of diamonds from Côte d'Ivoire makes little sense when there are more porous borders in neighbouring countries such as Guinea, Burkina Faso and Sierra Leone across which product could be more readily smuggled, and more established networks available to smuggle it.

Second, several interviewees appeared to be at a loss over who was allegedly transporting product from border towns, and why any party would be willing to take such a risk. Whilst there are undoubtedly numerous and virtually un-dissolvable shadow and criminal networks firmly entrenched in the likes of Guinea, Sierra Leone and the DRC which facilitate the smuggling of diamonds and conflict stones, often with significant backing from 'outside groups' such as the Lebanese, such a situation is unlikely to persist in Ghana. There are small scores of – primarily Indian and Sri Lankan – foreign businessmen scattered around Akwatia, but interviews with several local buyers confirmed that they are licensees who are normally based in Accra, hoping to get a 'leg up' on their competition by inspecting product closer to the source. As one buyer pointed out, the scale of diamond production in Ghana, along with the localisation and therefore comparatively easier monitoring of mining activities, makes the existence of such networks unviable. As another buyer explained in an interview, 'why would we run the risk of smuggling diamonds with these penalties…we have suffered enough'.

A final concern raised was how the GCD concession – a relatively self-contained and heavily policed area – has become, as one of its managers put it during an interview, 'the nucleus of the KPCS process'. Interviewees questioned whether experts were of the view that people were actually smuggling diamonds from Côte d'Ivoire, bypassing the 'Belgium Market' entirely, and running the risk of being caught by GCD security in order to 'insert' diamonds in the system at the source, for the purpose of concealment. Under instructions from the Kimberley Chair, GCD, PMMC and Minerals Commission officers are being asked to register all small-scale miners working on the GCD concession, and will spend the duration of August-September 2008 doing so. One government officer argued that there was greater chance of conflict diamonds being inserted into production chains at the relatively un-policed *galamsey* camps southwest of Akwatia toward Oda, or individuals bringing product direct from the border to a 'blue card' holder or license holder in Accra. Other buyers pointed out how the ubiquity of 'salt money' throughout the 'Belgium Market' was further indication of there being no high grade diamonds in the system. In the words of one buyer, the presence of a high grade diamond 'would cause a major stir with us and we would fear it very much after everything that has happened to this market'.

One positive change that has come about from the embargo is a system of paperwork that readily enables the tracking of a diamond to its source. Buyers at every level are

required to produce receipts for their product, something which did not happen before 2006. Receipts are issued by PMMC itself, are numbered, require the buyer to add his 'ID Number', and for all details of the transaction to be provided (i.e. 'sum', 'received from', 'amount', etc.). The system appears to be working: during interactions with several buyers in Akwatia and at the field level, scores of receipts were produced. Groups of miners and buyers based both within and outside of the GCD concession have been educated by PMMC about the importance of issuing receipts. The system is transparent, is in line with KP directives, and its actors are subjected to frequent spot checks by PMMC and district police.

Cooperatives: Diamonds for development in Ghana?

In Ghana, small-scale diamond mining has flourished without significant formal sector support. With increased assistance, however, the sector could improve its production significantly, and in the process, potentially put the country 'back on the map' as a major diamond producer. More importantly, it could help revive the Akwatian economy, which seems destined to continue stagnating economically. This section of the report argues that the organisation of illegal diamond miners into functional cooperatives could go a long way toward improving both production in the sector and economic conditions in Akwatia.

The situation in context

Without a significant injection of finances, diamond production will stagnate. Even the PMMC notes on its website that most of the country's proven diamond finds are industrial, states that only 10-15 per cent of product is 'cuttable' and 'polishable' for use in jewellery production, and cautions prospective investors that diamonds of one carat or more may not be available in commercial quantities.[10] With GCD now out of the picture production-wise, and with a steady stream of product no doubt continuing to flow from its tributors, the key to increasing diamond production in the country lies in organising and supporting the diggers operating *outside* of the GCD concession, particularly within the areas surrounding Akwatia such as Oda and Kade. In doing so, important lessons can be drawn from both the GCD experience and parallel efforts being made in the country's small-scale gold mining sector. The fact remains, however, that whereas there is a breadth of data available on miners operating within the GCD concession, very little is known about the dynamics of diamond mining elsewhere in Ghana; and, despite being localised – that is, confined to areas in and around Akwatia – the sector has long been ignored, in large part because when in operation, the Mines Department failed to do much in the way of monitoring small-scale diamond activities, despite administering the now-defunct *Diamond Digging License*.

10 http://www.ghana-mining.org/ghweb/en/ma/pmmc/pmmc-goldPM/pmmcdiamondEBP.html (accessed 28 July 2008).

Officers at the Minerals Commission, particularly those based in the Akyem Oda office, now face the onerous task of finding out where *galamsey* are working, determining how this segment of the sector is organised in terms of production and sales, and identifying ways of increasing yields for the benefit of the miner and the country as a whole. As was the case when small-scale gold mining was officially legalised in 1989, the Minerals Commission finds itself having to play 'catch up'.

The position here is that the diamond mining terrain outside of GCD land is, indeed, viable; virtually unsupported, production to date has been impressive. But with fewer buyers capable of sponsoring operators, there is need for an immediate injection of monies at the production level in order to help miners purchase pumps, generators and excavators – in effect, to facilitate mining at greater depths. An initial difficulty that would be encountered by donors, however, is finding an appropriate government body with which to partner. The PMMC may seem to be a logical fit but unlike with small-scale gold mining, it would unlikely be as forthcoming in coordinating assistance for diamond mining: whereas with the former, it plays an active role in purchasing product from operators through its complex network of buyers, in the case of the latter, it plays more of an administrative role, marketing rough diamonds, attracting prospective exporters and monitoring activities.

A necessary first step is to bring these operators into the legal domain, under a regulatory umbrella. Much like in the country's small-scale gold mining sector, diamond mining groups, regardless of their location, could be readily mobilised if offered equipment and other types of sustainable support. A large-scale exercise would no doubt require support from an outside source but the effort could be kick-started using finances from the *Mineral Development Fund*. There is also a history of influential politicians rapidly coming to the aid of small-scale gold miners in the country. Specifically, there have been several cases where small-scale gold miners have pressured their local MPs – viewed by some as a means of securing votes for the upcoming election – to source finances for equipment and other needs.

All MPs should be helping their constituencies regardless. Many – in a mining country – will inevitably be mining communities, which means providing assistance to miners; if MPs are more punctual and forthcoming before an election, now is the time to act in Akwatia and surrounding localities. For reasons unexplained, despite being the most underdeveloped of the Kwaebibirem District's localities, Akwatia has not received much in the way of support. Notably, it has been excluded from many of the large-scale agricultural projects implemented in the district, particularly those involving oil palm, a cash crop that has garnered considerable economic importance in recent years as a biofuel. There have been some development projects undertaken in the locality: boreholes constructed at Gosemani, the chief's palace and the GCD hospital, and mechanised us-

ing DANIDA monies; roads paved from the 'junction' to the town, and the main hospital road using Government of Ghana and World Bank monies; and the paving of the lorry park and storm drain. But the general attitude of local government officers interviewed at the District Assembly at Kade was that the people of Akwatia would not be interested in agricultural projects and other support. In the words of one officer, 'it is a mining town and that is it'.

A similar 'carrot and stick' approach to that being used to formalise activities in many of the country's small-scale gold mining communities could work in diamondiferous areas: equipment loans and the promise of increased yields, in exchange for legalising activities. Unregistered miners are always sceptical about following procedures to secure a license over fears of revealing their whereabouts, and ultimately, concerns about being arrested for operating illegally. But with the news of the KPCS IDing exercise at GCD, in the words of one government officer, 'spreading fast in the bush and being harmless', there is reason to believe that they would cooperate. Minerals Commission officers could take the lead, and although gold also persists in these areas, there is no longer any need to be concerned about bureaucratic interference from the Mines Department. Minerals Commission officers are supposedly on the verge of IDing operators *outside of* GCD's concession anyway; it could therefore be worthwhile to 'piggy-back' off of the ongoing Kimberley IDing exercise.

Diamond mining cooperatives: Understanding the local context

In the artisanal and small-scale mining (ASM) sector, there continues to be a fixation amongst so-called experts on redesign and reinvention (Hinton, Veiga & Veiga, 2003; Hilson, 2006). Decisions are hastily made about what technology should be used, what educational approach is most appropriate, and what policies are most effective, without interacting with miners or taking stock of how they organise themselves. Understanding the local context is particularly essential when 'organising' miners into working cooperatives for the purpose of providing support services or regulating operations under a legislative umbrella.

Whilst donors have correctly acknowledged the importance of having cooperative units firmly in place prior to delivering support to ASM, in most cases, groups are generally organised according to the terms of the donor or those of advising consultants, many of whom possess minimal knowledge of the local context. The view here is that the compulsive drive to reorganise small-scale miners across sub-Saharan Africa stems from a continued perception of the sector being 'rag-tag', chaotic and unorganised, when, in fact, it is highly organised. In Ghana itself, avenues of sponsorship in many of the illegal artisanal gold mining camps in the Eastern Region, for example, are highly complex, passing through many hands on-site, with their origin trac-

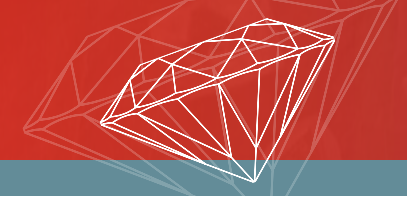
ing back to many influential businessmen in Kumasi and Accra who, on the surface, appear to have no connection with the industry whatsoever. Moreover, much like in neighbouring Benin (Hilton, 2006), it is common to see groups of *galamsey* organised according to tribe, one notable example being the 'Bolga boys', a group operating in Noyem (Eastern Region) who selected this name in reference to where everyone in the gang originates; ethnicity or region, such as 'northerners' or 'southerners'; place of origin ('we all grew up in Kumasi', as one miner consulted in Japa put it); or as extended families and friends, as is the case throughout the gold mining community of Dunkwa in the Central Region. These differences have fuelled the polarisation of many of the country's artisanal mining groups.

In reflecting upon the steady stream of ASM project work that has been implemented in sub-Saharan Africa over the past decade, dynamics such as these continue to be overlooked when designing sector support initiatives. This is foremost apparent in the growing body of literature commissioned by donor bodies (World Bank, 2007; ILO, 1999; MMSD, 2002), which despite calling for increased 'bottom-up' intervention in ASM support programs, fails to make obvious associations indicative of 'bottom-up' thinking, such as how *existing* organisational structures should serve as the basis for cooperative design. It is also apparent within the blueprints of most ASM project work in the region: these have remained virtually unchanged over the past 10-15 years, despite the wealth of information collected on ASM communities during this period. For example, the plans for supporting small-scale gold mining in Uganda under the auspices of the US$25 million *Sustainable Management of Mineral Resources Project*, 2003, as well as those in place in Mozambique for the US$18 million *Mineral Resources Management Capacity Building Project*, 2001 are mirror images of those put forward for formalising small-scale mining in Ghana in the early 1990s under the *Mining Sector Development and Environment Project*. There has since been a wealth of information gathered on the organisational dynamics of artisanal mining in sub-Saharan Africa but little evidence of any change in approach toward administering sectoral support.

The emphasis of most ASM support administered in sub-Saharan Africa to date has been *encouragement*: to *encourage* miners to operate legally; to *encourage* miners to reduce their environmental impacts; and, most central to the present discussion, to *encourage* miners to form cooperatives. Although the weaknesses of such an *ad hoc* approach have been widely acknowledged (Hilson, 2006; ILO, 1999), it would be unrealistic to expect a radical change in strategy for implementing ASM cooperatives, given how resolute many donors are with not interacting with illegal miners directly. Emphasis, therefore, continues to be placed on using 'mining associations' as centrepieces for cooperative organisational efforts, an approach that has done little to bring miners together in Ghana. Initially, under the *Mining Sector Development and Environment*

Project, hundreds of thousands of dollars were pledged toward establishing a nationwide Small-Scale Mining Association for legalised operators (see World Bank (1995) for an overview of the project) but monies were squandered and the initiative was eventually abandoned. There have since been other notable attempts made in certain corners of the country to establish regional small-scale mining associations – something which the government now demands before providing sectoral support of any kind. But asking miners who do not normally work with one another to unite, form an association and share resources is a tall order, and can yield unpredictable results. Whilst requests made to small-scale gold miners working in Konongo in the Ashanti Region of Ghana to form an association and share equipment have produced favourable results, parallel efforts in the Talensi-Nabdam District of the Upper East Region have not been nearly as successful. A 'stick and carrot approach', therefore, may be unable to compensate for the adequacies of an *ad hoc*, largely 'hands-off' support strategy.

A recent study by Levin and Turay (2008) which critically examines efforts aimed at organising diamond mining cooperatives in Sierra Leone under the auspices of the US$6.5 million USAID Integrated Diamond Management Program raises some other relevant issues for discussion. The first relates to the eradication of middlemen and supporters. Often, with illegal mining, the relationship between producers and sponsors is parasitic, the latter benefiting from the former's inability to secure support through formal sector channels, and therefore providing assistance in exchange for product at prices well below the market rate. The picture often painted is that with cooperatives, the establishment of a small-scale mining association and a license, a miner will no longer require the services of sponsors. To clarify, these changes will *not* necessarily eliminate middlemen from the equation. Many miners owe considerable sums of money to their sponsors, and whilst legalisation and cooperatives may indeed reduce the parasitic element of the sponsorship arrangement, these moves will not eradicate debts instantaneously. Levin and Turay (2008) also report that many diggers in Sierra Leone were unwilling to abandon their relationships with supporters; this feeling also resonates among many of Ghana's small-scale miners. For example, there is little denying that operators in the Talensi-Nabdam District have derived substantial benefit from organising themselves into five groups and securing licenses. But despite legitimising themselves as miners in the eyes of the law and in the process, improving their standings with middlemen, legality has done little to increase their access to credit: most banks, in Ghana and elsewhere in sub-Saharan Africa, continue to exercise a policy of non-lending to small-scale miners. With few prospects to secure financial support, all five concessionaires in Talensi-Nabdam continue to rely on middlemen for sponsorship, albeit on more equitable terms. In organising diamond mining cooperatives in the country, therefore, the importance of the sponsor-producer relationship must not



be overlooked – not to work toward its eradication and assume that it will continue to be parasitic following legalisation.

The view here, however, is that the parasitic relationship between operators and sponsors can be tackled more readily in the country's artisanal diamond mining sector than in its small-scale gold mining sector: in the former, sponsorship is generally secured for payment to employees and equipment buying only, whereas in the latter, things are complicated somewhat by sponsors who in addition to providing funds that enable miners to supply equipment and pay workers, also supply mercury used to amalgamate gold. Furthermore, there would likely be little government resistance: as previously noted, PMMC has more of a hands-off approach with small-scale diamond mining whereas with gold, because of the organisation's direct involvement in purchasing output, any proposed change would be bound to cause a stir, as understandably, it could potentially affect purchasing.

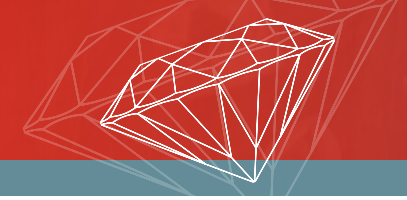
A second point raised by Levin and Turay (2008) relates to 'weak cooperatives' – specifically, that the structures organised in Sierra Leone were undemocratic, with executive members selected according to social status. Looking at the issue more broadly, in practice, the focus of the cooperative exercise has tended to be reorganisation, when, in fact, there is significant group-level organisation *already* in place. Specifically, and as alluded to earlier, there is some semblance of order within *galamsey* camps – both diamond and gold – themselves, with a gang leader, and a hierarchy of labourers in place, which should be respected. These relationships must be studied, mining camps should be mapped, and the role of each actor in the system must be identified. In the case of diamond mining in Ghana, very little is known. A necessary first step toward implementing a formalised cooperative structure in the sector, therefore, is improving understanding of its organisation. With few exceptions, the small-scale mining cooperative is an artificial construct and dysfunctional in practice: rarely are groups willing to come together to work according to the terms stipulated by donors and consultants. Illegal artisanal miners organise themselves according to the environments in which they work, something rarely acknowledged in policy. The units 'formed' by donors, and which operate under a hastily developed association, are bound to fail as most minimally resemble pre-existing organisations, and typically end up being radical transformations of what was in place beforehand.

The importance of preserving existing power structures when designing cooperatives in developing world settings is perhaps best underscored by the efforts made under the auspices of fair trade programs. In order to participate in the Fair Trade Labelling Organisation's (FLO) coffee scheme in Tanzania, for example, 'farmers must belong to a cooperative union that is certified by the FLO' (Parrish, Luzadis & Bentley, 2005). Prior to implementing the scheme, investigations revealed that Tanzania's coffee industry had

long been dominated by a two-tier cooperative system comprised of a series of villages, each containing a *primary society* run by elected officers and organised regionally under umbrella *cooperative unions*. Importantly, no substantial changes in structure were made when implementing fair trade certification other than the establishment of an export department. Other fair trade labelling organisations such as Max Havelaar and TransFair have altered 'coffee's path from farmer to consumer by making it possible for farmers to form cooperatives' (Linton, Liou & Shaw, 2004) and have facilitated the organisation of groups such as the infamous *Union de Sociedades de La Selva* and *Union Majomut* in Chiapas by preserving existing organisational structures.

More specific to diamond mining in Ghana, the experience at GCD offers valuable insight on how to proceed with 'organising' cooperatives. As previously explained, an upsurge in illegal artisanal diamond mining on the GCD concession in the late 1980s/early 1990s and consequent violence left the company with little choice but to develop some kind of working arrangement. The impression conveyed during interviews with government officials and GCD managers was that the Tributor System that had surfaced was developed according to the latter's terms: that artisanal diggers could only mine in the areas demarcated; that they must complete paperwork in order to become a tributor; and must sell all mined product to the company. But the agreement had as much to do with preserving existing operational dynamics as it did with satisfying these demands. Whilst there was some tweaking, the Tributor System, in effect, legalised existing *galamsey* gangs: in other words, power and organisational structures remained intact. The move, of course, reduced the parasitic element of informal support, which in turn, likely meant fewer returns for 'sponsors'. Overall, however, far more people benefited from the arrangement; a more stable buying arrangement surfaced involving GCD, and subsequently market buyers, replaced the more parasitic lending schemes that mark many illegal mining camps the world over.

Again, the cooperative systems that are typically implemented in the artisanal mining sector are rarely modelled upon existing setups largely because of the perception of the industry that illegal operations are highly disorganised. An inappropriate understanding of how – in this case Ghanaian – artisanal diamond mining activities are organised can give rise to the 'weak cooperatives' that Levin and Turay (2008) describe, the implementation of which alters power dynamics; empowers certain actors, often at the expense of others; discourages legalisation; and exacerbates, rather than addresses, many of the problems commonly associated with illegal mining. The common method used to rapidly increase knowledge about the organisational dynamics of small-scale mining is the 'stakeholder workshop', which is almost always underrepresented; held at the convenience of the donor/consultant rather than the community; and conveys a fictional overview of power structures. The latter point is particularly important. In a



mineralised environment, a traditional leader's authority could be trumped by that of a landowner or licensee. But it is often believed that the former assumes complete control, and it is therefore assumed that they could wield significant influence in bringing cooperative small-scale mining models to fruition. In the case of Ghana, however, chiefs are typically silent players when it comes to small-scale mining activities: by law, they are not entitled to royalties from holders of a small-scale license, and of course, like all citizens of the country, are forbidden from engaging in illegal activities. In practice, therefore, they play more of a facilitation role by 'endorsing' activities, as evidenced in small-scale gold mining localities such as Japa (Western Region) and Ntronang (Eastern Region). Whilst artisanal miners would likely find it difficult to operate without the endorsement of the local chief, at the same time, chiefs are incapable of preventing miners from setting up shop in their respective localities. But any move to further empower these leaders in a cooperative building exercise promises to upset these dynamics. In areas where large-scale mining activities take place, by law, traditional stools receive a small proportion of royalties, which, in theory, are earmarked for developing their localities. In the case of *galamsey* activities, however, although not widely documented, there is reason to believe that the respective gang leader no doubt pays a rent or even a royalty to the landowner, and quite possibly a small fee to the traditional stool, which are effectively endorsements to mine. In this sense, the chief's role is more or less an initiator, not an overseer, as is often believed; thus, calling upon traditional leaders to reorganise miners into groups could cause chaos.

There is ample evidence that chiefs operate on the 'same playing field' as any other Ghanaian citizen when it comes to small-scale mining. In the Talensi-Nabdam District, Upper East Region, the chief of Tongo is in the process of securing a concession alongside five others; he does not extract any payments from his colleagues. Similarly, in Noyem, the chief has registered a company, 'Space Rock Mining', and submitted plot plans to the Minerals Commission in anticipation of Newmont releasing portions of its concession. If successful, the concession will be bordered by other licensees' plots. In short, in the country's diamondiferous areas, the specific roles of not only chiefs, but also landowners, buyers, middlemen and sponsors need to be clarified upfront before forging ahead with negotiations for developing cooperatives.

There is clearly a significant information gap to fill, which raises a third important point: not to generalise about the dynamics of small-scale mining. Consider, for example, the issue of middlemen, portrayed by many as 'unscrupulous' in their dealings with miners by providing them sponsorship on inequitable terms, a process which often 'traps' operators in a vicious cycle of poverty. The assumption made in many cases by donors and advising experts, however, is that *everyone* in the sector is being exploited by sponsors, when in fact, it is usually the 'pit owner' or machine owner

– that is, the *investor* or the individual/group of individuals seeking sponsorship – who is in a precarious position, and often forced to approach sponsors for money in order to pay workers. By contrast, his employees are not trapped in poverty but rather come to benefit from an individual or group of individuals being trapped in poverty and ultimately, continuing to work as miners: they are either paid a fixed wage, irrespective of yield, or have some sort of production arrangement in place, whereby each receives a fraction of the spoils on the day. Not everybody working at a small-scale mine site in sub-Saharan Africa, therefore, requires support.

There are several examples from Ghana which illustrate the dangers of generalising about small-scale mining in the country, and using this information to inform policy universally. Unable to acquire the requisite machinery to drain water-filled pits and to power their equipment, the various concession holders operating in Talensi-Nabdam – five in total – independently lobbied the government for support. The response was positive but it was made clear by government officials that assistance in the form of an equipment loan hinged upon the groups sharing some of the items such as generators, the idea being that they would be centrally located. It took three years for the group to reach a compromise and form the Talensi-Nabdam Small-Scale Mining Association, in large part because each of the five concessionaires works independently of one another and was unwilling to put aside his differences to make the initiative work. With a stalemate ongoing, one concessionaire decided to take it upon himself to present the required paperwork in Accra, to demonstrate to officials that the miners in Talensi-Nabdam were willing to share equipment according to the terms specified. The mistake made by Accra, however, was assuming that these plans were universally endorsed, and that operators were willing to cooperate fully with their neighbours. Not following through with the exercise until the end and relying upon the miners themselves to deliver equipment to specified destinations has resulted in a potential debacle: there is continuous finger-pointing about monies having been siphoned from the loan, and various pieces of equipment being offloaded in other locations. The mistake here, and elsewhere, was assuming that different groups *can* come together, unite, and share facilities. With small-scale miners, however, existing organisational structures are typically a reflection of who is willing to work with one another; it is important that these dynamics are respected. 'Bringing people together' to form cooperatives, in most cases, paradoxically dismantles existing structure and organisation. As the case of Talensi-Nabdam shows, the 'carrot and stick' approach will only work if, once a compromise is reached among different 'gangs', a donor body or in this case, host government, executes and oversees the initiative, much like GCD has done to date with the Tributor System.

Efforts made by officers commissioned by the United Nations Industrial Development Organisation (UNIDO) to implement glass

mercury retorts[11] in selected small-scale gold mining communities in he country yielded similar results (Hilson, Hilson & Pardie, 2007). When attempting to disseminate the equipment, officers had to first determine which individuals were amalgamating gold with mercury. In southern localities, it was discovered that this was the 'pit owner' who amalgamated all gold fines at the end of each working day; they were therefore informed about how the use of a transparent mercury retort could reduce emissions of mercury considerably, and the health implications associated with its adoption. It was assumed, albeit incorrectly, that the same dynamics persist in northern gold mining communities: that 'pit owners' are also in charge of amalgamation. Thus, they were also educated about the same issues. But during follow-up audits, it quickly became apparent that these efforts had little effect; glass retorts were being used as drinking glasses and flower pots. It soon emerged that in the north, buyers – *not* 'pit owners' – amalgamate gold, and should have therefore been targeted in the exercise.

These experiences offer valuable insight on how to proceed with organising Ghana's small-scale diamond miners into working co-operatives. It is reasonable to assume that in order to increase the yields of the country's small-scale diamond miners through provision of equipment, there must be some organisational structure in place which can be regulated and monitored. But as witnessed in the case of Sierra Leone and in many other diamondiferous environments, failure to study the dynamics of the sites being targeted will almost always give rise to unviable structures. Without the requisite information, precious little can be accomplished in the way of cooperative formation in diamondiferous regions of Ghana and elsewhere in sub-Saharan Africa.

Geological assessment

Levin and Turay (2008) also pointed out how in Sierra Leone, cooperative heads complained of being demarcated unviable land. In Ghana, the government is in no position to identify the locations of viable diamondiferous land. In fact, the identification of viable lands for small-scale mining has long been a contentious issue in sub-Saharan Africa. Whilst many mining sector reform projects launched in the region to date have sought to identify viable areas for small-scale gold miners to register and work, in the majority of cases, this has not taken place: monies have been squandered, areas have not been prospected by the commissioned officers because funds have been used elsewhere, or there are simply few lands available because they have been demarcated to large-scale mine operators.

In Ghana and elsewhere, the identification of viable diamondiferous areas could be another incentive for operators to come together and legalise their activities. In fact, it is safe to say that it is necessary if the

11 Mercury, which is used to amalgamate gold, causes a host of environmental and health-related complications. If released into the natural environment, it can transform into toxic methylmercury. Miners typically roast gold amalgam in the open air, and dispense unused liquefied organic mercury into waterways.

government hopes to regulate and monitor activities outside of the GCD concession. The problem, however, is that unlike with small-scale gold mining, there is an acute shortage of geological information about the country's diamonds on hand. Moreover, who will lead such an exercise? The logical choice would be the Minerals Commission but with PMMC unlikely to provide any support, the process would be painstakingly slow. On the plus side, with deposits being confined to a small area, an intensive geo-prospecting exercise could, quite conceivably, be completed in very little time. Monies could be sourced from the *Mineral Development Fund*, and geologists and mining engineers from the University of Ghana, Ghana Geological Survey Department and University of Mines and Technology could be called upon to carry out the exercise.

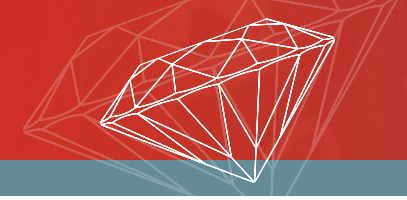
To summarise, although laborious, if small-scale diamond mining is to be regulated, organised and supported, some effort has to be made to identify viable areas for prospective miners to register.

Concluding remarks: Critical reflections on small-scale diamond mining in Ghana

In Ghana, diamond mining is at a crossroads. The sector is, as one buyer put it during an interview, 'just floating along', with everyone waiting for the inevitable sale of GCD, which remains on the country's divestiture list. Will the incoming company preserve the Tributor System, or remove all operators from the concession? When asked this question during an interview, one GCD manager had this to say:

> "I always advise that the company [bidding] finds a way of preserving the Tributor System because it is a main source of income in the town: they don't farm, and if the company were to get rid of it, it could be disastrous. If you want to have your peace, then preserve it. Find a way of refining it and keep them going. If you come in and have the money, and you reopen the buying counter, you as a company will benefit and increase your yield because they are working low grade areas and it is a bonus."

On the plus side, the presence of a well-functioning Tributor System has probably scared potential investors off, and is a likely reason why it has taken a considerable amount of time for GCD to sell. On the other hand, there is the element of unpredictability: it will not be a requirement for prospective buyers to keep the Tributor System intact, which means it could be discarded. This would be catastrophic because at present, it is the Tributor System that is keeping Akwatia, a town already adversely impacted by a national embargo on diamond exports, afloat, providing both an important source of employment to its residents and contributing a significant share of the small output that reaches the 'Belgian Market'.



Does the Ghana case offer any lessons to neighbouring diamond producing countries, whose governments are working diligently with donors to reduce trade in 'conflict diamonds'? The problem in Ghana is that because diamonds are not the country's priority mineral export, as in perhaps Sierra Leone or Angola, any attempt to regularise artisanal operators would likely draw minimal interest from government. Whereas in the aforementioned countries, as well as in the DRC and in Guinea, alluvial deposits of rough diamonds are at the heart of a conflict issue, in Ghana, it is less of a case of conflict and rather more an issue of development. At present, the 'Belgium Market' is struggling to stay afloat, with over 80 per cent of local-level buyers having abandoned their activities during the past two years due to depressed prices for diamonds. The quantity of 'salt money' directed to the market will decrease further following the eventual sale of GCD, as its buyer will look to purchase product directly from tributors or sack the tributors, and mine and export the produce itself. The key to reviving Akwatia economically in the immediate term, therefore, is assuring that more diamonds reach the 'Belgium Market', which would go a long way toward restoring some semblance to the industry's power structures. The only means of doing so is to regularise the *galamsey* operating in outlying areas and to empower them. The Minerals Commission is doing something in this regard, having begun what promises to be a lengthy campaign of registering and supporting artisanal diamond operators. An injection of funds is urgently needed, because the KPCS-motivated IDing and registration process being undertaken in outlying areas is likely to take months, if not years, by which time, the situation in Akwatia will be even more precarious.

What the GCD experience does illustrate, however, is that if the terms are correct, diamond miners can be organised and supported quite readily. In implementing the Tributor System, the company – perhaps unintentionally – preserved existing organisational structures, virtually legalising already-formed gangs as tributors. Ghana has not yet garnered attention from the donor bodies sponsoring efforts to reduce trade in 'conflict diamonds', particularly efforts aiming to improve the organisation of miners. The bulk of this work has targeted the likes of Sierra Leone and the DRC, where diamonds are more widespread and governance is arguably more fragile. It is beyond the scope of this report to explain at length why most of these initiatives have yielded few positive results, but it is in all likelihood a result of having insufficient information about target populations on hand. Donor bodies keen on making a difference in this area regularly call upon a consultancy body that has minimal knowledge of how to move forward: working to satisfy the unrealistic expectations of these organisations, consultants hastily draw conclusions that are not empirically-grounded and which do not necessarily reflect the situation on the ground.

The reality is that, very little is known about the dynamics of small-scale diamond

mining from Sierra Leone, a reconstruction environment, to the DRC, a country still very much in turmoil. Whilst the collection of data about, *inter alia*, how operators are organised, where they work, and how mineralised their work environments are, would no doubt go a long way toward informing what promises to be lengthy development effort, it is painstakingly slow process. As witnessed time and time again with small-scale gold mining, forging ahead without answers to important questions leads to the implementation of unpopular technologies, the launch of ineffective educational campaigns, and the drafting of inappropriate policies. A similar pattern appears to be emerging in the small-scale diamond mining sector. Impatience has led to far too many assumptions being made about diamond mining activities and the subsequent launch of questionable support schemes. Their inability to facilitate significant improvement has precipitated the launch of follow-up project work seeking to determine why they have failed, the answer to which is always the same: insufficient knowledge of the local context. As this report has illustrated, in a sector as dynamic as artisanal mining, rarely can theory compensate for first-hand analysis of operations.

Ghana presents an excellent opportunity for 'getting things back on track'. With results proving elusive in the likes of Sierra Leone, Angola and the DRC, perhaps there is merit in tackling a more manageable situation such as that in Ghana. Despite lacking a history of diamond-induced violence, there is indeed a convincing development case to support small-scale diamond mining in the country. The adaptability of efforts aimed at forming cooperatives and enacting improved legislation for diamond mining in Ghana to say, Sierra Leone or the DRC, where there are significantly more players and the level of knowledge of networks is substantially less, is indeed open to debate. But the premise would still be the same: studying and building on existing levels of organisation, rather than superimposing a setup that upsets existing organisation. In depth study of Ghana's diamond markets and its readily-accessible mine sites could generate more innovative ideas for tackling problems elsewhere. Without this information, and an overall improved understanding of small-scale diamond mining and diamond markets in sub-Saharan Africa, donors will continue to struggle to formalise the industry's activities.

Diamond Sector Reform in Sierra Leone: A program perspective

Paul Temple

Introduction

While the role of diamonds in prolonging the Sierra Leone civil war is well documented, efforts to improve governance of the natural resource gain far less attention. Decades of diamond smuggling in Sierra Leone perpetuated government corruption, provided funds for a major civil war, deprived the nation of hundreds of millions of dollars in development potential, fostered regional instability, and perverted Sierra Leoneans' basic sense of governance. The civil war seriously weakened the Government of Sierra Leone (GoSL), devastated lives and the social fabric, and destroyed infrastructure.

In 1999, the Lome Peace Accord was signed to bring peace to Sierra Leone through the creation of a transitional government of national unity prior to general elections. As part of the agreement a Commission for the Management of Strategic Resources, National Reconstruction and Development (CMRRD) was created, with the specific responsibility of controlling the exploitation of the nations gold and diamond reserves. All exports would be transacted through the commission with proceeds used exclusively for national development with priority given to rural areas. One year later, the UN Security Council passed Resolution 1306, prohibiting exports of Sierra Leonean diamonds until an effective 'Certificates of Origin' regime was in operation.

With donor governments anxious to maintain peace and security, attention was increasingly focused upon the diamond sector and the Government of Sierra Leone's ability to control the resource. As such Sierra Leone became a test case, a potential model for change. Although the certificate of origin processes were established and exports commenced in late 2000, the challenge to gain governance of the diamond mining areas of Kono and Tongo Fields still remained. Government control of all Sierra Leone was only achieved as the civil war was officially declared over in January 2002.

The issue of 'conflict diamonds' also rose to public consciousness and to several efforts by the international community to strengthen management capacities of the diamond resource in Sierra Leone. One example is the USAID intervention that started in 1999 through the Office of Transitional Initiatives (OTI) efforts focused upon stemming flows of conflict diamonds through policy reform. Following the official end of the war and the subsequent elections in 2002, USAID's interventions incorporated both policy and grassroot mining. These programs finally became the Integrated Diamond Management program that closed at the end of 2007. This paper reviews the efforts and effects of this program that has become noted or notorious for its novel work with diamond mining cooperatives.

USAID Diamond reform prior to October 2002: OTI

Following the Lome agreement, the USAID Office of Transition Initiatives (OTI) began work with the CMRRD. The OTI discussion paper highlighted the past social and economic injustices, hinging reforms to increasing benefits through the education of citizens to provide oversight and easier access to financial services. Within the considerable policy discussions a concept for the redistribution of diamond export proceeds was proposed, later to be adopted by cabinet in 2001. Known as the Diamond Area Community Development Fund (DACDF) one quarter of all export taxes from diamonds would be returned to diamond producing areas for development purposes. In 2002, after the elections, the OTI program closed, having supported the Kimberley Process (KP) through the creation of the certification scheme in Sierra Leone, assisted in the creation and monitoring of the DACDF and provided logistic resources for the Ministry of Mineral Resources (MMR) mine monitors. The evaluation confirmed the program had met its objectives as legitimate exports for 2001 were US$26 million and the DACDF had commenced the return of diamond generated income to the mining communities.

USAID Diamond reform, 2002 – 2004

Diamond policy and management program

In October 2002 the first cooperative agreement was signed with Management Systems International (MSI) for the Diamond Policy and Management Program (DIPAM), to be followed in February 2003 with the Peace Diamond Alliance Support Program (PDASP) commonly known as PDA. Both agreements ran until October 2004. Under the DIPAM agreement activities followed those previously established by OTI. The provision of motorcycles and radios to the recently re-established Kono MMR office was an initial priority, while a major monitoring study into the utilisation of the DACDF was undertaken. Utilising grants provided through the program, implementation of the study was divided into two components with

Talking Drum Studios taking the lead in the area of sensitization about the DACDF while Catholic Relief Services, Network Movement for Justice & Development (NMJD) and Local Government took the lead in the reorganisation/reconstitution/formation of Chiefdom Development Committees (CDCs) and their capacity building through training.

But the awareness of the program was raised by its two major studies, the constraints in obtaining credit by small scale miners and the Sierra Leone Diamond Sector Financial Policy Constraints. In early 2003, Walter Kansteiner, the then Assistant Secretary of State for African Affairs, pledged US$500,000 for the promotion of credit to miners following a visit to Sierra Leone. Meanwhile the report on the financial policy constraints was released stating that 85-90 per cent of Sierra Leone's diamond production was being smuggled out of the country. Although the veracity of the statement was strongly argued, it served as a wake up call to all involved in the sector. The then US Ambassador gained Presidential support for the establishment of a High Level Steering Committee on Diamonds (HLSC) composed of Ministers and Diplomats of Missions actively involved in the diamond and security sectors to address such levels of illegal trade.

The High Level Steering Committee on Diamonds (HLSC)

The DIPAM program commenced serving as the secretariat for the newly formed HLSC. The HLSC was expected to inform and advise government on policies affecting the diamond sector. When first created, members of the HLSC agreed to invite various advisers to provide technical advice during the meetings. Over a period of months it became clear that meetings needed to be streamlined and that advice could only be given following the rigorous examination of issues raised by the donors or the Government of Sierra Leone. Consequently, the members of the HLSC proposed the formation of a Technical Committee (early 2004) that would provide the committee with detailed analysis of matters related to the diamond sector. The secretariat produced Terms of Reference for the HLSC to define the authority of the Committee, reporting modalities and the mechanism through which matters are referred to the HLSC and Technical Committee.

The HLSC assisted in achieving some notable successes. Close co-operation among DFID, USAID, UNAMSIL, WB, MMR and other stakeholders resulted in the drafting and publication of the Core Mineral Policy for Sierra Leone in the Gazette in 2004.[1] Meanwhile the Secretariat was able to bring key policy recommendations from the PDA to the policy making forum, among which were the provision of funds from export taxes for the newly established Police Precious Minerals Monitoring Team (PMMT) and for the establishment of a MMR Public Information Unit (PIU).

1 Sierra Leone Gazette, Thursday 8th January 2004.

Peace Diamond Alliance support program

In October 2002 a small group comprising of USAID personnel, Sierra Leoneans, US diamond industry participants and NGOs met in Washington to discuss the possibility of creating a Kono Peace Diamond Alliance. Following a successful meeting in Kono in December 2002, an Inaugural Planning Task Force Meeting was held in February 2003. The main objective of the Peace Diamond Alliance was: "To help ensure that the Sierra Leone diamond industry contributes positively to peace and prosperity through increasing benefits to the people of Kono from the diamond industry and by helping the government improve its ability to manage diamonds." The basic approach was to prove – using Kono District as a model – that improved diamond management is possible if public and private organisations work together with a common commitment. International industry was represented by De Beers, the Rapaport Group and Branch Energy.

The planning meeting in February set the way forward for the PDA by:

1. Developing a strategy for the Alliance
2. Developing a work plan for the Alliance, based on what each Partner is committed to doing;
3. Suggesting options for governance of the Alliance;
4. Considering developing a Code of Conduct for the Alliance, and suggesting its contents; and
5. Considering how monitoring should be performed under the Alliance.

A consensus was reached that the following issues would serve as the priorities for future action, should additional funding become available:

- Establish credit or loan monitoring mechanism
- Establish miners' cooperatives
- Pilot project to make heavy equipment available to cooperatives
- Reclaim and prepare land for agriculture
- Establish a youth farm to divert attention from mining

The concept of the PDA had already started to make news both within Sierra Leone and internationally and expectations were high. The presence of the President of Sierra Leone, Ahmad Tejan Kabbah, at the August 2003 PDA first Annual General Meeting and launching ceremony was a sign that the project was being taken seriously at high levels. The President highlighted the common and well-known problems associated with the diamond industry in Sierra Leone, including illegal mining; smuggling; environmental damage; poor working conditions, including child labour; and misuse of official positions and power. He added that such practices "destroy the economy of this country and may endanger the…security and image of Sierra Leone" and that the "average Sierra Leonean in the industry benefits very little from it."

Furthermore "Government's aim is to ameliorate such a situation and encourage diamond mine workers to embark on measures which will be beneficial to them and which will ensure that they too realise reasonable returns from the diamond industry, or in the alternative revert to other profitable income generating activities. In this regard, I have put the following measures in place: "The Minister of Trade and Industry is to assist in organising willing diamond mine workers into cooperatives which will be assisted with logistics and inputs from donor organisations. USAID, for instance, has offered to make some contributions towards the success of such cooperative ventures. The Ministry of Mineral Resources will also assist in providing the necessary technical and other assistance for the success of these cooperatives, and arrangements are being put in place to facilitate the allocation of mining plots to cooperative groups to enable them to embark on legitimate and transparent mining activities. The members of such cooperatives would also be trained in determining the value of diamonds and in the best marketing practices."

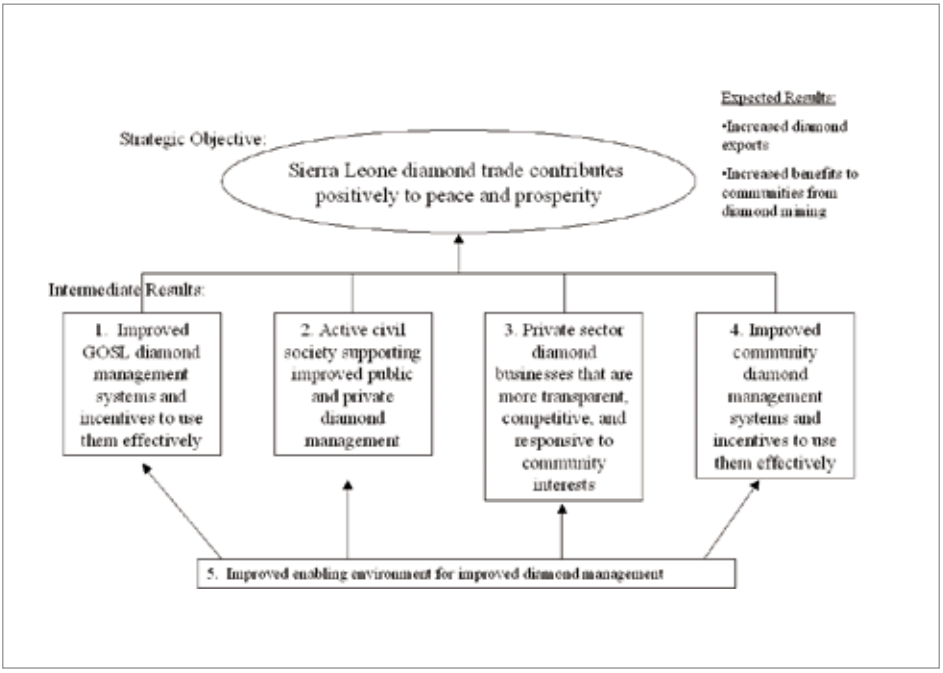
PDA

The Executive Committee was formed at the Annual General Meeting and charged with the responsibility of investigating and recommending issues of relevance to the diamond industry. The PDA played a vital in bringing to the fore issues relating to environmental degradation caused by mining and played a crucial role in trying to resolve mining related disputes amongst local communities. The Communities and Small-Scale Mining (CASM) of the WB awarded funds to strengthen the Executive Committee including participation on trips to Ghana and Sri Lanka to gain and share experiences. But there was general confusion and disagreement concerning the founding and operation of the PDA. This was compounded by antipathy related to the roles and responsibilities between leaders of the Executive Committee and the secretariat, especially when CASM funds were channelled through IDMP secretariat as stated in the adopted proposal.

The program commenced training for miners and diggers in diamond awareness and classification, a module that would continue throughout the life of the program. As the PDA expanded into Tongo Fields, MMR monitors were provided with motorcycles to enhance their operations. Most crucially twenty mining cooperatives were formed and training commenced in anticipation of assistance from the then proposed Integrated Diamond Mining Program (IDMP) proposal.

Integrated Diamond Management Program 2004 – 2006 (extended to 2007)

Although this program was a direct continuation of the initiatives commenced and enacted under earlier Cooperative Agreements with USAID (DIPAM/PDASP) and OTI, the purpose of the IDMP was to develop a pilot integrated finance and alluvial



diamond mining tracking system grounded in providing better prices to miners and labourers. This approach recognised the multifaceted nature of the problem; was community based; included a proactive government; and addressed business practices, incentive structures and the entire production and marketing chain.

IDMP intended to increase prices for miners' production by establishing an Earth to Export scheme and by introducing a credit scheme to finance cooperative mining. This new element was in addition to continuing support to the PDA, policy work and monitoring use of the DACDF. However for such an ambitious undertaking, time was crucial, but this cooperative agreement was for only 22 months and offering only the one full dry season of 2004/5.

Program strategic objective

Under the IDMP Cooperative Agreement, USAID and MSI aimed to increase legal diamond exports, increase benefits to communities, and ultimately ensure that the Sierra Leone diamond trade contributes positively to peace and prosperity. The basic approach, consistent with prior USAID-funded projects in the sector, was to alter the incentive structure that fostered smuggling, ensuring that local people benefit from legal mining and marketing thus developing a commitment to a transparent, legal diamond industry. The USAID/MSI

diamond sector reform strategy, which guided the implementation of DIPAM, PDA, and IDMP, is summarised graphically below. The strategy of IDMP, specifically, was to achieve this strategic objective through work at the national policy level and at developing pilot approaches to improved diamond management in Kono District and Tongo Fields, the country's most productive diamond areas, and most devastated by the Civil War.

At the time of IDMP inception in 2004, many hoped that KP structures would reduce diamond smuggling, particularly from areas of future conflict. However, USAID and MSI recognised that – as useful as it might become – the KP alone was unlikely to be sufficient to avoid repletion of the problems of the 1990s. The KP country of origin certification scheme was, in its early form, unlikely to eliminate the flow of suspect diamonds into the system. It has yet to address the local issues that promote smuggling, inhibit enforcement and stall development. IDMP was designed to improve local incentives for clean diamond management, have local communities benefit from diamonds in their midst, and assist the GoSL in its effort to manage this critical resource. It was attempting to develop a clean diamond pipeline to the point of export. More creative and muscular efforts at the source of the problem – smuggling of artisanal production in the countries with most notable alluvial diamond resources, which represent far less than 10 per cent of overall diamond production – offers an extremely well-targeted and developmentally sound approach to achieving the objectives of the KP.

Anticipated intermediate results

Improved GoSL diamond management systems and incentives to use them effectively

HLSC

The IDMP continued to serve as the secretariat for the HLSC and its technical committee, with the key focus remaining on the creation of a framework for the implementation of the Core Mineral Policy. Progress in policy decisions was achieved, notably the distribution of DACDF funds to the newly elected district councils rather than Paramount Chiefs, and the development of legislation for cutting and polishing. However the prominence of the HLSC was seen to reduce, and subsequently the pace of work and the regularity of meetings decreased. Attempts to establish the PIU were unsuccessful. Extensive work by the Technical Committee on environmental reclamation opportunities at community level remained unaddressed.

The formation of the HLSC was unique and came at a time of great commitment to improving the diamond sector, then the only extractive sector operating. Committee members, both GoSL and donors drove the process forward seeking solutions to the issue of smuggling. However as membership personnel changed and legal exports continued to rise dramatically in 2003, 2004 and again in 2005, some participants questioned the need for the committee. The demise of the HLSC can be attributed to

differing perceptions and expectations. There was a belief amongst some government officials that donors would come to the HLSC with additional funds for the mineral sector. Donors wanted the HLSC meetings but GoSL participants identified the HLSC meetings as donor driven and focusing on government action alone, without any additional resources being made available to undertake requested actions. The issues became far more technical instead of the mutual information sharing. Without the structure and resources to push policy issues forward, meetings became a review of government's actions. The pace of change slowed and interest waned. The committee can be viewed as a task force dealing with the issue of smuggling far more than performing the role of a long term policy adviser.

Active civil society supporting improved public and private diamond management

PDA

Many member representatives and organisations continued to play an active role in support of the Alliance ideals. Members took part in public forums (often at the small mining community level) and radio discussions with other individuals conducting the popular Diamond Classification Training in both Koidu and Tongo Fields. In Tongo Fields the women members set standards in the local reclamation of mined out areas and conducted an introductory workshop into the promotion of education over child mining.

However disagreements and personal contentions beset the smooth running of the PDA Executive Committee. A report suggested that the expansion to Tongo Fields was the turning point, with the decision to establish a further Committee breaching the vision of a single national organisation headed by the Kono Executive Committee. Conflict of interest between member constituencies was a main reason why some key parties withdrew participation. The United Mine Workers' Union and a key diamond exporter that had participated in early PDA activities suggested that their recommendations were not taken into account by the Executive Committee. Difficulties within constituencies also affected contribution to the PDA. Local diamond dealers' contribution to the PDA was affected by the long running dispute over the chairmanship of the Kono Diamond Dealers Association. As government was included in the PDA and the Executive Committee, NGOs that were active in the sector declined to participate. Community concerns expressed through the PDA created suspicion within large mining companies and effectively closed consultation with that constituency.

Diamond classification training

The popular diamond classification training continued. By the program close out IDMP trained over 800 people – 531 people from Kono and 316 people from Tongo Fields – in basic diamond valuation through the Small Stones Identification and Classification Training. Graduates of this training included

Graph 1: Comparison of Production to Artisanal Alluvial Diamond Licenses

miners, chiefs, government officials, community women, and NGO leaders. This training empowered community members by providing them with basic market information and knowledge about the diamond resource, previously the exclusive province of foreigners and "Big Men."

Private sector diamond businesses that are more transparent, competitive and responsive to community interests

The program was part of a national effort to improve governance and management of the diamond resource. Many of the improvements have been directly attributed to the return of state control and the Kimberley Process Certification Scheme (KPCS). The national results are noteworthy as both the number of licenses issued and value of diamond exports increased creating a substantial boost in contributions to the community through the DACDF.

With Kono being mined for diamonds since 1935, traditional artisanal mining methods are seemingly becoming less productive. During 2006, the IDMP program noted[2] 'Although early, it is possible we are witnessing a potential diamond resource decline after 75 years of mining. Some have suggested that smuggling is on the increase. Yet the Lebanese community in Koidu has reduced from 120 families to less than 50 in the past year, an indication that business is no longer strong. Local banks report stagnation in business and one has imposed a

2 IDMP 7th Quarterly Report.

moratorium on credit.' There appears a direct correlation between artisanal alluvial exports and mining licenses as shown in Graph 1 below, illustrating the strong link between the supporter/investor and the miner.

Meanwhile larger companies have attempted to add to the overall value of the diamond resource in Sierra Leone by utilising heavy equipment, river diversions and latest technology screening plants in previously mined areas. While Koidu Holdings Kimberlite pipe operation appears to be making progress, results from mechanised alluvial mining appear far from positive.

With large areas of land allocated to mechanised alluvial mining companies, reducing access both to miners and farmers alike, (often without clear policy and notification) there was a marked increase in local discontent. Increasing levels of public suspicion surrounding the activities of the larger mining companies' remained of great concern until program closure. Much of this suspicion emanated from the lack of clear lines of information, not only by the companies themselves, but also from the government and local authorities. Land allocation issues directly affected the operations of SLDC (Sierra Leone Diamond Company. Companies with high levels of overseas investment appeared to give little attention to Corporate Social Responsibility). Concerns continued over the slow pace of resettlement activities at the Koidu Holdings site in Kono.

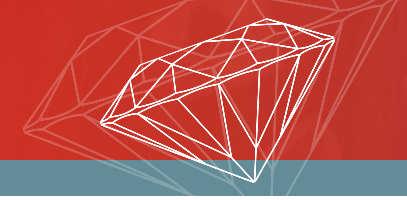
DACDF

With rising diamond exports, the values released to communities under the DACDF scheme increased dramatically, with close to US$4.5 million being raised from diamond export taxes 2002-2007. To date the fund is in excess of US$4.25 million, with US$3.5 million disbursed. Concerns continued to be raised that the DACDF had been misused by a number of chiefdom recipients and IDMP monitored the transparent and accountable utilisation of funds. By examining chiefdom records and physical inventory of projects undertaken, the program was able to regularly report to government on the improved transparency in the utilisation of the fund. During 2006 the government agreed to channel all DACDF funds through the elected district councils rather than the Paramount Chiefs, a move that has further increased transparency in their use for development purposes.

Improved community diamond management systems and Incentives to use them effectively

Cooperatives in mining – Sierra Leone experiences

The most ambitious of the program activities was the attempt to utilise mining cooperatives as the vehicle to carry reform forward in the artisanal mining sector in Kono. As all members of the cooperative held shares for dividend distribution, the concept was built on the principle of internal self-monitoring, with strict procedures



and external oversight. The program eventually approved was far from the initial concept developed in 2003 and had changed greatly from the ideals proposed in the first PDA planning meeting. Training of cooperatives had commenced in 2004 and despite efforts to control expectations, enthusiasm was high.

The original program design would provide a revolving loan scheme with access to heavy plant from funds formerly earmarked by the US governement. However the needed Environment Assessment was lengthily delayed and as USAID approved the Integrated Diamond Management Program in late 2004 access to the revolving loan fund was far from certain. That the program was eventually able to attract private investment provided through the Rapaport Group and Kono's Hope in February 2005 to commence the groundbreaking pilot scheme is well documented. Five mining cooperatives were funded in a strongly structured and monitored approach. The concept also required simultaneous contractual approval to engage the Sierra Leone mining engineering company CEMMATS to engage cooperatives and miners in the "Sustainable Artisanal Mining Procedures" (SMARTER) mining techniques and Global Witness to oversee monitoring and implementation systems. Although Global Witness was able to undertake its monitoring role, the improved mining techniques were only trialed after the cooperative mining season had been completed.

However great expectancy turned to disillusionment as the value of production proved far short of expectation. Levin and Turay's paper (Levin & Turay, 2008) provides a clinical examination of the cooperative scheme developed. Certainly errors were made in the short time frame, and the inclusion of the Rapaport Group and Kono's Hope could be construed as simply replacing the existing Sierra Leone supporter system with a US version. Criticism has been made of the quality of the land provided suggesting greater emphasis should have been made on prospecting. With high levels of poverty in Sierra Leone many cooperative members saw the scheme as an employment opportunity to increase household income and gain access to medical assistance, if needed.

Yet the experience is still considered positive. In group sessions members stated that the cooperative mining season served as a vehicle to drive the aspirations of the IDM program. This was buttressed through improved working conditions, with the absence of child labour and improved treatment of diggers cited as successes. The KP was practically reinforced by the scheme in the practical tracking of diamonds from earth to export. Community members continue to operate their mining cooperatives, with some widening their operations to include land reclamation and farming (MSI, 2007). As the program was extended the SMARTER Mining Procedures were institutionalised within the Eastern Polytechnic in Kenema, making it available to miners on a professional basis.

Improved enabling environment for improved diamond management

The diamond sector environment in Sierra Leone improved dramatically following the end of conflict and the restoration of a democratic government. Internationally the program maintained close contact with media, other donors and research institutions to maintain high visibility and ensure progress and lessons learned were shared.

Efforts to improve the environment at the national and local levels involved considerable education of the citizens and communities of the diamond mining regions. The program developed a rolling meeting strategy targeted to areas with the highest concentration of mining. Conducted in local dialects the highly attended gatherings explained mining regulations, addressed issues of local concern including environmental damage, clarified the significance of the DACDF and gave the communities the opportunity to question government officials. Although time consuming, this low cost information sharing proved highly effective in improving the use of DACDF funds at the local level.

Outcomes

Successes

Improved government policy

Throughout the life of the program, there remained a constant and consistent dialogue with government over policy. Dialogue through the HLDSC and its Technical Committee and structured meetings with government officials was buttressed through less structured working relationships in the field. This joint approach promoted initiatives that were translated into government policy. Government has developed additional resources for the mining communities through the employment of regional geologists and diamond valuators, based in the field to offer assistance to local small scale and artisanal miners. Continuing work in monitoring the DACDF ensured more transparent distribution of funds, eventually transformed into payment through locally elected district councils. The formation of mining cooperatives was greatly aided by the input of the Ministry of Trade and Industry. With their formation, the licensing policy was changed to ensure cooperatives who mine are now a recognised entity within Sierra Leone. Program focus on environmental reclamation and rehabilitation fostered the creation of the National Commission for the Environment.

Increased community beneficiation

The DACDF has had a major impact beyond expectations when the concept was pre-

sented to government during the war. The value of this fund continues to increase with the rise of legal exports. Important community development is happening through well managed use of the funds and all community members have started to see that legitimate diamond proceeds can be a benefit. Supported by continued monitoring and mentoring by IDMP, transparent utilisation of the fund has improved significantly since its inception in December 2001.

As funds were channelled through local councils, an incentive was that the councils were also given a portion of the DACDF for their own programming activities, reinforcing decentralisation and serving as a critical driver of community development. For as fiscal devolution in line with National decentralisation has been slow the DACDF remains one of the only public funds available to local government for community development. Projects undertaken with DACDF funds range widely but most relate to the rehabilitation or construction of roads, bridges, court barries, health centres, schools, prisons, guest houses, and community grain stores.

Increased community awareness and improved community diamond management

Since 2006, IDMP conducted over 70 zonal and community meetings with a combined total attendance of over 6,000. A positive impact of the zonal meetings was that diggers and miners better understood the respective roles of IDMP and that of the MMR. Early in the project, up to 20 people per week would approach the IDMP Tongo Fields office to inquire about renewing mining licenses, to request assistance in dealing with illicit buyers and miners, or to settle boundary disputes. By mid-2007, only one person a quarter approached the IDMP office requesting assistance in the issuance of licenses. Following zonal meetings a marked decrease in incidences of mining license being delayed, applicants being overcharged for licenses, or applicants paying license fees to the wrong MMR personnel.

Improved environmental awareness

Mined-out land continues to be reclaimed for agriculture. The GoSL has funded reclamation in a highly political area in Kono, women's groups and the cooperatives reclaimed land for agriculture, as Paramount Chiefs in Kono have declared another large and visible area mined out. At all levels, GoSL, traditional leaders, cooperatives, community based organisations and general community members, there is a realisation that environmental stewardship must be a higher priority.

Movement towards ethical diamonds

Links to the international market, established during the pilot season of Integrated Diamond Management have remained. The movement towards establishing a supply chain of ethical or "fair trade" diamonds and gold has grown dramatically. The industry as

a whole is seeing hope that if artisanal diamond mining can be cleaned up anywhere, it is in Sierra Leone. The IDM pilot is continually evaluated and referenced by private and public sector stakeholders interested in producing diamonds that can be marketed as fair trade or "development diamonds." The Madison Dialogue was launched at a meeting in New York, in August 2006, with a wide range of participants including EARTHWORKS, WWF, Partnership Africa Canada, Tiffany & Co. Foundation, the Council for Responsible Jewelry Practices, the Diamond Development Initiative, Jewelers of America and Conservation International.

Challenges

A strategic shift?

Some early program strategies were designed on premises highlighted in the 'Sierra Leone Diamond Sector Financial Policy Constraints' report. An unregulated marketing network was highlighted as leading to massive levels of smuggling. In essence the local diamond trading and mining community could not be trusted. Such issues had been raised in the OTI paper and the Partnership Africa Canada paper 'Heart of the Matter' (Smillie I., Gberie L., Hazleton R., 2000). However from 2001 to 2004 legal exports rose by 500 per cent. Diamond exporters were demonstrating acceptance of the international requirements of the KPCS. Although the issue of smuggling and illicit trading lessened, the problem of transferring governance of the diamond sector further upstream remained. Such issues were clearly identified within the KP Review Mission of 2005 and highlighted within the KP Plenary Moscow Declaration 'Improving Internal Controls over Alluvial Diamond Production' of the same year.

However, was the positive KP Review of 2005 a signal to the international community that all was well? Certainly international funding to Sierra Leone declined as peace held. The subsequent loss of the US funds earmarked for the revolving loan fund may have been as a consequence in a strategic policy shift.

Engagement of civil society

The program spent considerable effort engaging with local, national and international Civil Society movements, yet the flagship PDA proved unsuccessful. While disagreements and personal contentions have been cited as influencing the effectiveness of the organisation, the bar of expectation was possibly set too high. Initial hopes of large scale international support to the PDA did not materialise. Seen as a potential US 'Public Private Partnership' (PPP) with the De Beers and the Rapaport Group as members, no major diamond organisation became actively involved in the Alliance. Hopes that the then Branch Energy owned Koidu Holdings operation would become a major participant were set back as the company came into conflict with the local community. The PDA was thus totally dependent on USAID funding.

Earth to Export scheme and cooperatives

With the poor mining production results the intended Earth to Export scheme was hardly tested. Transparent pricing was achieved as parcels were pre valued and the Rapaport Group paid 90 per cent of the full market value, and proceeds were shared amongst members. The cooperatives were viewed as unsuccessful seemingly on their inability to be economically viable within the first year. Poor land with inattention to prospection and geological data were cited as key reasons. Yet artisanal mining by its nature is little more than a prospection process, the possibility of finding wealth driving the impoverished. The question remains that despite the design problems noted in many papers, would they have been deemed a success had they been economically viable? The failing was not in attempting something radical, but attempting it over such a short time frame.

Lessons learned

Fast changing dynamics require rapid responses

From the inception of USAID's work within the Sierra Leone diamond sector, the dynamics continued to change. Initially focused on reducing smuggling, increasing government control and revenue, it was apparent that legislation was not enough. As work continued, better understanding of the dynamics required continuous changes in program focus. Bringing benefits to communities through the DACDF and the establishment of the PDA all evolved as the dynamics of the industry were better understood. With elections in 2002, areas previously not under government control opened up and within the years prior to the IDMP rapid responses to these changing conditions were possible through close communication between the program staff, government, communities and USAID.

Within a rapidly changing environment delays are costly, as opportunities change. As IDMP evolved to drive greater industry governance and increased benefits even further into communities, the previous streamlined decision making processes became more time consuming. Delays in authorisation of necessary and time bound Scopes of Work impaired program progress.

Short timeframes impair success in development

The IDMP program was originally 22 months followed by two extensions as the program review was delayed. Although running for over three years, the thrust of progress was undertaken in the first 18 months. Potential closeouts on two occasions wasted time and effort, with program momentum seriously impaired. Equally some of the program activities (especially the work with cooperatives) would have benefited from the longer timeframe had this been realised earlier

Focus groups such as the HLDSC and the PDA must have specific goals, resources and take responsibility

The program served as secretariat to the HLDSC, ensuring a voice at the national policy level. However the committee soon lost direction as goals and objectives were not clear to all parties. With the responsibility for change and action placed firmly upon a government bereft of resources, commitment to reform was weakened. A similar situation developed within the Kono PDA. Despite considerable concerted efforts the program was unable to repair either situation.

Policy and personnel changes can seriously affect momentum and commitment

Unavoidable, but changes to key personnel affected the momentum of the HLDSC. Although rising official export figures gave the impression that all was on the right track, more time served members understood this as only a small part of the overall problem. The change in policy from a direct approach to governance in the diamond sector to one of incorporating resources into wider governance also blunted the program focus.

International bodies must be involved but this can be time consuming

To many, artisanal alluvial diamond mining remains likened to a casino without rules. Thus the program work with international agencies and the private sector opened these institutions up to the wider dynamics of artisanal diamond mining at the mine site. Many lacked previous insight and this work, while crucial for improved understanding, became extremely time consuming

Benefits from change must be tangible and transparent

The DACDF was a success and thus by giving money back to communities clean mining and development was promoted. Local authorities soon realised the benefits of promoting legitimate mining practices. The adoption of Environmental recovery as a local strategy was found to be financially beneficial to a number of local community groups. With the later involvement of local councils in the management of development funds, management of benefits brought closer to the community reinforced the concept that benefits from change must be not only tangible, but transparent.

Diamond mining is not only about cash

The study of mining livelihoods, "Mining the Chaos," revealed that diamond mining for many of those actively involved is not solely about financial gains. The issue of status within the community is a key consideration of many artisanal miners. Mining brings close contacts with 'big people' (generally supporters) and this system offers protection from shocks, be they sickness, domestic issues (housing), family events (births, weddings, bereavement). A

vast understanding of the social makeup of diamond mining was gleaned during the program operation period.

But big finds can fuel corruption

The program areas of Kono and Tongo Fields remain internationally renowned not only for the quality of their diamond production but also the frequency of high quality large stones. During the program lifespan there were numerous large finds, stones that exceeded US$200,000 export value. In the deeply impoverished provinces of an impoverished nation, such finds do encourage corruption and high expectations.

It was, and is, too soon to write off cooperatives

The attempt at cooperative mining lasted only one season. From an economic viewpoint many wrote off the concept. Yet small businesses often fail in the first year and such a development attempt would normally run from three to five years. The program has attempted to record the experience gained by all participants including its understanding of the social framework surrounding mining in the event that others may continue such work.

While many of the strategies can be replicated, Dynamics differ even within close locations

While many of the broader concepts surrounding improved governance through benefits are transferable, it is of note that local dynamics can have enormously differing effects on similar situations. While the Kono PDA became non-functional, the PDA in Tongo Fields made great efforts to deal with local issues under the same banner. Despite the poverty many did put self second.

New opportunities

Maintaining transparency

With the development of Extractive Industry Transparent Initiative (EITI) in Sierra Leone, the National Advocacy Coalition on Extractives (NACE) has become the civil society representative on the National Steering Committee. NACE is a collective of local and international NGOs in Sierra Leone that developed out of the DACDF Coalition following the early USAID funded review, and represents Sierra Leone in the global civil society organisation Publish What You Pay. NACE is thus well situated to monitor and publish information from within all extractive sectors, not only diamonds.

Fulfilling the role of watchdog requires industry understanding and time to monitor activities. Bureaucratic skills linked with the necessary contacts and networks are needed to bring issues to the table. The organisation will likely require assistance to handle the role of monitoring policy, ensuring regulatory enforcement while also advocating change, both nationally and regionally. The opportunity exists for Sierra Leone civil society to ensure transparency within all extractives is established and maintained.

Maintaining public awareness

With the appointment of the Director General for the Ministry of Mineral Resources the opportunity arises for renewed efforts to introduce the Public Information Unit previously attempted. Dissemination of data especially that regarding the DACDF is necessary to ensure the focus on legitimate mining and trading of diamonds is maintained in Sierra Leone.

With the focus moving from solely the governance of the diamond resource to that examining all extractives, there is an opportunity for the Ministry and civil society (through its position in EITI) to increase public awareness across all extractives within Sierra Leone.

Ensuring diversification of resource attention benefits the wider community

As attention broadens to the wider extractive industry there are opportunities to develop similar processes to those used to benefit diamond communities. Rutile, bauxite and gold are all major minerals and direct funding for development within mining areas of post war Sierra Leone is still required.

Promoting regional mineral policy harmonisation

Moves toward increased regional policy integration have been discussed since the end of the Sierra Leone conflict and have gained momentum with peace and democratic elections in neighbouring Liberia. A recent development is the inclusion of the Côte d'Ivoire within the Mano River Union (MRU). Representatives of the four Mano River participants met in mid 2008 to discuss rationalisation of regional policies. The complexity of international harmonisation was realised by all participants but a series of recommendations is now being developed.

Cooperatives and fair trade diamonds

Some of the cooperatives are still alive and there is real interest from both Rapaport and the Director General team to continue to promote the production of Fair Trade diamonds. With members of the former IDMP staff contracted to Rapaport, knowledge and contact has not been lost.

New concerns

The trend toward expanding governance to all extractive resources within Sierra Leone is welcome, but as the emphasis moves away from the diamond sector, there are always fears that old habits will emerge.

Fears over diminishing resources

Evidence within this paper suggests that the alluvial diamond resource for the artisanal sector and the industrial alluvial mining is diminishing. The effect of reduced returns upon traditional livelihoods of the mining centres,

especially Kenema and Kono, is yet to be evaluated but there is evidence of a weakening local economy. Traders leaving, banks withdrawing credit are early signs of decline. In an already impoverished society further economic shocks could increase levels of civil unrest.

KP Working Group

The Sierra Leone Ministry of Mineral Resources chairs the KP West African Artisanal Alluvial Producers Working Group (WGAAP), in theory attempting to put recommendations from the Moscow Declaration into practice. Sadly communications and meetings are infrequent and little progress appears to have been made. Certainly the Ministry has limited resources, both manpower and financial, yet the task is daunting. The extent of the recommendations to be examined has tested this program. Without resources and a fresh impetus, it seems likely that the WGAAP will continue to have limited success.

Issues of replication

As with the complex issues of regional harmonisation, within each country or region differing conditions apply. It seems logical that within the difficult task of improving diamond governance, any successes would and should be replicated, yet as seen within the PDA differing dynamics may have major consequences. If the momentum behind regional harmonisation within the Mano River States is serious and maintained, it is at this point, when governments review their policies, that the successes will be evaluated and replicated.

Good governance in an impoverished society remains a hard cake to bake. When some of the society is far from poor, experience suggests it is almost impossible. As a Sierra Leonean commented 'Is this peace or simply the absence of war?' Yet the fact that Sierra Leone has made such efforts in legitimising its' diamond sector is a credit to the nation. All programs were innovative for their time and credit should be given to the Sierra Leone government for their support to these initiatives.

The Diamonds for Development (D4D) Programme in Liberia

Anna van Nieuwenhuizen

Background: Diamond mining in Liberia

Commercial diamond mining commenced in Liberia in the 1930s. Basins currently exploited are located in the Lofa river basin (across the Lofa, Gbarpolu and Grand Cape Mountain counties, in the north-west of the country), in Nimba County (bordering with Côte d'Ivoire – in this area diamond mines jut out into the neighbouring country) and since 2003 in Sinoe County, in central Liberia. Diamond sites in Liberia are predominantly[1] alluvial and exploitation happens almost exclusively in an artisanal fashion, on a small scale and using very basic tools. According to the Ministry of Land, Mines and Energy, diamond production can be broken down to approximately 50 per cent gemstones and 50 per cent industrial diamonds. The total value of diamond industry output is debatable: no official data has been available since 1985. The United States Geological survey reports that between 1965 and 1983 the total value of official diamond exports fluctuated between US$18 million and US$41 million per year.

Mining activities, which accounted for a significant share of the country's economic activity before the onset of the conflict, became increasingly marginal to the formal economy, and in 2001 the imposition of sanctions on Liberian rough diamonds by the UN Security Council (Res. 1343 (2001)) froze production. Yet, unofficial diamond mining occurred intensively throughout the 1990s. The forces of President Taylor and others heavily looted the diamond sites, to finance particularly the Revolutionary United Front (RUF) in neighbouring Sierra Leone. Between 1989 and 2001, Liberia became an export point from which diamonds mined throughout the country, and particularly from Sierra Leone, were smuggled to all major diamond refining sites throughout the world.

Although it is still early to discern a trend, it is expected that the lifting of diamond sanc-

1 The Ministry of Land, Mines and Energy has disclosed that prospecting underway in some sites suggests the possibility that more than one kimberlite pipes may be present on the national territory.

Figure 1: D4D interventions at the various levels of government	
D4D interventions at the different levels of government	
Level	Interventions
Local	Creating a local development fund/programme
	Establishing mining cooperatives
Central	New legal framework for the management of revenues accrued from extractive industries
	Revision of mining laws and by-laws
	Revision of legal framework for the development of cooperatives
	Revision of decentralisation legal framework
Sub-regional	Harmonisation, coordination and cooperation with the Mano River Union Countries

tions by the UN Security Council in 2007, combined with governmental efforts at control and monitoring, will soon enable the re-surfacing of some of the illicitly traded diamonds and permit the elaboration of more detailed, up-to-date statistics.

Goals and objectives of D4D

Reversing the natural resource curse

The Diamonds for Development (D4D) Programme is a development initiative aimed at increasing the potential of the diamond industry in Liberia and improving the management of revenue accrued from diamond extraction. The overall objective of the programme is to facilitate the establishment of a transparent and accountable revenue management system based on a fair and equitable distribution of revenue. By improving equity, transparency and accountability in diamond revenue management, the programme aims to strengthen the governance capacity of the Liberian government at all levels, as well as to ultimately improve the living conditions of diamond mining communities. In this sense, the idea behind D4D is to attempt to "reverse the natural resource curse".

Going beyond Kimberley

The logic behind the D4D Programme (and similar initiatives) is complementary to that behind the Kimberley Process (KP). The goal of the programme is to support a pro-development approach to the management of Liberian diamond endowment and the revenues thereby generated. It is an extremely complex task, influenced by numerous factors. In many ways, initiatives like D4D can be read as the logical consequence of the Kimberley logic. The goal, put simply, is "to go beyond Kimberley" by avoiding *conflict diamonds* and turning them into *diamonds for development*.

In the long run, the fate of the KP logic and that of D4D are closely related. On one hand, the successful achievement of the KP goals is paramount if countries like Liberia are to achieve development, particularly through diamonds. In fact, if it yields the expected

results the KP will sustain security and stability throughout West Africa, providing the most basic requirement of sustainable development. Moreover, since countries not adhering to the Kimberly Process Certification Scheme (KPCS) are destined to be driven out of the market, conforming to the standards will be necessary in order to effectively raise any revenue from diamonds, and therefore to promote development and poverty reduction. On the other hand, however, the KP will never really be successful in promoting security and stability in West Africa unless the states of the region reach satisfactory development standards. By reducing poverty and social unrest, initiatives like D4D will ultimately consolidate the results achieved by the KP.

D4D stakeholders and partners

On the governmental side, the Ministry of Land, Mines and Energy plays the pivotal role, but advanced stages of the Programme also envisage the involvement of other ministries (such as the Ministry of Finance) and institutions such as the Government Reform Commission and parliamentary institutions. Further, local governmental structures will play a central role in the context of the interventions at the local level. D4D also pays particular attention to the inclusion of representatives from civil society, mining communities and the private sector.

As for the UNDP, the offices involved include both the Country Office and the Sub-regional Resource Facility for West and Central Africa (W&CA SURF). In addition, the international peace-building NGO, International Alert, a contractor for UNDP Liberia, has become an important stakeholder in the Programme and now devotes a section of its West Africa Programme to D4D.

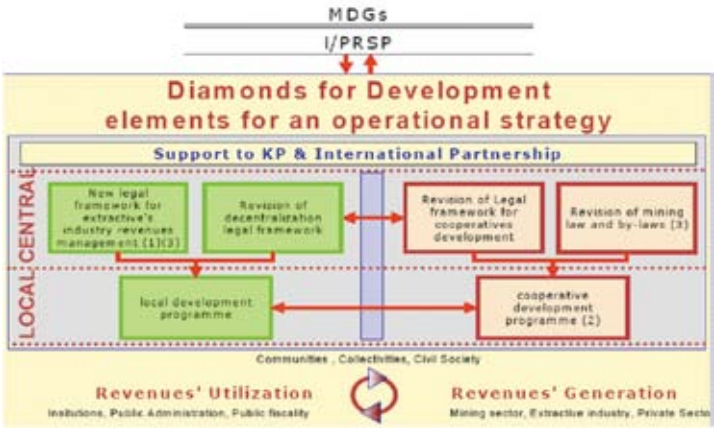
The governments of neighbouring countries Côte d'Ivoire, Guinea and Sierra Leone are also important stakeholders, particularly with regard to the sub-regional aspect of D4D and are now represented by the harmonisation task force (see below). The support happens on a bilateral basis, but mostly through the channel of the Mano River Union (MRU).

Finally, an important link has been established between the KP Participant Countries and the KPCS focal points in the four countries of the MRU (Sierra Leone, Côte d'Ivoire, Guinea and Liberia), which has underscored the synergy between D4D and the Kimberley initiative.

The strategy behind D4D

The UNDP has conceived a threefold strategy to achieve the objectives of the D4D Programme. In order to achieve the goals and objectives laid out above, interventions have been programmed in three main sectors, with a view to: (a) improving the governance capacity in the field of diamond extraction; (b) improving the living conditions of individuals and communities in mining areas; and (c) paving the way for the coexistence of small

Figure 2: D4D operational strategy. *Source: UNDP, 2005*



artisanal diamond mining and mining on a larger, more technologically advanced scale by international companies.

Improving governance capacity

As Figure 1 shows, interventions to improve governance capacity are planned at the local, central and sub-regional level.

D4D further foresees interventions spanning across the whole of the revenue cycle, i.e. both at the level of revenue generation (including the promotion of profitable and sustainable diamond mining and the effective levying of revenue thereupon) and at the level of revenue utilisation (including the promotion of clear and effective mechanisms for needs assessment, the transparent and appropriate transfer of resources between local and central governments and the creation of financial mechanisms aimed at stabilising the economic impact of diamond production). Interventions at all levels are expected to lead to greater equity in the distribution of revenues, encourage licit mining, and augment the revenues flowing to central government, initially from a test area, and eventually from the entire country.

As the diagram in Figure 2 shows, interventions at the local level include:

- The development of **mining and trading cooperatives** with a view to improving the organisational structure of production (at the level of revenue generation). This type of cooperative is expected to have a long-term business vision with a collective dimension to it, directly linked to the mining community. Cooperatives

will directly empower individuals active in the diamond industry. The increase in contractual power and capacity of "negotiating" prices and working conditions will lead to better deals, thus allowing for a larger share of the diamond value to be retained at the digging level. D4D further aims to assist the cooperatives through training sessions and microfinance loans, increasing their saving capacity for business capitalisation.

- The creation of a **local development fund or programme** (at the level of revenue utilisation). D4D aims to ensure that a fair share of the revenue accruing to the central government from diamond taxation is transferred directly to the mining communities. It is expected that this will improve access to social services and infrastructure in remote areas. Further and perhaps most importantly, it will improve the capacity of local governments to collect, plan and manage/execute investments.

Interventions at the central level essentially aim to establish the necessary regulatory framework for the initiatives at local government level. In other words, D4D follows a bottom-up approach, with interventions on the ground providing the basis for revising the policy framework. They include:

- **Mining laws and by-laws** revision, as well as a revision of the law regarding **cooperatives** (at the level of revenue generation)
- A revision of the **legal framework of local government structures,** as well as the creation of a new legal framework for the **management of extractive industry resources** (at the level of revenue utilisation)

Improving living conditions in mining areas

The establishment of sustainable development strategies in the mining sector through the adoption and effective application of a suitable legal framework will play an important role in reducing the negative impact of the diamond industry, with particular reference to the control of environmental externalities or to the health and safety standards in mines. Moreover, the establishment of mining cooperatives and training programmes will directly empower the actors involved, allowing for the retention of a larger share of the diamond value by the private sector at the local level and alleviating poverty for part of the population. However, the main emphasis of D4D in improving living conditions is to ameliorate the capacity of local government to provide for basic services, and thus on revenue transfer and expenditure.

Developing two coexisting segments in the diamond mining economy

The diamond sector in Liberia is predominantly characterised by small scale artisanal mining. Yet, since the 1920s some

international mining companies have been present in the country. Before the civil war, these companies were mostly active in the iron ore sector, but some also conduct business in the diamond trade. In 1999 the company "Freedom Gold" signed a Mineral Development Agreement with President Taylor's government which, though very controversial, is in force to this day.

In areas where the two sectors of the diamond industry coexist, the relationship between them has proven to be considerably unequal. In these cases, it is the industrial sector taking the lead and securing for itself, through its influence on the legislative processes, a position of unfair advantage (e.g. obtaining monopolistic rights of commercialisation of the resources found in a given area). The development of a complex private sector, composed of both artisanal cooperatives and larger scale industrial mining companies, is an integral part of the D4D Programme. If the artisanal sector is empowered, mainly through the establishment of cooperatives, the coexistence of these two sectors is expected to counterbalance the artisanal sector's tendency towards illicit trade, which currently leads to unsustainability and increases the likelihood of smuggling. It is further expected that the artisanal sector will benefit from the coexistence of the two sectors and a positive trend of knowledge-sharing, while allowing both sectors to correctly express their comparative advantage and leading to a sustainable development of the overall diamond sector.

The current status of D4D

The D4D Action Plan

The 2005 D4D Programme Framework establishes a clear action plan for the Programme. In addition to "phase zero", i.e. the elaboration of the Programme, culminating in the drafting of the Framework itself, four main phases are clearly identifiable in this plan.

Phase 1: Two preliminary studies

Obviously, the very elaboration of the D4D Programme relied on solid information about the relevant conditions. Further, the main challenges and necessary preconditions were summarily surveyed by the UNDP when the Programme was conceived. Yet, careful planning of actual interventions, and particularly of law reform efforts, calls for a detailed survey of the needs, as well as the assets, of the diamond industry and its context.

- *Poverty and Social Impact Assessment (PSIA)*
  The PSIA builds on the Rapid Social Assessment (RSA) which was completed by the UNDP in partnership with the World Bank during the preparation of the Liberian Poverty Reduction Strategy (PRSP). The objective of the PSIA is to assess the impact of existing legal managerial/investment arrangements upon the lives and livelihoods of individual miners and mining communities. Beyond this, it is to gather feedback and recommenda-

tions on the provisions and implementation of the revised Mining Code and of measures for KPCS compliance.

The PSIA thus looks at the existing mining laws and any related legislation, at mineral policies and at customary labour arrangements, with a view to assessing their impact on licit and illicit diamond mining and trading and ultimately on the lives and livelihoods of all citizens directly or indirectly involved in mining activities. The PSIA also looks at the, so far inexistent, framework for diamond revenue redistribution and management, assessing the impact of this on the condition of local communities and suggesting distribution and management schemes capable of improving these communities. Consultants have been recruited by the UNDP to conduct the PSIA. They have carried out their research and submitted an "inception report" in November 2007.

- *Local Governance Capacity Assessment (LGCA)*
  The LGCA is conducted to assess the actual status of the diamond control system and the opportunities and constraints that the current system of local governance poses to achieving the objectives of the Programme. The LGCA will focus on the political and administrative set up of local government, assessing – and working out how to improve – the extent to which they achieve a participatory and representative approach. The LGCA will also focus on the actual functions of local government structures and on their capacity to carry them out, suggesting ways to improve role allocation. Specific attention will be devoted to the dynamics of guidance and supervision by the central government. Further, the LGCA will focus on the impact of current local governance structures on local development, and recommend ways to build local capacity in the fields of local economic needs assessment and planning; finance, both from the point of view of available revenue and from that of budgeting, execution and audit; and service delivery (e.g. in the context of civil registry, statistics, certifications and local justice). The Terms of Reference for the LGCA are contained in the Programme Framework and provide a detailed description of the issues that the study will cover. However, the study itself has yet to be carried out.

Phase 2: Sub-regional workshop

Secondly, the D4D Action Plan foresees the organisation of a sub-regional workshop, bringing together representatives of the governments of four countries of the Mano River Basin on the themes of the D4D Programme. The D4D Sub-regional Conference "Reversing the Resource Curse" was held in Monrovia, 28-30 June 2006. Preceding the conference, two studies were conducted: a *background paper*, drafted by International Alert, on "The Current State of Diamond Mining in the Mano River Basin and the use of Diamonds as a Tool

for Peacebuilding and Development**"**, and a *paper on legal harmonisation*, drafted by the Author on behalf of the UNDP W&CA SURF, on "Diamond Sector Legal Harmonisation in the Mano River Countries".

The conference brought together participants from the governments of Côte d'Ivoire, Guinea, Liberia and Sierra Leone, as well as representatives of the private sector in diamond mining and representatives of other African countries as well as of the United States and of the United Kingdom. The main progress made at the 2006 conference is as follows:

(a) the acknowledgement that diamond mining in West Africa is largely a trans-boundary phenomenon, the optimal control and regulation of which requires **sub-regional cooperation** by national governments and

(b) the decision to set up a sub-regional **task force** to meet regularly, bringing together local and central governments, civil society, and the private sector, ensuring that appropriate interaction takes place between stakeholders at local, national and sub-regional level, facilitating the mobilisation of resources and ensuring that they reach all appropriate stakeholders.

Recognising the complementarity existing between D4D and other initiatives concerning the diamond industry, such as the KP, and advocating for strengthened collaboration between them, the conference placed a very strong emphasis on the different challenges which the diamond sector faces in the Mano River countries. The conference underlined the fact that these require appropriate and timely interventions at the national and sub-regional level, in connection with supranational institutions such as the Economic Community of West African States (ECOWAS) and the MRU. It also welcomed the creation of a sub-regional platform for intergovernmental dialogue and cooperation on diamond matters in the region.

On the operational side, the conference outlined the importance of enhancing intersectoral relations and promoting the formulation of joint policies (with regards to the diamond sector in the context of general mining sector and broadly in the context of land use and alternative economic activities) and developing and implementing specific programmes of technical, financial and management assistance to increase the entrepreneurial capacity of miners and the economic viability of the sector.

The task force created at the 2006 conference held its first meeting in Monrovia between 10 and 11 June 2008. At this meeting, the task force addressed issues concerning the harmonisation of diamond mining legislation and policy between Côte d'Ivoire, Guinea, Liberia and Sierra Leone. The discussions were prompted by a report by UNDP consultants on "Harmonization of Artisanal and Small-Scale Diamond Mining Policy, Legislative

and Regulatory Frameworks within the Mano River Union Countries: A Comparative Study" and by briefings on national diamond policies by the governments of the four countries. From the institutional perspective, the idea was put forward for the MRU to adopt a mining harmonisation protocol. In the same context, a proposition was made to explore the possibility of having a single Kimberley Certification for MRU member countries. Some substantive issues of mining policy were also tackled. It was recommended that export tax and royalty on diamonds be raised from the current 3 per cent to between 8 and 10 per cent, so as to increase the share of revenue accruing to governments from diamond mining. If conducted in a concerted and harmonised fashion, this increase in taxation is not expected to have adverse effects on the scale of investment in each country.

Phase 3: Law reform and revenue management policy

The third phase of the D4D Programme consists of a wide process of law reform, impacting several fields connected with the intervention points of the Programme, together with the creation of a framework policy on the management of the revenue created by diamond extraction. Evidently, the main stakeholder in this phase is the Government of Liberia itself, together with and under the control of the parliamentary institutions. However, the UNDP plans to offer valuable support and assistance to the government in identifying the main issues to address in the process of law reform, as well as in providing technical support and insight in devising the appropriate solutions to be included in the laws. The two studies conducted on matters of legal harmonisation already detailed some of the thorny issues which will have to be dealt with at the stage of law reform, particularly concerning mining laws and related legislation. However, the actual commencement of law reform procedures is still to come.

- *Framework policy for extractive industry revenue management*
  In Liberia there is currently no legal framework on the management of revenue from mineral resources. As a result of this and of the unfair arrangements between the various stakeholders in the diamond value chain, a troublingly small percentage of the final value of a diamond is retained by the producers, while the bulk of the value is appropriated at the cutting stage, which happens abroad. The new revenue management policy is expected to promote the use of resources for future generations and for the diversification of the economy. Due attention will be paid to the establishment of special escrow accounts for saving revenues accrued from mineral exploitation during periods of abundance for (i) future use and (ii) for use in times of shortages and should be included in the reform.

- *Mining law reform*
  Liberia already has a complete mining code regulating the research and exploi-

tation phases of diamond production and taking all relevant aspects of this into account, from the granting of mining rights to health and safety and taxation. The priority in this sense is to mainstream certain principles in the mining code, namely those of sustainable exploitation, of coordination with other sectoral and general policy for the stability of the macro-economic framework and of sustainable coexistence of the artisanal and industrial mining sectors. Further, labour regulations should be improved and their application made more effective, in order to foster the creation of human and decent employment opportunities in the sector. Transparency and accountability in the negotiation and management of international mining contracts should also be improved.

- *Cooperatives law reform*
  Liberia currently has legislation in place regulating cooperatives. In the past, there have been some attempts at establishing cooperatives in the diamond sector, both in Sierra Leone and in Liberia. So far, however, these attempts have proven unsuccessful, due to financing problems as well as to the fact that they did not incorporate diggers. The revised cooperative law should provide for a clear definition of the roles and responsibilities of its members and allow cooperatives as such to have access to the licensing and exportation system and to geological surveys. It should further allow for cooperatives as such to become recipients of loans and financing schemes.

- *Local government law reform*
  Current Liberian law directly entrusts the President with responsibility for local government. As such, it is extremely inefficient in terms of decentralisation and actually contributes to the suboptimal management at local level. The existing legal framework for local government is currently being reviewed in the context of a wider reform of public administration by the Governance Reform Commission. D4D aims to integrate mineral revenue management in the agenda of this wider discussion.

Phase 4: Pilot projects

Once the necessary legal and policy prerequisites are established, D4D aims to run two pilot projects focused on selected areas. In the areas and communities selected, mining cooperatives will be established and a local development fund instituted there. The experience gathered thanks to these two pilot initiatives will prove further useful, if necessary, for the amendment of the legislation created in phase 3. It will also lead to the identification of the strengths and weaknesses of the D4D approach from an operational level. Best practices will be detailed and proposed for replication in the wider mineral and local development policies of Liberia. The D4D Programme has not yet reached its operational phase, and no pilot projects are currently underway in the field.

Issues to overcome

A quick look at the scheduling included in the Action Plan annexed to the D4D Programme Framework is sufficient to see that there is a substantial delay in the implementation of the Programme. According to International Alert, this delay is primarily caused by the difficulty in obtaining the funds necessary to enable each intervention. The perception is that the donor community continues to actively support initiatives such as the KP, but has not yet fully realised the importance of initiatives such as D4D and their potential for development and stability in diamond rich countries. It must be noted, however, that the interventions that have occurred so far in the D4D agenda have yielded very positive results.

A set of complex and far-reaching studies have been drafted, leading to a better understanding of the social, economic and legal context of diamond mining in Liberia and in neighbouring countries. As a result of this, the Programme can now count on unique and nuanced ideas about how to tackle the issues and achieve the objectives. Moreover, the two sub-regional meetings held in 2006 and 2008 have established a precious platform for intergovernmental cooperation which certainly sets a positive example for countries dealing with trans-boundary mineral resources throughout the world. The fact that D4D was able to achieve these important results with limited financial resources is testament to the soundness of the Programme and a real dissemination of the results achieved within the donor community. This will hopefully contribute to an increase in funding, which will ensure the successful progression of the Programme.

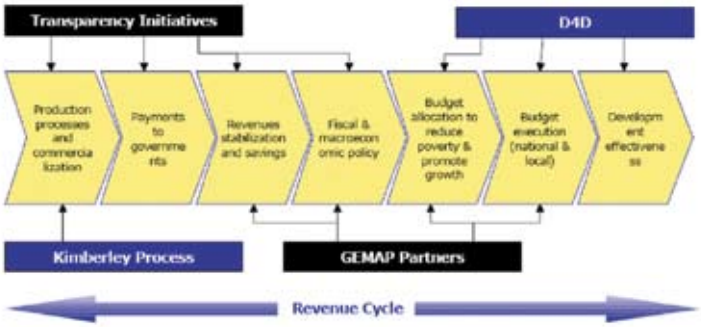
Best practices and lessons learned: The peculiarities of D4D

Interventions at several stages of the revenue cycle

As outlined above, D4D foresees interventions at several stages of the revenue cycle, i.e. both at the generation and the utilisation levels. This is an important innovative element which warrants consideration in the ideation phase of similar projects in other diamond producing countries in the future. The high level of complexity of the D4D programme is at once its Achilles' heel and its best chance at success.

Projects focusing only on the revenue utilisation stage without considering the revenue creation phase run the risk of not surviving periods of adverse fiscal performance. Conversely, projects focusing only on the promotion of diamond sector activities and on the collection of revenues by the public authorities, without considering the phase of utilisation, risk fuelling poor governance by increasing the attractiveness of corruption and other mismanagement practices. As Figure 3 shows, D4D has carefully selected its entry points to match the areas in which UNDP traditionally enjoys a comparative advantage, so as to avoid

Figure 3: Comparative advantages and niches of intervention of the different stakeholders involved in diamond revenue management in Liberia. *Source: UNDP, 2005:16*



duplication with other existing initiatives bearing an influence on the diamond revenue cycle and fostering positive synergies with the partners involves therein.

Sub-regional scope

The second area in which D4D has so far set a very positive precedent is that of the multilevel approach, and in particular the sub-regional scope of its intervention. In the case of the Mano River countries, mines happen to be located at a short distance from international borders and, thanks to the porosity of frontiers, the whole process of diamond exploitation and commercialisation acquires a markedly sub-regional dimension. The relevance of this precedent for future projects is evidently linked to the characteristics and location of diamond mines in each country. More generally, it seems that a sub-regional approach should be adopted by all projects focussing on the artisanal exploitation of natural mineral resources located in border areas, be they diamonds or other. In this sense, the D4D experience in the field of intergovernmental cooperation and harmonisation certainly provides the most important best practice so far established.

Artisanal diamond mining: challenges

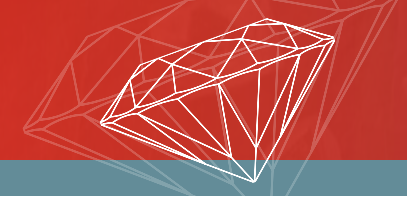
Steven Van Bockstael and Koen Vlassenroot

Introduction

This concluding chapter summarizes the main findings of the studies presented in this book. Draft versions of these research papers were presented at a validation workshop that EGMONT organized in South Africa, on September 15 - 16, 2008. It was the goal of this workshop, which was attended by members of the KP's WGAAP and various experts on diamond mining and artisanal mining in general, to present and discuss the preliminary conclusions of our research. More specifically, the workshop aimed to fill missing gaps in our research project, and to help us answer and fact-check some fundamental questions with regard to artisanal diamond mining. In this final chapter, we will briefly summarize the main findings of our research, amended by the comments that were made at the validation workshop. We will also suggest some lessons learned and recommendations to the governments of artisanal diamond producing countries, as well as to all of those who are interested in engaging the artisanal diamond sector, to facilitate the transformation of artisanal mining into a driver of development, especially in rural areas.

As can be concluded from the previous chapters, artisanal diamond mining remains a development problem of huge proportions, with multiple intersecting issues.

Apart from the very precarious working conditions for miners and diggers, at the end of the day the result of their hard labour is rather meager: most diggers, creuseurs and garimpeiros can be categorized as extremely poor. Sometimes, this can be partly accounted for by the fact that traditionally low wages have encouraged the exploitation of areas with low diamond concentrations that would otherwise be un-economic. Equally, the lack of knowledge among miners and especially diggers on how much an individual diamond can be worth, makes them a potential victim for buyers who purposely undervalue the diamonds brought to them. In addition, there are a lot of vested interests, and many 'informal taxes' and bribes to be paid, which result in very poor returns for those who actually dig up the diamonds. It is therefore important to distinguish linguistically between a digger and a miner. Often used together to facilitate discussion, the diamond digger (and washer) is



the most vulnerable, since the miner is more of a businessman than a labourer: he typically owns an artisanal mining license (if he is working legitimately) and usually employs a few diggers.

The precise numbers of diggers is unclear given that artisanal diamond mining remains a largely informal activity. Taking into account family members to support, it can be estimated though that artisanal diamond mining sustains up to 7 to 10 million people in Africa. Further taking into account the various middlemen, traders, and associated businesses, artisanal diamond mining is often one of the most important sectors of the economy, whether formal or informal. Although many countries seem to prefer rapid industrialization through foreign investment, viewing the mining sector as a driver of short-term revenue collection, one of our main arguments has been that artisanal diamond mining can not be underestimated and offers some potential for local development. True, compared to industrial mining, it may not bring the government similar levels of revenue, although the question can be asked, with alleged corruption, the unequal bargaining power of governments vis-a-vis powerful multinational corporations, and all sorts of fiscal advantages to foreign investors that are usually not granted to local companies and individual miners and diggers, if there is any significant difference for the people themselves., The resource sector, nevertheless should be approached from a long-term perspective, as a vehicle for sustainable socio-economic development. The end goal should be a well-functioning economy with alternative means of revenue-collection, for example through encouraging and helping artisanal miners to organise and formalise their activities in their own way, and evolving into responsible, productive, and tax-paying small-scale mining enterprises. In addition, careful consideration should be given to other, non directly measurable aspects such as the effect on local communities and economies, beside the amount of direct government revenue coming in when debating choosing between artisanal and industrial mining. If properly regulated, ASM diamonds can lift people out of poverty and misery, and encourage local growth and development.

Compared to other artisanal diamond mining sectors, there are a number of particularities with artisanal diamond mining. Most significant is the fact that in the case of diamonds, there is an international regulatory system, namely the Kimberley Process and its Certification Scheme. In this study, it was demonstrated that the Kimberley Process, and the high quality of governance, policy reforms, and government oversight that it requires from its members, can help to permanently get artisanal and small-scale diamond mining on the right track. Because of its objective to prevent conflict diamonds from reappearing in formal trading chains, the attitude of the KP and its participants towards artisanal mining is of high relevance.

At the Moscow plenary in 2005, a declaration was adopted on how to better organize the artisanal mining sector, with a view to

strengthening internal control systems, the linchpin of the KPCS. This Moscow declaration carried with it a number of specific recommendations, the implementation of which is the chief task of the WGAAP. We believe that implementing these necessary reforms will have a doubly beneficial effect. Not only will they play an important role in assuring and enhancing the integrity of the KPCS, but by encouraging a more transparent industry as part of the formal economy and by combating profiteering which is made easier due to the lack of legal support systems, they will also make sure that larger portions of the diamond's value stay in-country, where it can be spent or invested into local businesses, agriculture, etc.

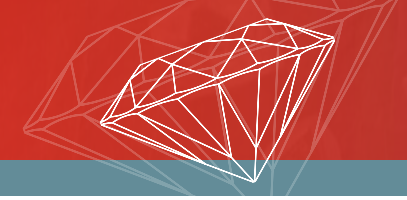
In turn, encouraging ASM's contribution to sustainable development, especially in rural areas, will also make the KP's mission a lot easier, not only by removing the most common incentives for smuggling, but also by preventing conflict and reducing grievances through growth and development that benefits everyone, instead of just an elite group. The research subjects in this study were therefore specially selected to encompass a number of critical issues such as the reality of artisanal diamond mining, the importance of organization, and the specific questions posed by transborder mining areas, although this does not necessarily imply anything about the value of other topics that were not addressed in such detail. Our research is meant to improve our knowledge of the dynamics of artisanal diamond mining, and of past reform strategies and initiatives. Based on and complementary to the Moscow declaration, this study aims to suggest more balanced guidelines for policy reform in order to strengthen interventions.

The reality of artisanal and small-scale diamond mining, and its policy implications

The role of local structures and systems

A frequently recurring theme in our research has been the role of already existing structures and forms of organization in formalising artisanal diamond mining. Different authors have demonstrated in this study that artisanal diamond mining is not the chaotic activity it is sometimes described as, but instead is highly organized, through various structures and with a distinct logic. These structures are often the product of decades of social interaction between artisanal diggers, miners, supporters, dealers, etc. Apart from a business relationship, these client-patron type social ties also fulfill essential functions for securing all sorts of livelihood assets, as well as reducing vulnerability to sudden shocks.

Mining policy reforms and community development initiatives that fail to recognize these relationships, are very likely themselves to fail. External interventions trying to impose alternative structures and modes of organization in many cases face resistance from miners



and diggers because they simply feel no ownership of the new systems. Radical transformations of existing social systems, institutions and structures will, without local ownership of the process, likely have an alienating effect on local organization rather than strengthening it. People will either ignore these external systems and stay in the informal sector, or mix the two systems to increase their own gains. Research has overwhelmingly shown that a truly comprehensive approach cannot work if it does not take local conditions into account and start from the actual situation in the field.

Starting from local realities

This leads us to the conclusion that, instead of trying to radically transform the informal artisanal and small-scale mining and marketing of diamonds, policy reforms and development initiatives should instead focus on the reality of ASM. The importance of preserving existing power structures can not be underestimated. These are the structures people are familiar with; they have local legitimacy and despite significant negative aspects such as debt bondage and duping (and sometimes forcing) people into accepting lower prices, they will not be abandoned in exchange for something entirely new and unknown. Our research, as well as research conducted by others, clearly shows that such strategies have failed in the past, and will fail in the future if they are not profoundly amended. Getting artisanal miners and diggers to (re-)join the formal economy requires incentives, showing them that it is not just a program that will benefit the government, but one that will directly improve their situation. Providing various financial incentives are one example, and assuring swift and effective procedures can also go a long way in avoiding criticisms that taking the legal road is consuming too much time and money. In this respect it is important to note that illicit mining, and the underground marketing of diamonds, is not something illegal which occurs 'out of want', but rather something a-legal because it occurs 'out of necessity' instead of from a desire to break the law.

Formalizing informal mining activities

Formalizing informal mining thus has a lot to do with reversing this necessity. However, this in turn touches on another significant issue: namely the capacity of the state to adequately enforce and monitor the implementation of national legislation. Introducing a well-designed mining code, or setting up special government agencies to deal with artisanal miners, is not going to change anything on the ground if the local or national governments do not have the necessary resources to support the implementation of that mining code, or properly trained staff who provide the necessary capacity to those special agencies. Good governance is essential, but so are the resources needed to properly back that up. Also, large discrepancies between the theoretical model of law, and the value chain as it actually exists, can even inhibit participation in the formal economy. In addition, gover-

nance efforts should also include civil society and private sector components. Furthermore, it has been suggested in this study that special government agencies dealing directly with artisanal mining communities, can be invaluable assets in encouraging formalization of the sector. In order to maintain independence, especially in the eyes of the artisanal miners for whom there must be a clear distinction between 'the teacher' and 'the policeman', it would be best to give these agencies a large degree of autonomy.

Integrate existing structures and systems

Instead of aiming at a dramatic transformation of the sector, formalizing artisanal mining is most likely to work if the value of existing structures is acknowledged. These systems and networks have proven to be highly resilient to outside pressure: it has been made clear in the past that illicit diamond mining can never be completely stopped. So it would seem logical that, if one wants to make artisanal diamond mining a respected part of the economy, one might be interested in formalizing the systems that are already in place, especially as these have proven to be relatively stable and effective. For example, in Ghana, artisanal diamond mining became a de facto legal system when the GCD entered into an agreement with the artisanal miners operating illicitly on their claims. Thanks to this Tributor System, the bulk of the GCD's diamond production has since been provided by artisanal diamond miners, benefiting both the GCD and the mining communities.

Dealing with inequality and local power relations

Stating the above does not mean that we should not tackle issues of existing inequality, abusive power relations, and extortion tactics that are abundant in the whole diamond value chain. Instead of wiping everything out and enforcing new and artificial constructions on a population that has many valid reasons to be wary of government or foreign interventions, we think greater results can be achieved by tackling these negative issues from within the system. So instead of removing unwanted elements from the equation, and thereby creating the conditions for failure, unequal terms of trade between people should be addressed. It is not '*the* supporter' who is duping '*the* artisanal miner' when it comes to paying him a percentage of the diamond value. It is rather the social and economic conditions specific to a given context that define whether these transactions are conducted fairly or not. Those who are most affected by these unequal business relationships are the people at the bottom of the value chain, who can not dupe others below them to account for their losses: the diggers working individually, in informal gangs, or employed by a miner. This is why it is essential for reforms and intervention strategies to be part of broader development strategies, because if nothing changes in the surrounding economy, the rising wages might make artisanal mining more attractive, attracting more miners, and therefore produce a negative effect on the wages that were supposed to increase.

Cooperatives and other forms of organizing diggers and/or miners

Respect for local conditions and realities

This study also carries with it an important warning to international donors and development agencies not to rely too strongly on the promotion of cooperatives for the organisation of diggers and or miners. Often, these actors are attracted to cooperative schemes to better organize artisanal mining, to empower miners and diggers by uniting them, and to guarantee better terms of trade through collective bargaining. However, our research has indicated that the local context is often overlooked when trying to organize miners/diggers into cooperatives; it has been observed that in many cases, miners and/or diggers are organized into categories that have been decided beforehand by donors and consultants without taking into account local conditions and realities. Here too, the view of ASM as being a chaotic activity of unruly miners and diggers tends to inform policy, while it may be more effective to use existing, and locally recognized forms of organization as the basis of cooperative design. Often seen as a way to remove 'unscrupulous' middlemen from the equation, intervention strategies rarely acknowledge the fact that debts and social ties will not evaporate immediately, nor do they acknowledge that miners and diggers at times express their resistance to such strategies.

Cooperatives based on trust

People who are already working together (such as mining groups based on common origin, family and extended network ties etc) are more likely to continue doing so in a more formalized organizational structure such as a cooperative. Trust is key to the success of these structures as no one wants to share diamonds with a cooperative when they do not completely trust their peers to do so as well, especially when considering the high value individual diamonds can sometimes attain.

An important lesson to be learnt from other economic activities is that, contrary to applying an inclusive approach, the formation of cooperatives or other forms of digger/miner organization should take existing informal forms of organization into account. For instance, with regard to fair trade certification of coffee, initiatives have been successful because they incorporated existing power structures and informal alliances into successful cooperatives. It has to be acknowledged though that there are some significant pitfalls in promoting organizational structures. Particularly when a sense of local ownership has been developed, people can sometimes get overenthusiastic and have expectations that are simply too high. It is often observed that when these expectations are not met after some time, the initial success of a project in getting people involved may in the end become its failure.

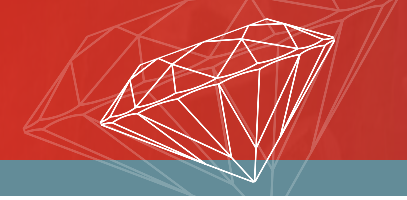
Cooperatives with limited agendas

From the analysis of cooperatives in this study, it can be concluded that cooperatives do not always have to go all the way. In Brazil and Venezuela for example, several successful cooperatives exist that in a number of ways differ from the traditional idea of what a cooperative should include. None of these cooperatives engage in revenue sharing, while members operate independently, have their own supporters, and can sell the diamonds they find to whomever they please or have an agreement with. Also significant is that most of these cooperatives are basically miners' organizations instead of diggers' collectives. This can be explained by the fact that in these countries, a distinct linguistic difference between 'diggers' and 'miners' does not exist. The people we call miners are typically former diggers who amassed the required knowledge and capital to start employing other diggers. The studied cooperatives perform mainly an administrative support role, and assist miners (and diggers) in respecting specific mining, environmental, and social legislation. These cooperatives were mainly founded by miners themselves, in order to join forces with their peers with common interests, without having to give up their independence. Threats to the existence of artisanal and small-scale diamond mining have been averted thanks to these miner's cooperatives. This is of course also of benefit to the diggers they employ as well as autonomous, individual diggers. This is quite different from the cooperative experiences in Africa, where in many cases these organizations have been instituted by governments or donors, and where cooperatives correspond to the traditional image of what a cooperative is supposed to do. Also, the atypical Brazilian and Venezuelan 'cooperatives' make a further case for promoting the establishment of other, non-revenue sharing, workers' organisations.

Together with the previous sections encouraging pragmatic reality-based reforms instead of trying to enforce artificial structures on a perhaps unwilling population with insufficient state capacity to successfully introduce these structures on the ground, this is an important lesson for everyone trying to stimulate cooperative development in Africa. This is particularly the case with revenue-sharing cooperatives, because, especially in conditions of extreme poverty, it is extremely difficult to resist the temptation of corruption and pocketing a diamond instead of turning it over to the cooperative, a risk which is significantly higher with diamond mining than it is with other, less glamorous forms of mining.

Interventions with realistic ambitions

The research done for this study has also shown us that it is important for development interventions not to be overly ambitious. The complexity of the D4D program for instance, could be a key factor driving the eventual success of the project, but could also be its Achilles heel, due to the difficulty in assuring the large amounts of funding that are needed to ac-



complish it. In another example, the USAID intervention in the Sierra Leone diamond sector has shown that it is not always the policies themselves that fail, but that continued support on the donor-side remains necessary. In addition, it is important to realize that reforming an entire economic sector including all the livelihoods that are dependent on it is not something which can be completed successfully in the short-term, especially when that sector is largely informally structured.

A holistic perspective of artisanal mining is indeed essential, but that does not mean that it is possible to quickly solve all the sector's problems, since these are tied into wider social and economic issues to such an extent that diamond sector reform should not be seen as anything other than just a part of a broader development strategy. High levels of corruption for example, that claim a considerable share of the total export value of the diamond, cannot be eradicated by reorganizing the diamond sector only. Concerted efforts by governments, donors, civil society and the private sector are needed to tackle these larger issues, even if diamond sector reform can play an important part in it.

Transborder mining areas

Two chapters in this study have dealt specifically with the transborder issues of artisanal diamond mining. From a KP-perspective, this is highly important since diamond mining areas that are located at the borders of two or more countries provide an even greater impetus for smuggling. Also, the influx of foreign nationals to dig for diamonds in other countries relates specifically to poor social and economic conditions in their homelands.

It seems reasonable enough to tackle transborder issues through intergovernmental cooperation. Indeed, as was stated in one of the chapters of this study, problems of an international scale demand international solutions. As has been argued by others, intergovernmental cooperation on regional trading issues needs to be promoted, prioritised and facilitated. One issue of concern is the harmonisation of fiscal policies in transborder diamond regions; this would counter one of the incentives for smuggling. Regional cooperation should be extended further, however. This study suggests to neighbouring governments to jointly gather geological information on said diamondiferous zones, similar to what was agreed upon (but never carried out) between the Central African Republic and the Republic of Congo. Detailed data collection activities can provide governments in the region with a better picture of who 'owns' which diamonds, as well as inform on the quality of the diamonds found in different locations. Going one step further, regional intergovernmental initiatives might even engender forms of regional economic cooperation, including the joint management by the respective government authorities of diamond areas. This approach can help to tackle difficult issues such as the smuggling of goods through porous borders. Regionally collected taxes could be redistributed among

the relevant Treasuries, making use of highly detailed models based on the geological survey. Of course, such zones of shared governance in selected parts of different countries pose a problem for the Kimberley Process, which requires that specific countries can be 'locked out' of the international diamond trade any given time. However, if the suggested option of regional governance would be at all politically viable, the collected geological data in combination with a continued collection of information would allow the creation of highly detailed 'footprints' of diamonds based on their origin, ensuring the traceability of the value-chain according to KP requirements. This could offer a pragmatic solution to a problem of enormous complexity.

Recommendations to the WGAAP, to international donors, and local and global development actors

Change the approach to regulation and governance:

- Governance is not just the state's responsibility: identifying roles and responsibilities of other stakeholders, such as civil society and the private sector, is essential.
- Good governance alone is not sufficient: extra resources are needed to guarantee the implementation of legislation, and government oversight of mining and trading. Institutional capacities should be taken into account when drafting legislation.
- International initiatives focusing on governance and the diamond trade should explore opportunities for coordination, to maximise synergies, reduce costs and bureaucracy, and increase legitimacy and reach.
- Ensure that governments receive appropriate assistance in improving governance (including the KPCS and EITI), transparency, accountability, regulation and the overall formalisation of the sub-sector.
- Organise coherent and systematic exchanges, consultation and collaboration between the Ministry of Mines and other public bodies and ensure that relevant government actors, Ministries and key stakeholders understand their obligations to mining communities and mobilise their resources to help coordinate the sustainable development of AADM communities as part of their action plans.

Develop legal and governance frameworks based on existing production and trading structures and institutional capacities:

- Move from an approach that prioritises controlling the production and trade, to facilitation and incentivising formalization.
- Understand the elements that structure current production and trading relations as a basis for developing a legal frame-

work (i.e. the Mining Code). Formalize existing structures first, then rationalize them and make them more equitable.

- Recognise that financial incentives to formalisation are more effective than attempting to enforce regulation alone.
- ASM is not a chaotic activity, but is organized according to its own reality and logic, and these structures have existed for many decades. Trying to reform these structures in one movement is futile: seemingly exploitative relationships also have a social element of livelihood protection, and resistance to reforms will be common.
- Local ownership is key: if artisans are not convinced that such strategies will directly benefit them, implementation *will* fail.
- Make it easier and desirable for existing operators in the artisanal sector to work legally: reduce bureaucracy and show that diamond wealth does return to the concerned communities.
- Tackle unequal terms of trade and increase efforts to prevent the destruction of important social relationships
- Give legal rights and responsibilities to all operators, including subsistence miners who are unable to get licenses themselves and are forced onto the black market. This can be done by delineating special artisanal diamond mining zones.
- Make it easier for miners to market their diamonds, for instance through supporting local buying markets, decentralized diamond bourses, or non-monopolistic marketing organisations that can guarantee a minimum price.
- In order to encourage dealers to use the banking system, governments should work with financial institutions to provide appropriate and reliable services for dealers. This would aid formalisation of transactions, and help harness the trade in artisanal diamonds for developmental ends. It would also provide a means for easier scrutiny of their activities.
- Conduct further research into customary modes of organising production and trade, with a view to take inspiration from these for the process of formalisation.
- Ensure that land rights are clearly articulated: define property rights, the rules governing land tenure and mineral ownership, and organise the interaction between customary rights and statutory rights. Provide full and transferable mining titles and security of tenure to enhance creditworthiness and liquidity, as well as exclusivity and relinquishment clauses.

Integrate artisanal diamond mining into development strategies:

- Ensure artisanal diamond mining is adopted as part of a range of complimentary income generating livelihoods that in combination lead to economic diversification and sustainable development.
- Ensure poverty alleviation, wealth creation and community driven development for the artisanal miners and communities should be a primary focus of any proposed intervention.

- Encourage local economic development and diversification by ensuring that a proportion of diamond revenues are retroceded to the local decentralised authority, assuming accountable public finances management.
- Advocate government budget expenditure to prioritise the implementation of general social and development programmes to help improve the living conditions and basic social infrastructure in AADM communities (water, sanitation, transport, basic nutritional services, schools/child care, health-care, security, *et cetera*.)

With regard to cooperative formation, take the following into account:

- If cooperatives are not formed autonomously, formalize existing gangs and loose associations into cooperative structures. Trust is a key issue: people who do not know each other, do not want to share profits.
- Consider a non-revenue sharing 'cooperative': this is especially relevant for small-scale miners who wish to retain their professional independence while joining forces with their peers for the defense of common interests.
- In the case of a mixed miner-digger cooperative, ensure transparency and due diligence to avoid conflicts of interest.

Tackle transborder mining and trading issues:

- Intergovernmental cooperation on regional trading issues is essential, should be prioritized and actively facilitated. Lessons can be drawn from the conclusions of the 'Trading for Peace' project in the Great Lakes Region, the World Bank's nascent project to improve fiscal and legislative harmonisation amongst Mano River Union countries.
- Regional harmonization of fiscal policies is an essential step to disincentivise smuggling.
- Advanced cooperation is commendable: jointly gather geological information on the shared diamond mining zones, and determine who 'owns' what part.
- Investigate regional economic integration possibilities, such as joint exploitation of diamond resources, with revenues redistributed according to geological data models.
- KP-requirements can be fulfilled by keeping detailed 'footprints' to stop illegal diamonds if one country is suspended from KP-list.

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About the Authors

F. Barthélémy and J.M. Eberlé work for BRGM, the French National Geological Service. F**. Barthélémy** is an economic geologist, specialised in the study of the artisanal mining of mineral resources. His research deals gold and diamonds in Africa, with regard to the adaption problems and the development of these regions. **J.M. Eberlé** is an economic geologist who spent most of his professional career in the exploration and mining development, specifically related to diamonds. Since 2005, both have undertaken technical studies with the aim of integrating the Republic of Congo, Cameroon and Mali in the Kimberley Process. **Frédéric Maldan** is a geologist and a specialist in GIS systems at BRGM.

As the coordinator of the Institute for Anthropological Research in Africa (IARA), a Research Unit of the Faculty of Social Sciences at the Catholic University of Leuven, professor **Filip De Boeck** is actively involved in teaching, promoting, coordinating and supervising research in and on Africa. Since 1987 he has been conducting field research in both rural and urban communities in the Democratic Republic of Congo (DRC). He published several articles on youngsters' involvement in the artisanal mining and trafficking of diamonds in DRC and Angola. His most recent book (together with Alcinda Honwana) is *Makers and Breakers. Children and Youth in Postcolonial Africa* (James Currey, 2005).

Mark Van Bockstael is a geologist and gemmologist. He is Chief Officer for International Affairs at the Antwerp World Diamond Center (AWDC). He has been involved in setting up the Kimberley Process, and is the current Chair of the Kimberley Process Working Group of Diamond Experts.

An independent researcher, journalist and broadcaster, **Shawn Blore** (www.shawnblore.com) has researched artisanal gold and diamond mining, diamond smuggling, Kimberley Process controls and artisanal cooperatives in African countries including Liberia, the DRC and Angola, as well as throughout South America. His reports have been published by Partnership Africa Canada and numerous newspapers and magazines.

Wardell Armstrong (WA) have nearly two decades of experience working on many dimensions of artisanal and small-scale mining (ASM), including the artisanal alluvial diamond sector, in over 25 countries in Africa alone. In particular, WA have been working on projects related to the formalisation and pro-poor empowerment of ASM, as well as on institutional strengthening, capacity

building and improved governance projects. WA have been a key member in the formation, development and progress of the Community and Artisanal and Small-scale Mining (CASM) initiative, and are a member of the official advisory group to the Diamond Development Initiative (DDI).

Resource Consulting Services provides research and advisory services in high risk environments and developing economies, and solutions-oriented advice to help its diverse range of clients understand the issues and opportunities to aid decision-making or design, implement, monitor, and/or evaluate projects. Its expertise encompasses political economy analysis, due diligence and business sector research, ethical supply chain development and minerals certification, minerals governance, conflict resources, securitised development, CSR, and artisanal mining. The directors have worked on diamond issues since 2004 for the Kimberley Process, DDI, USAID's Integrated Diamond Management Programme, Global Witness's Conflict Diamond Campaign, Target Resources plc., Transfair USA, the University of British Columbia, and the Foundation for Environmental Security and Sustainability.

Philippe Le Billon is Associate Professor at the University of British Columbia with the Department of Geography and the Liu Institute for Global Issues. He has published on the political economy of war, reconstruction, corruption and the links between natural resources and armed conflicts, including 'Fuelling War: Natural Resources and Armed Conflicts' (IISS/Routledge, 2005).

Estelle Levin is a Minerals and Sustainability Consultant with seven years of experience working on the interplay between the social, political, economic and ecological dimensions of the extractives sectors. Estelle works with NGOs, companies, and development organisations to make ASM a force for development, empowerment, and ecological protection, particularly through the development and implementation of ethical assurance systems, including third party certification. After cutting her teeth in Sierra Leone, she acquired global experience in ASM issues whilst at the World Bank's Communities and Small-scale Mining Secretariat. Estelle has two Masters degrees in Geography from the University of Edinburgh in Scotland and the University of British Columbia in Canada, where she specialised in sustainability theory and praxis under the supervision of Prof. John Robinson and Asst. Prof. Philippe Le Billon.

Gavin Hilson is Lecturer in Environment and Development at the University of Reading. He is the author of over 50 refereed journal articles on the environmental and social dimensions of artisanal mining in developing countries. He holds Bachelor's and Masters degrees from the University of Toronto, and a Ph.D. from the Imperial College of Science, Technology and Medicine.

Paul Temple is currently assisting the government of Liberia in strengthening implementation of the Kimberley Process, following the lifting of sanctions in 2007. Previously he headed the MSI Diamond Sector Policy Reform activities in Sierra Leone (2003-2007), working within the areas of Institutional Development, Government Policy and Private Sector Reforms, responsible for the effective management of the diamond reform program including field implementation of the Support Project to the Kono Peace Diamond Alliance and the Integrated Diamond Management Programme.

Anna van Nieuwenhuizen holds undergraduate degrees in International Relations from the University of Pisa and the Sant'Anna School of Advanced Studies, as well as a Master's degree in International Law from the Graduate Institute of International Studies in Geneva. In 2006 she worked for the United Nations Development Programme Sub-regional Facility for West and Central Africa, in the context of the Diamonds for Development (D4D) Programme.

Koen Vlassenroot is Professor of Political Science at the University of Ghent, where he also co-ordinates the Conflict Research Group. He is the Director of the Central Africa Programme of EGMONT – Royal Institute for International Relations. He published several articles and book chapters on armed groups, the role of natural resources in violent conflict and land-issues in Central Africa, and has a particular research interest in conflict dynamics in eastern DRC.

Steven Van Bockstael is a researcher at EGMONT's Central Africa Programme. He holds Master degrees in Contemporary History (Brussels Free University – VUB, 2006) and Conflict and Development (Ghent University, 2007). He joined EGMONT in December 2007, and is the manager of the Artisanal Diamond Mining Project.