Guyana’s Diamond Tracking System:

A Model for Artisanally Mined Diamonds
About DDI International

DDI is an international, nonprofit, charitable organization that aims to gather all interested parties into a process that will address, in a comprehensive way, the political, social and economic challenges facing the artisanal diamond mining sector, in order to optimize the beneficial development impact of artisanal diamond mining to miners and their communities within the countries in which the diamonds are mined.

A major objective is to draw development organizations 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.

More information on DDI International can be found at www.ddiglobal.org, and we can be reached at enquiries@ddiglobal.org.

Table of contents

Executive summary ................................................1
Why Guyana? A response to the KPCS challenge ....2
Guyana’s key diamond-industry players ...............3
A proven model: the Guyana system ....................4
  • Underlying philosophy: administration only when necessary..........................4
  • The elements of Guyana’s system ...............4
  • Administering mineral claims.......................4
  • A summary diagram of the model ..............5
  • Registering diggers .....................................6
  • Registering productive units .....................6
  • Registering traders and exporters .............7
  • Tracking diamonds using production sheets ....8
  • The case for field-based enforcement personnel.11
Applying the Guyanese system to Africa and elsewhere? ........................................12
  • Administering mineral claims ..................12
  • Registering diggers ..................................13
  • Registering productive units .................15
  • Registering traders and exporters ..........15
  • Tracking diamonds from source to export ....16
  • The case for field-based enforcement personnel.16

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Executive summary

In many developing nations, the process of tracking alluvial diamond production is unpredictable and inefficient. Often, onerous administrative requirements, corrupt or negligent civil institutions or high operating costs undo these countries’ processes. As a result, compliance with the Kimberley Process Certification Scheme (KPCS) in these nations can often be ineffective.

However, tracking alluvial diamond production is not impossible. For decades, Guyana has successfully implemented a system for tracking alluvial diamond production that is relatively easily administered and relatively inexpensive to operate. It can be implemented by personnel of moderate skill levels.

The Diamond Development Initiative International (DDII) offers this handbook on Guyana’s registration and production tracking system as a model for other countries, particularly African diamond-producing nations with a preponderance of artisanal mining. In addition to being relatively inexpensive and simple to operate, Guyana’s system functions within a socio-economic-political environment that is similar to those of many African producing nations. Equally important, the Guyanese system is flexible. It can easily be modified to suit the unique diamond-producing conditions in many African nations.

Guyana’s system is composed of six elements:

- the administration of mineral claims,
- the registration of diggers,
- the registration of dredges,
- the registration of buyers and exporters,
- the tracking diamonds from source to export, and
- the use of field-based enforcement personnel.

Underpinning Guyana’s system is a philosophy to keep administration simple, affordable and efficient. These qualities enable the Guyanese government to bring producers, buyers and exporters into the regulatory regime and to encourage these people to conduct transactions legally.

A note on terminology

Although the means of diamond production in Guyana closely mirrors those in many African diamond-producing nations, the Guyanese and African lexicons differ. In Liberia and Sierra Leone, for example, the manual labourers who dig gravel out of alluvial diamond pits are known as diggers, while the boss in the charge of the operation who obtains the licenses and directs the diggers is known as a miner. While these terms are not used in Guyana, they have been employed in this report for the benefit of African readers.
Guyana’s Diamond Tracking System: A model for Artisanally Mined Diamonds

Why Guyana?
A response to the KPCS challenge

In most of the world’s diamond-producing nations, the systems for tracking alluvial-diamond production are administratively young, brought into being in 2003 to comply with the demands of the Kimberley Process Certification Scheme (KPCS). The small South American nation of Guyana provides an exception to this rule. Guyana’s diamond-production tracking system has existed for decades, and required only minor modifications to meet the new standards demanded by the KP.

Guyana’s is one of the world’s best production-tracking systems. Though by no means faultless, the system is a model for effectively tracking alluvial diamonds on their long journey from earth to export.

Importantly, there is nothing in the Guyanese system that precludes its easy adoption in Africa’s artisanal-diamond producing nations. A developing nation itself, Guyana faces many challenges similar to those in Liberia and Sierra Leone, for example. Guyana has an economy that is heavily tilted towards natural resources, a shortage of skilled personnel, an underdeveloped infrastructure base, small government budgets, a relatively weak public administration and moderate levels of corruption in the civil service.

Despite these constraints, Guyana’s KPCS tracking system manages to achieve a number of important goals. For example, it provides reliable data on producer, exporter and purchaser behaviour, it ensures that taxes and royalties owed to the state from diamond production are paid to the state, and it gives the state mining authority a presence in the diamond-mining hinterlands.

Equally important, from the point of view of African diamond-producing nations, the system is relatively simple to implement: it requires neither heavy investment in computers and information technology, nor highly trained personnel. It is also relatively inexpensive to administer, even at low production levels.

Finally, Guyana’s system is flexible. It is easily adapted as new conditions or demands develop. For example, with only minor adjustments, it could perform important functions such as tracking diamond production by region.

In summary, Guyana’s system is effective, efficient, robust and flexible. It could be readily adapted to conditions in Africa without recourse to years of study or millions of dollars in development loans.

Though by no means faultless, the system is a model for effectively tracking alluvial diamonds on their long journey from earth to export.
Guyana’s diamond industry is dominated by two key groups: the Guyana Geology and Mines Commission, which is the mining industry’s regulatory body, and the miners and exporters who extract and sell the diamonds.

**The Guyana Geology and Mines Commission**

The Guyana Geology and Mines Commission (GGMC) was formed in 1979, and is the product of a merger between the Geologic Survey and the Guyana department of mines. Although it reports to the Prime Minister, the GGMC is an autonomous public commission, much like a parastatal or crown corporation. It sets its own budget and spending priorities, raises its own revenue and manages its own personnel. Its Commissioner reports to a five-member board of directors appointed by the Prime Minister.

The GGMC’s revenues come from a combination of licensing and administrative fees and royalty payments on small- and medium-scale gold and diamond production. The GGMC is expected to remit a yearly profit to the government, but may withhold cash for longer-term investments, or to maintain a cash reserve. Financial returns from 2004 show the GGMC generated more than US$6 million in revenue, incurred US$2.9 million in expenditures—including US$1.3 million in salaries and US$200,000 on capital expenditures—transferred US$500,000 to the national government and added another US$2.8 million to its own cash reserves.

The GGMC has never calculated its cost to administer the country’s KPCS. However, as the system requires little capital investment, its principal cost is administrative personnel salaries. In 2004, royalties from diamond production generated some US$1.8 million, which is considerably more than the total wage bill paid to GGMC personnel that year. Given that only a small fraction of GGMC staff work on KP-system administration, it is fair to assume that Guyana’s system more than pays for itself, even when production yields are low.

**Guyana’s dredges, miners and exporters**

In Guyana, the vast majority of alluvial diamond production comes from small-scale mechanical jigs known as dredges. Most are located on land, although a few larger dredges float on barges and work river bottoms. Each dredge is operated by a team of between four and seven diggers who receive free food and lodging on mine sites and are paid a percentage (usually between 25 and 35 percent) of the total production value.

On a dredge team, it is the miner (the dredge operator) who sells the diamonds, normally to a field-buyer located in a bush community close to the mining site. In turn, these field-level buyers sell the diamonds to exporters, most of whom operate in Guyana’s capital, Georgetown.

Diamond exporters package the diamonds, prepare the Kimberley Process applications and export the diamonds to customers overseas.
A proven model: the Guyana system

One of the strengths of Guyana’s system is the simplicity with which it is administered. Government authorities understand that Guyana’s miners often do not have the inclination or financial or human-capital resources to submit to a lengthy bureaucratic registration process. With that concern in mind, the government has adopted a simple system that miners can join with minimal effort and very little capital outlay, and which records the precise origin of every stone.

Underlying philosophy: administration only when necessary

As a general rule, Guyanese authorities have adopted the notion that mining registration should be affordable and efficient. The government believes that this approach will encourage industry players to enter and remain within the legal system. License fees and other administrative charges are set low (at or below cost-recovery levels), documentation requirements are kept simple and processing times are meant to be quick.

The end result is that those who wish to legally engage in mining or diamond trading face few monetary or administrative barriers. As a result, more players obey regulatory requirements, and competition in the market is robust.

This approach is, in part, the fruit of years of effort by the Guyana Gold and Diamond Miners Association (GGDMA), which lobbies government to limit mining regulations. The approach is also the result of lessons learned during Guyana’s years of single-party socialism, when excessive regulation and taxation drove nearly all diamond production undercover.

The elements of Guyana’s system

There are six distinct elements of the Guyana system of mineral regulation and KP controls:

- administration of mineral claims,
- registration of diggers,
- registration of dredges,
- registration of buyers and exporters,
- tracking diamonds from source to export, and
- field-based enforcement personnel.

Administering mineral claims

Sub-surface rights in Guyana are the property of the national government, which administers this patrimony through the GGMC. People who wish to access the subsoil, either for prospecting or mining, must establish mining claims. In the alluvial diamond sector, most people file medium-scale claims (on sites that span between 150 and 1,200 acres), which are open to Guyana nationals and legal residents.

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The Guyana Artisanal Diamond Miners’ Registration and Production Tracking System

Guyana’s Diamond Tracking System: A model for Artisanally Mined Diamonds

The system requires the following steps:

1. The mine registers his individual diggers’ register with the Guyana Geology and Mines Commission (GGMC).
2. The GGMC assigns the miner a unique identifier.
3. The GGMC gives the miner a production book.
4. The miner logs daily production in the production book.
5. The miner sends a copy of the production book to the GGMC.
6. The mine director sends a copy of the production book to the industry’s authority.
7. The industry’s authority issues an application for export.
8. The producer checks the production sheets and diamonds with the GGMC.
9. The exporter prepares the export report.
10. The exporter pays a fee to the Guyana Revenue Authority.
11. The exporter issues a license to the GGMC for the export of diamonds.
12. The exporter provides the diamonds to the GGMC.
13. The diamonds are logged by the GGMC.

This model has been enthusiastically received by miners, exporters, and buyers alike, and inspires other nations as a viable model for international adoption.
In practice, the miners who work on sites rarely hold claim blocks. Rather, the diamond buyers, Guyanese nationals or long-term residents hold the claims. The claim holders usually charge miners for the right to work on their claims and station wardens on the claims to verify production.

Registering diggers

Officially, Guyana's system of digger registration requires anyone who works in the diamond fields to be registered. Registration costs G$1,000 (US$5), and must be renewed yearly. To their credit, GGMC officials have set the price of registering well within the reach of the average miner, and kept the bureaucratic and documentation requirements quite simple. For example, diggers may register at any of the GGMC stations in the interior—as opposed to the capital, Georgetown—to complete this requirement. Unfortunately, despite these good faith measures, a few administrative barriers have prevented the system from functioning optimally.

While registration is open to Guyanese citizens and legal residents, many of the diggers working in Guyana are foreign nationals of questionable residency status. Guyana’s government policy is to welcome these newcomers, and GGMC officials have enabled foreigners who can show they have employment in the mines to obtain legal residency. However, residency falls under the purview of the Ministry of Home Affairs, not the GGMC. As a result, the process can be completed only at the Home Affairs office in Georgetown. The process itself takes at least a day, and the costs of travel and accommodation associated with a journey to the capital are significant enough that many diggers prefer to remain unregistered.

However, as the registration of individual diggers is only incidental to the Guyana KP solution, the lack of comprehensive digger registration does not affect the efficacy of the country's KPCS. Guyana’s registration and tracking system depends instead on the comprehensive registration of production units.

Registering productive units

The requirement to register mining dredges is the first of three essential elements of Guyana's KP system. Dredges must be registered or renewed yearly at GGMC headquarters in Georgetown. They can be registered by Guyana citizens or legal residents at cost of G$10,000 (US$50). As of 2007, more than 4,100 dredges were registered.

When registering their dredges, owners must provide not only personal information to the GGMC, but also technical information about the dredge machinery. Clerical staff at GGMC headquarters record these details in a master list of dredges, and open individual files for each dredge.

With each registration or renewal, the dredge owner receives a production book, containing approximately one year’s worth of production sheets (in carbon
triplicate). The owner or dredge operator is expected to record all the diamonds produced by that dredge in his production book. Copies of these production sheets travel with the diamonds as they are sold from dredge owner to field buyer to diamond exporter, and are submitted to the GGMC as part of the export process. As the sheets arrive at GGMC headquarters, clerical staff place a copy of each in the dredge file. Each dredge file thus contains a complete record of all of the diamonds produced by that dredge.

When an exporter submits a parcel of diamonds for export, the exporter’s production records are cross-checked against the production sheets stored in the dredge file.

The GGMC has recently begun computerizing the information it keeps on registered dredges. Computer records, however, only complement the core system of paper files and forms. The emphasis placed by the Guyanese solution on human-clerical capacity, as opposed to imported information-technology systems, may well be one of the system’s more attractive characteristics for African producers.

Note also that the GGMC concentrates on dredges simply because, in that country, the dredge is the most common unit of production. Guyana’s KP system would work equally well if the basic unit of production were a gang of miners working under a single boss.

**Registering traders and exporters**

In Guyana, no difference exists between internal-trader and exporter licenses. Officially called trading licenses, these documents cost G$15,000 (US$75) per year and are available to Guyanese citizens, legal residents of Guyana and companies incorporated in Guyana. Traders must also have a registered place of business (GGMC personnel inspect the premises before issuing a license).

The low cost of setting up as a diamond trader in Guyana has opened its alluvial production system to many players. As of 2007, several hundred diamond buyers were registered in the country. Of that total, 50 engaged in export activities.

By keeping the cost of its trading licenses low, Guyana’s government foregoes revenue. Comparable diamond licenses in Sierra Leone, Liberia or the DRC cost far more (although production volumes in these countries tend to be higher than in Guyana). Some traders have suggested

**Registering productive units in Africa**

Guyana’s system could be relatively easily adapted to conditions in Angola, Sierra Leone and Liberia, where a single crew chief or gang boss employs a team of diggers and pays them a food allowance plus a percentage of the proceeds from diamond production. In such cases, the miner or boss would register himself as the unit of production, and receive a production book in which he would record the diamonds produced by his crew.
that the GGMC should restrict the number of licenses as a way of matching buying demand to the production volumes. From the miners’ perspective, however, low entry barriers and large numbers of traders ensure better prices.

Tracking diamonds using production sheets
The heart of Guyana’s diamond-tracking system is the production sheet, which follows each parcel of diamonds in Guyana from earth to export. (See Figure 1.)

Upon the registration or renewal of a dredge, each owner receives a production book that contains approximately a year’s worth of production sheets. These production sheets are printed in triplicate and uniquely numbered. Each sheet documents a one-week period in the dredge’s working life.

Figure 1: A Typical Production Sheet

<table>
<thead>
<tr>
<th>Day</th>
<th>Date</th>
<th>Activity</th>
<th>Fuel Consumption</th>
<th>Stones</th>
<th>Carats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>12/01/2008</td>
<td>Work</td>
<td>20g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuesday</td>
<td>13/01/2008</td>
<td>Work</td>
<td>20g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wednesday</td>
<td>14/01/2008</td>
<td>Work</td>
<td>20g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thursday</td>
<td>15/01/2008</td>
<td>Work</td>
<td>20g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friday</td>
<td>16/01/2008</td>
<td>Work</td>
<td>20g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Saturday</td>
<td>17/01/2008</td>
<td>Wash</td>
<td>20g</td>
<td>500</td>
<td>20</td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td></td>
<td></td>
<td>500</td>
<td>20</td>
</tr>
</tbody>
</table>

The low cost of setting up as a diamond trader in Guyana has opened its alluvial production system to many players.
At the top of the sheet, the dredge owner or operator records the claim number, mining district and location of the dredge. He also enters his name and that of the claim-block owner.

In the main part of the sheet, the operator records the dredge’s production activity for the week. Grid entries tend to be simple one- or two-word descriptions such as 'clear land', 'dig', 'work' or 'wash'.* A typical dredge crew spends Monday through Friday extracting ore using high-pressure hoses. This activity is described as 'dig' or 'work'. On the sixth day, they run this gravel through the jig. This is entered as 'wash'. The diamonds produced by this wash are entered on the form, using the Guyanese convention of entering both the carat weight and the approximate number of stones.

At the bottom of the form are places for two signatures. The dredge owner or operator provides the first signature, and the document is countersigned by a claim warden—an employee of the claim owner who is stationed on site. The claim warden’s job is to verify the production of each dredge on the claim, and ensure that the claim owner collects a 10-percent fee from the miners. In turn, the claim warden receives one tenth of the miners’ fees, and thus has a vested interest in accurately presenting the values on this form.

On the seventh day of the week, while the mining crews rest, the dredge owner or operator travels to the nearest settlement to sell his diamonds to field buyers. Under Guyanese law, two signed duplicate copies of the production sheet must accompany the diamonds on their journey from the mine site to the field buyer; the third copy remains permanently in the dredge’s production book.

**From field buyer to exporter**

Upon purchasing diamonds, the field buyer collects both copies of the production sheet and enters his purchases on a daily transaction form that must also be remitted to the GGMC. (Unfortunately, the daily transaction forms have been somewhat neglected by the GGMC, to the point that little importance is now placed on this requirement.)

At regular intervals, the field buyer gathers all his diamonds and production sheets and travels to the capital to sell his diamonds to an exporter. Field buyers normally travel by small plane, landing at a small domestic airport at the capital, Georgetown, where the GGMC maintains an inspection office. By law, traders must present their diamonds and production sheets to the GGMC officer for inspection. Diamonds transported without production sheets may be seized.

Once in Georgetown, field buyers submit both copies of their production sheets to the exporters to whom they sell their diamonds.

* Diamonds transported without production sheets may be seized.

* There are historical reasons for this level of detail in Guyana; they would not necessarily apply elsewhere
Registering diamonds for export

An exporter must first assemble a package of diamonds and production sheets from various field buyers (and occasionally from individual miners). Note that there is no requirement to match a particular sheet to a particular diamond. What matters is that the totals for both carat weight and stone quantities from all the sheets in the export package match the actual diamonds for export.

As a second step, the exporter pays the government royalties on the diamonds to be exported.

To pay this tax, the exporter takes one duplicate of each of the production sheets in his export parcel to the Guyana Revenue Authority. The total of the diamond production recorded on these sheets is used to calculate the royalties owed. The exporter pays the Revenue Authority and receives a receipt as proof of payment. The Revenue Authority keeps the production sheets, which it then forwards to the GGMC. At GGMC headquarters, filing clerks sort these production sheets by dredge number, and place each in its appropriate dredge file.

The exporter, meanwhile, prepares a KP export-application package for submission to the GGMC. The package consists of the following elements:

- a customs declaration,
- an affidavit swearing that the rough diamonds “were legitimately obtained in Guyana, and were not obtained from any source or activity which is engaged in the trade of ‘conflict diamonds’”
- an Application for Export License that lists the dates and serial numbers of all the production sheets in the export parcel, along with their carat weights and stone counts,
- the duplicates of the production sheets for all the diamonds in the parcel,
- a receipt from the Guyana Revenue Authority proving the royalties have been paid,
- copies of the exporter’s daily diamond-transaction forms, showing the purchase dates of the diamonds being exported, and
- the diamonds to be exported.

Diamonds stored at GGMC prior to export

Guyana is the only country in the world that requires exporters to store their diamonds with a government authority while the KP and export paperwork is processed. Exporters complain about the practice, and although it does raise security concerns, DDII believes that African nations looking to strengthen their KP controls should strongly consider this measure. GGMC officials believe that because exporters know that their diamonds can be forfeited, and that the government can easily enforce a seizure, the exporters are far more careful with their paperwork, and far less likely to obtain diamonds of questionable origin.

Upon receipt of an export parcel, GGMC officials first ‘lodge’ the diamonds. In a room in GGMC headquarters, the exporter opens and weighs his export parcel to demonstrate that the diamonds match
both the carat weight and stone sizes indicated on the production sheet. Three different GGMC employees witness and independently verify the weight and stone counts. When this process is complete, the diamonds are placed in a metal lock-box, to which only the exporter has the key. The lock-box is then sealed inside a tamper-proof container and stored in the GGMC safe.

Clerical staff then begin to process the KP application. They check all the production sheets to verify that the claim block listed at the top of the sheet is valid and that the owner and location listed is correct, and valid signatures and counter-signatures are present.

GGMC staff then confirm the production figures, first comparing the data on the export application with the production sheets supplied by the exporter, and then cross-checking these figures with the production sheets stored in the dredge files. If all figures are in order, staff then pass the application to the GGMC commissioner, who reviews the application and, provided he has no further concerns, signs the KP certificate.

If the GGMC commissioner has concerns, either about discrepancies in the data, or about the size or quality of the diamonds submitted for export, he halts the application for further investigation. The unique nature of the Guyanese system, which tracks diamond production all the way back to an identified miner on an identified claim site, enables GGMC to trace suspect production back to its source. GGMC has enacted this process on a number of occasions.

Modernizing production data

Over the past few years, GGMC clerical personnel have entered production data into an electronic database. By computerizing data, GGMC hopes to facilitate the process of cross-checking production data. A large computerized data set will also enable Guyanese authorities to analyze the country’s diamond industry, both for reasons of diamond security and to discover deeper economic trends and social impacts.

For example, a 2007 study made use of Guyana’s extensive diamond-production data to establish some of the first benchmarks for the incomes of diamond diggers, and the mark-up applied to diamonds as they work their way up the chain, from miners to traders to exporters. This data may eventually enable African producers to better leverage their alluvial diamond resources.

The case for field-based enforcement personnel

The GGMC has personnel stationed throughout Guyana’s mining interior. In all, some 20 Mines Officers and Mines Rangers patrol the country. These officers and rangers are critical to the Guyanese system. As a permanent government presence in mining areas, they help create respect for rule of law and government regulation.

During their regular inspection tours, officers ensure that dredges follow both environmental and KP regulations. Under the Guyana mining act, officers may order a
miner or dredge to cease work for as long as the individual or team is non-compliant with mining regulations. These stop-work orders are far more effective at encouraging regulatory compliance than the schedule of fines listed under the act.

In addition to day-to-day enforcement, mines staff have the authority to investigate concerns about the origin of a parcel of diamonds.

Applying the Guyanese system to Africa and elsewhere?

Transferring one country’s administrative system to another nation is seldom easy. Governments operate in subtly different ways and legal policies rarely suit more than one jurisdiction. While this difficulty certainly applies to the diamond-production industry, Guyana’s diamond-production system could be adopted in African producing nations with minimal intervention.

In this section, we discuss the opportunity for adapting Guyana’s production system to the African context. We examine particular elements of the Guyanese system, such as the process by which it administers mineral claims, registers diggers and dredges and tracks diamonds from production to export, and recommend ways in which these processes could be modified for use in Africa’s major diamond-producing nations such as Sierra Leone, Angola, Liberia and the Democratic Republic of the Congo.

1. Administering mineral claims

The first advantage of Guyana’s system is that it functions independent of a nation’s existing mineral-claims laws. The Guyanese system requires that miners work on land covered by some form of legal mining claim, and that the claim
owner or his designate verify each miner’s production on a production sheet. (The claim owner has a vested interest in performing this function. It is how he collects his share of the diamonds produced on the claim).

2. Registering diggers
While Guyana’s diamond-mining regulations call for the registration of individual diggers, Guyanese authorities have had mixed results in their efforts to register everyone working in the diamond fields. The chief obstacle has been access. GGMC officials have set registration fees (US$5) well within the reach of the average miner and kept the bureaucratic and documentation requirements quite simple. Despite this, many diggers have been put off registering because of the time, effort and (for foreign diggers) the cost required to travel from the mining camps to the capital to obtain the necessary residency and mining-registration permits.

The limited success of Guyana’s miner registration effort provides a lesson for African mining officials. Diggers, clearly, will not travel long distances to enroll in registration programs, particularly when they can continue to work unregistered.

In Africa, mines officials should move the registration process as close as possible to

The Guyanese system in Angola
Guyana’s system could be adapted easily to the very large joint-venture mineral concessions that are the hallmark of Angola’s diamond sector, for example. In this case, a Guyana-style system would create a monitoring mechanism through which joint-venture concession holders could begin to collect revenue from a corps of legalized artisanal miners. This system would be a marked improvement on the current arrangement, in which diamonds are mined informally by illegal, but tolerated, garimpeiros, who are not monitored by the state and who do not provide revenue to concession holders.

The Guyanese system in the DRC
Adapting the Guyana system to the mineral-claims regime currently in place in the Democratic Republic of the Congo (DRC) could provide a greater challenge. The DRC mineral-claims code is principally geared towards large-scale claims by highly capitalized industrial mining enterprises. There are, however, relatively few of these enterprises in the DRC. Most, perhaps even a majority, of the country’s diamonds come from areas not covered by government-sanctioned mineral claims. In place of formal claims, local and traditional authorities largely determine digging rights. Implementing a Guyana-style system might then involve recognizing the legitimacy of traditional local authorities, and empowering them to verify local production.

Over the longer term, DDII believes the DRC should formalize a system of small-scale mineral claims, and government officials should work wherever possible with local authorities so that a tracking system wins maximum acceptance in the diamond-mining countryside.
Guyana's Diamond Tracking System: A model for Artisanally Mined Diamonds

the miners—into the mining camps themselves, ideally. To facilitate registration, bureaucratic requirements should be kept as simple as possible, and fees kept affordable (between US$1 and $5). The benefits of full registration will far outweigh revenue lost through lower fees.

Registration's key element

In Guyana, the lack of complete miner registration has had little or no effect on the system. This is because the critical element of the Guyanese system is registration of the basic unit of production: the dredge. Similar small-scale mechanized production facilities exist in many parts of Africa. For example, in some African nations, large gangs of diggers work under the direction of a single boss or miner. The miner collects all the diamonds produced by his diggers, sells the stones and distributes a portion of the proceeds to the diggers.

In such an arrangement, the entire crew of diggers and miners can be considered a single unit of production and can thus be registered in much the same way as a small-scale Guyanese dredge.

Registration challenges

Two situations exist where diggers can be particularly difficult to register: when they work independent of miners (either on their own or in small autonomous groups) and when they receive stones as payment. This last arrangement is common in Sierra Leone and the DRC.

On a diamond dig in Kasai Oriental in the DRC, for example, out of 100 sacks of earth dug from an alluvial pit, 15 might go to the claim holder or village chief, 25 to the gang of diggers, 10 to the crew of women who carried the gravel from the pit to the riverside to be washed, and the remaining 50 to the miner, who directs the digging and supplies the diggers with food and tools. Each of these stakeholders will wash his own sacks of gravel, discover and sell his diamonds.

In either situation, the odds of registering all diggers, and then getting them to work with production sheets that need to be signed and then countersigned by a claim warden or village chief, seem very long indeed. How then to adapt the Guyanese production tracking system to this situation?

One possibility would be to attempt to track production at the point at which a digger first sells his diamonds to a field buyer. Upon purchasing the diamonds, the field buyer could be obligated to record the name and registration number of the digger, along with the diamond weight and characteristics, and other important data such as the location of production.

The question arises as to what incentive field buyers or diggers would have to register their stones. In Guyana, one of the principal incentives is legality. Only diamonds accompanied by production sheets can legally be transported within the country. Similar incentives might work well in countries such as Angola and the DRC.
3. Registering productive units

The registration of dredges, or other small-scale mechanized production setups should pose no great obstacle in African diamond-producing nations. Many of these countries already have licensing regimes for such equipment.

As noted above, it is common in many parts of Africa for gangs of diggers to work under the direction of a single boss, commonly known as a miner. The miner collects all diamonds produced by his diggers, sells them, and distributes a portion of the proceeds to the diggers. In such a case, a crew of diggers and miners can be considered a single unit of production, and thus can be registered in much the same way as a small-scale dredge. In this event, the miner would be charged with securing a license and recording the team’s output on a production sheet. Such miners or crew leaders are few enough in number that the task of licensing them all should be relatively simple. What’s more, these miners are normally educated enough to manage these administrative requirements.

Simple administration

Of concern when licensing miners is the risk of creating onerous documentation requirements. Governments should be cautious not to create administrative systems that permanently enfranchise classes of miners with the right to exploit mineral claims at the expense of ordinary diggers. The aim of the system, after all, is to track diamond production, not enforce particular work or class arrangements in the diamond fields.

4. Registering traders and exporters

Because most African nations already license and register diamond traders and exporters, these countries should have little trouble adopting the Guyanese system.

African nations generally have two classes of licenses, one for in-country traders and another for exporters. Guyana, on the other hand, does not distinguish between these categories.

In some countries, the DRC chief among them, governments may consider intro-

Small-scale units in Africa

Over the medium term, in many African diamond-producing nations, it is likely that semi-mechanized small-scale jigs will begin to replace manual crews. This process is already underway in Liberia and could proceed quickly in Angola if the government there were to create a legal regime for small-scale artisanal mining. Large crews of completely manual diamond diggers are likely to persist longest in the DRC, where deposits are widespread and often of too low a value to justify the relatively modest investment of a small jig. In contemplating revisions to these nations’ systems, trends such as these should be born in mind.
ducing two distinct categories of in-country traders: small-volume pit-side traders, and larger-volume town-based traders. Such a system would enable the government to track diamonds as close as possible to their points of production.

The DRC is distinguished by many diggers working individual plots. These digging areas are often surrounded by numerous small-scale diamond buyers, who purchase directly from diggers and then sell to larger traders based in nearby towns. Creating an inexpensive class of pit-side trader (perhaps limited by volume) would encourage these traders to register.

Pit-side traders could be supplied with production-tracking forms and register diamond shipments as these trades receive stones from individual diggers.

5. Tracking diamonds from source to export

Although much of Guyana’s system can be simply adopted in African nations, two main challenges limit use of the Guyanese production-sheet system. Chief among these difficulties is the question of where to register and track diamond production. Larger miner/digger crews such as those found in Liberia, Sierra Leone and Angola could be brought into the system as single productive units, registered and made to work with production sheets.

This extra administrative burden, however, may prove too much for the individual diggers and smaller unorganized crews that are more prevalent in the DRC, for example. A pit-side diamond-trader system might make more sense in these situations.

Once governments have determined which member of the production team will first register the group’s diamonds, they must also decide who provides a counter-signature on the production sheet. The counter-signer confirms that the figures on the production sheet correspond to actual physical diamonds. In Guyana, the countersignature is provided by the claim holder (or his warden).

6. The case for field-based enforcement personnel

Finally, if the Guyanese system were to be adopted in African diamond-producing nations, these countries’ governments would benefit from field offices—staffed by mines officers—in their significant mining regions. Guyanese mines officers do not verify production sheets or oversee traders. Rather, they patrol the mining interior and conduct spot checks to ensure that miners adhere to production and registration regulations. The mines officers provide a permanent government authority in the diamond fields, and a conduit for the flow of information between miners and government.

Liberia has made a strong start in this direction, creating 10 regional diamond offices; however their mines officials spend a great deal of time in their offices verifying production sheets, and little time in the field.

In the DRC, a similar need to monitor diamonds coming into the comptoirs (buying houses) ensures that mines personnel are
tied to regional buying centres. Control of the diamond fields has thus fallen, in the best case, into the hands of traditional local authorities, and in the worst case under the control of paramilitaries. To better control its vast artisanal diamond fields, the DRC urgently needs to create a corps of mines inspectors who, perhaps in cooperation with local chiefs, can bring some order to the artisanal diamond fields.

In Angola, where artisanal mining remains officially illegal, control of production areas has fallen into the hands of the Angolan National Police. To rectify this situation, Angola would first need to legalize artisanal mining, then create a corps of mines officers to patrol and inspect artisanal digs. In this way, mines officials could separate the enforcement of the mining code from enforcement of the criminal code.

**Tracking in Angola**

In Angola, were such a system to be implemented, the owners of the large joint-venture concessions would likely provide claim wardens to verify production as a way of collecting the revenue due them as claim holders. For their part, if the miners were guaranteed that by registering their production they could then transport diamonds legally within the country and sell the stones where they chose (as opposed to being forced to sell their diamonds to the concession holder), they too would have strong incentives to register their diamond production.

**Liberia’s tracking system**

Liberia, which recently implemented a version of the production-sheet system, has opted to have government mines personnel verify diamond production. Miners bring their diamonds to one of 10 regional field offices established in the mining areas. Mines officers weigh and inspect the diamonds and then complete and sign forms recording the characteristics of the diamond production. These sheets then travel with the diamonds as they are sold on to the capital.

**Tracking in the DRC**

In a country such as the DRC, a hybrid of these two systems could produce an reasonable system. In the absence of a functioning small-scale claims system, claims holders may not be able to verify production. Given limited government resources and the vast number of producing areas, the government may have a difficult task establishing field offices in every production area. The compromise could be to have pit-side traders begin the process of registering production. These diamonds and production sheets could then be inspected and verified by mines personnel in the nearest regional centre, or at regional airports. Whatever approach is adopted, the figures claimed on the sheet should be verified by some external agent before the diamonds arrive in the capital for export.