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PROPERTY RIGHTS AND ARTISANAL DIAMOND DEVELOPMENT (PRADD)

THE FEASIBILITY OF MICROFINANCE FOR ARTISANAL
DIAMOND MINERS

MAY 2012

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ACRONYMS AND ABBREVIATIONS

ADM	Artisanal Diamond Miner
CAR	Central African Republic
CBL	Central Bank of Liberia
CDA	Cooperative Development Agency
CGAP	Consultative Group to Assist the Poor
CMCA	<i>Crédit Mutuel de Centrafrique</i>
DRC	Democratic Republic of Congo
FFM	<i>Fundo de Fomento Mineiro</i>
GOL	Government of Liberia
IDC	Industrial Development Corporation
IFC	International Finance Corporation
IDMP	Integrated Diamond Management Programme
KPCS	Kimberley Process Certification Scheme
LEAD	Liberia Entrepreneurial and Asset Development
LEAP	Local Enterprise Assistance Program
LEDFC	Liberian Enterprise Finance Company
MLME	Ministry of Lands, Mines and Energy (Liberia)
MFI	Microfinance Institution
NGO	Nongovernmental Organization
NSC	National Steering Committee of Service
PRADD	Property Rights and Artisanal Diamond Development
RDO	Regional Diamond Office
RMA	Regional Mining Agent
ROSCA	Rotating Savings and Credit Association
SCG	Savings and Credit Group
SMARTER	Sustainable Mining by Artisanal Miners

SME	Small and Medium Enterprise
SMMRP	Sustainable Management of Mineral Resources Project
SOFIA Credit	<i>Société Financière Africaine de Crédit</i>
UNCMCA	National Union of Central African Mining Cooperatives
UNDP	United Nations Development Program
USAID	United States Agency for International Development
USGS	United States Geological Survey
WB	World Bank

1.0 INTRODUCTION

1.1 PURPOSE OF THE RESEARCH

This study details the feasibility of microfinance services for artisanal diamond miners (ADMs) in the Central African Republic (CAR) and Liberia. The research was done in collaboration with the United States Agency for International Development's (USAID) Property Rights and Artisanal Diamond Development (PRADD) programs in each country, building off their efforts to formalize the diamond sector and improve the livelihoods of ADMs. Access to finance and inequalities in the existing financing system are seen as predominant constraints to miners' ability to engage in and fully exploit diamond sector potentials. This study was commissioned to investigate current financing dynamics for ADMs, as well as to identify opportunities and constraints for microfinance as a viable alternative. Based on a literature review of experience in different countries and field research in CAR and Liberia, an analysis is presented and country level recommendations are made.

1.2 METHODOLOGY

The research methodology focused on a desk study literature review and field visits to CAR and Liberia. The literature review concentrated on identifying international experiences with ADM finance to better understand what has and has not worked in other contexts. With few examples to draw upon, the author was able to identify some studies in a nascent area of research and analysis drawn from academia and donor programs. These reports are cited in the bibliography of this report (Annex 1) and form the basis of findings in Section 2.0.

The author also undertook country-specific literature reviews on the diamond and microfinance sectors for CAR and Liberia to better inform analysis. Research was supported by and built upon previous research conducted through PRADD, specifically the following reports: *The Feasibility of Direct Marketing of Artisanal Diamonds from Liberia and CAR to the USA*; *Alternative Financing Mechanisms for Artisanal Diamond Development in CAR* and *Prefeasibility Study: Institutional and Regulatory Aspects in CAR's Microfinance Sector*, as well as household surveys conducted in each country. These studies provided background on the artisanal diamond market system, existing savings and lending group practices in CAR and the status of the microfinance sector in CAR.

Visits to CAR and Liberia were conducted in January 2012. The author spent 12 days in Liberia and nine days in CAR. In both countries time was divided between the capital and field visits to mining areas where PRADD works. In Liberia the community of Lofa Bridge was visited, while in CAR Bola, Balego and Berberati communities were visited. Interviews were conducted with key stakeholders in each country and focused on semi-structured questions to let discussions evolve based on individual experiences and knowledge of the diamond sector. Stakeholders included ADMs, brokers, diamond houses, donors, government mining and banking personnel, microfinance institutions (MFIs) and commercial banks. A list of informants met with in each country is provided in Annexes 2 and 3. Group discussions were held with miners during field visits, with three such meetings held in both Liberia and CAR.

1.3 STRUCTURE OF THE REPORT

This report first presents the findings of the literature review and the broader global experience of artisanal miners, typical financing systems and experiences with microfinance in the mining sector. Specific findings and recommendations are then provided for CAR and Liberia.

2.0 GLOBAL EXPERIENCE

2.1 ARTISANAL DIAMOND MINING CHARACTERISTICS

There are 13 to 20 million artisanal miners globally and, while specific histories may vary, their conditions, experiences and struggles form common threads across countries. Artisanal diamond mining is concentrated in areas of alluvial diamond deposits that favor small-scale extraction methods over large patches of isolated landscapes. Communities in diamond producing areas typically lack services and have poor infrastructure and little economic opportunity. Artisanal mining areas are plagued by poverty and have often survived years of conflict. Artisanal miners operate with basic tools and require capital to fund the diggers needed to undertake extraction, yet these areas often lack financial services.

With some variation by country, the typical production and market system involves artisanal miners sourcing funding from middlemen with relationships with exporters to support their operations; this obligates the miners to sell diamonds directly to their lender to cover their debt. Artisanal miners typically lack diamond valuation knowledge and have limited bargaining power, resulting in low prices. This arrangement has been characterized as poverty traps by some and as a valuable service by others. Artisanal miners often have little financial and livelihood alternatives, which keeps them hoping for big payouts, incurring varying levels of debt with middlemen and making do with available resources. Given these dynamics, donors and governments have taken an interest in formalizing and developing the diamond mining sector, as well as improving services and livelihoods in artisanal mining communities.

Mining groups and cooperatives have been seen as a means to organize miners to improve service provision, foster community development, leverage resources and increase bargaining power among artisanal miners. Several donor programs and country strategies have supported these efforts, and associations (or even cooperatives) of miners are now seen as key features of many development activities with miners. Miner associations often involve smaller numbers of people and are of an informal nature, whereas cooperatives can have upwards of 30 members and must be registered with the government.

Anna Van Nieuwenhuizen, in her study on the Diamond for Development Program in Liberia (2008), details the rationale and hopes for mining cooperatives, noting the program sought

“...the development of mining and trading cooperatives with a view to improving the organizational structure of production. 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 levels.”

2.2 ALTERNATIVE FINANCING MECHANISMS AND DYNAMICS

Lack of finance is cited as a key issue among artisanal miners, and donors and governments are looking to microfinance as a possible way to expand access to financial services. The idea is that with alternative funding, artisanal miners will be able to ensure mining activities, obtain better prices through more sales options and reduce their dependence on middlemen. Hayes and Van Wauwe (2009) state that “microfinance can provide the opportunity to informal miners to break the vicious circle of operating solely in economic survival mode.”

It is also hoped that the provision of microfinance will advance the transition of artisanal miners into the formal economy and make them more willing to obtain licenses.

Microfinance comes in several formats, ranging from formal to informal service provision through various forms of MFIs. As detailed by the Consultative Group to Assist the Poor (CGAP),

“Most MFIs started as not-for-profit organizations like [nongovernmental organizations] NGOs, credit unions and other financial cooperatives, and state-owned development and postal savings banks. An increasing number of MFIs are now organized as for-profit entities, often because it is a requirement to obtaining a license from banking authorities to offer savings services. For-profit MFIs may be organized as non-bank financial institutions, commercial banks that specialize in microfinance or microfinance departments of full-service banks” (CGAP, 2012).

In addition to MFIs, microfinance is also organized informally through rotating savings and credit associations (ROSCAs) and savings and credit groups (SCGs). These community-based groups pool resources to provide payouts or loans to members, with SCGs also typically leveraging external funds.

Artisanal miners seems a good fit for one of these microfinance schemes that tailors products to meet the needs of resource-poor populations and focus on providing small loans to low-income clients. However, MFIs have been slow to engage in rural and agricultural finance as the level of risk, need for diversified products and operating costs increase outside traditional areas of support. They historically have been focused on small and medium enterprises (SMEs), microenterprise and income-generating activities. Thus, while microfinance appears to be a good fit for artisanal miners, the question arises whether microfinance is ultimately in the best interest of artisanal miners and financial institutions, given the complexities and uncertainties of the diamond mining sector. Little research has been conducted on the subject of alternative financing options for ADMs, with seminal studies coming from Hilson and Ackah-Baidoo’s work on group lending and microfinance with artisanal miners in Ghana; Spiegel’s research of artisanal lending in Zimbabwe, Tanzania and Sudan; Levin and Turay’s evaluation of USAID’s Integrated Diamond Management Programme (IDMP) in Sierra Leone and Hayes and Van Wauwe’s analysis of microsavings in the Democratic Republic of the Congo (DRC).

Risks for Financial Institutions. Spiegel (2011) cautions that mining may be too risky for formal microfinance sources to support. Artisanal miners are often not seen as credit-worthy with

“...migratory lifestyles, lack of land tenure, marginal legal status and the social challenges associated with artisanal mining, along with poor (if any) financial and business planning skills. Mining areas may be remote, the mines may have a limited lifespan and the sites often fall outside areas targeted by development programs. Artisanal mining is generally carried out with little access to geological assessment skills with which to identify or confirm the scale or value of the resource. Therefore, there are typically few guarantees of return on investment. Any combination of these factors can contribute to a perceived or actual challenge in making repayments” (Hayes & Van Wauwe, 2009).

Given artisanal miners’ lack of traditional collateral, group lending methodologies have been promoted as a means to offset risk and reduce transaction costs for MFIs and develop artisanal miners’ social collateral (Hilson & Ackah-Baidoo, 2011). Group lending has been used in microfinance to provide services to farmers, women and the poor where individual loans would be difficult to administer and groups provide loan guarantees through internal repayment pressure. MFI perceptions of miners and lack of understanding about the mining sector also present difficulties for institutions when considering lending to artisanal miners in general. Hilson and Ackah-Baidoo (2011) report that artisanal miners are often labeled as “criminals, illiterates and armed robbers.”

Risks for Artisanal Miners. Researchers also ask if microfinance is better than the existing systems, or if increased debt accumulation will ultimately harm artisanal miners. Artisanal miners typically have limited financial management, planning and saving experience, which leads Hayes and Van Wauwe to argue microfinance cannot be a standalone offering. Mining communities’ stage of development should be a factor

in determining appropriate financial services (Hayes & Van Wauwe, 2009). Spiegel (2011) also raises the question whether existing interest rates would be feasible for artisanal miners, and has advocated for subsidized rates. At the core of the issue is if an artisanal miner has poor capacity for control and prudent management of their finances, access to credit could exacerbate rather than alleviate their difficulties. For miners who are indebted, more credit may just compound their problems and shift the dependent relationship from the supporter to the MFI (Hayes & Van Wauwe, 2009). Due to these factors Spiegel, Hayes and Van Wauwe and others have argued for capacity building activities to be built into credit programs and that microsavings either be a precursor to loans or, at minimum, a component of any financing opportunity.

Another consideration is the extent to which miners perceive formal credit options as ultimately better than their current sources. While the current system has its faults, miners also have built up relationships and are familiar with the system dynamics. In their analysis of IDMP in Sierra Leone, Levin and Turay found that some miners “expressed an unwillingness to participate in the cooperatives because they were reluctant to abandon or jeopardize their relationship with dealers/supporters. In addition to everything else, patrons provide social security in the form of occasional but very important financial or political assistance in times of trouble” (Levin & Turay, 2008). This sentiment was also echoed by Hayes and Van Wauwe (2009) who found that middlemen “can be an important source of ‘no-questions-asked’ assistance for urgent financial needs, assistance with health costs, import of commercial goods and other important services that are not provided by any other source.”

2.3 COUNTRY EXPERIENCES WITH ARTISANAL MINING FINANCE

The donor community and NGOs have taken various approaches to address artisanal miners’ financial constraints and system dynamics. Approaches have varied, ranging from grant provision to miners, government-run loan programs, donor-supported loan guarantee funds, savings and livelihood diversification programs and miner group and cooperative lending. Hilson and Ackah-Baidoo (2011) note that while governments and donors see financial assistance as key to improved working conditions and improved standards of living, they remain cautious given experiences to date. Dreschler’s analysis across six countries found that many organizations “give grants based on the knowledge that recovery loans costs more resources than can be recovered” (Dreschler, 2001).

Hilson and Ackah-Baidoo have found that microfinance efforts with artisanal miners have proven difficult in part because “most of the schemes implemented to date have been designed far too cavalierly. Although most have targeted *licensed* miners, failure to determine, beforehand, an appropriate rate of interest, the geological content of miners’ concessions in order to gain some insight on the potential lifespan of supported activities, ways to collateralize commitments to repayment and other methods for reducing lending risk has led to high levels of borrower neglect and loan defaults, in many cases resulting in abandonment of lending schemes altogether” (Hilson & Ackah-Baidoo, 2011). Below is a summary of actions taken across countries cited in the literature to better highlight experiences and approaches with alternative finance.

DRC: In the northern section of the country, Pact is working with artisanal gold mining communities through the WORTH program for women. Their approach, as detailed by Hayes and Van Wauwe, is focused on literacy training, savings groups and improved management skills. Groups meet twice a week for training and contribute to group savings. Called “microsavings” given the small deposits, WORTH is gradually developing a culture of savings and planning, as well as group trust. Groups work toward the use of funds as loan capital for mining or alternative livelihoods in addition to communal assets such as equipment. Hayes and Van Wauwe (2009) report that “over time, this can contribute to accumulation of reserves via savings and inventory, in turn giving access to investment and property as the savers become creditworthy for larger loans.”

Ghana: In northern Ghana, Hilson and Ackah-Baidoo reported on a loan agreement between the Ghanaian government and the Telensi-Nabdum Cooperatives Small-Scale Society to support gold mining in the region.

Miners lacked capital to expand operations and were faced with mounting debt. Hilson and Ackah-Baidoo (2011) describe how “operators often find themselves competing for limited resources, not knowing the precise locations of economic deposits, using inefficient methods to extract ore and generating few funds to reinvest in their activities.” Prior to giving loans, the government required written commitment from cooperatives that would work together and share risk, and miners were required to obtain licenses. Cooperatives developed funding proposals detailing equipment needs and opened bank accounts. Loans were approved by the Ministry of Finance, and a Loan Management Committee oversaw the loans, which were dispensed as working capital for up to three months. The committee was required to co-sign all checks written by cooperatives, and all gold was sold to a designated buyer listed as “guarantor” on the loans (Hilson & Ackah-Baidoo, 2011).

Hilson and Ackah-Baidoo supported the framework of the program, reporting initial achievements were “the result of receptive government officers, and their development of a general blueprint for a microcredit scheme that emphasizes the three core elements—social collateralization, devolved responsibility to borrowers and borrower discipline—that have made the Grameen programs successful” (Hilson & Ackah-Baidoo, 2011).¹ However, they also report that group cohesion has been an issue in addition to continued reliance on middlemen for funds to meet additional needs.

Malawi: In 2001, Dreschler reported “formally associated small-scale miners in Malawi can go to banks and get loans if their projects are viable.” Within government, there was a proposal to set up a revolving fund for credit and machinery, especially for the gemstone sector. However, in view of a philosophy of liberalization, the mining and mineral sector as a whole was left to shift for itself. This has negatively affected small-scale miners who can no longer borrow money from a government-supported revolving fund. Malawian government, however, does recognize that small-scale miners can spearhead development, particularly at the grassroots level. That is why government encourages the formation of associations. With the exception of Lirangwe (Women) Limemakers Association, which was funded by the European Union with a view to promoting women entrepreneurs, none of the other mining associations in the country are funded (Dreschler, 2001).

Mozambique: Through the *Fundo de Fomento Mineiro* (FFM) of the Mozambican Ministry of Mineral Resources and Energy, small-scale miners are eligible to get funding from commercial banks with a 20% contribution. As of 2001, Dreschler reported this was the only source of direct credit for small-scale miners; however, qualifying for the funds was difficult. Dreschler found “candidates need to make a request to the president of the FFM and, if the funds required are for purchase of equipment, they should append quotations.” Dreschler (2001) argued that requirements for documentation should be appended, including the requirement for a “copy of their mining license, a feasibility study of the project, proof of possession of 20% of the amount requested, guarantees of a property equivalent to the requested amount (say, a mortgage), repayment plan for the credit [and] proof of a market for the product to be produced.” Figures and the number of beneficiaries for the FFM were unavailable, but it was found that not only were the requirements prohibitive for small-scale miner participation, but those who did obtain funds neither paid back their loans nor invested the funds as intended (Dreschler, 2001). Monitoring of the fund was weak and relied on progress reports that often did not reflect the reality. There were no other financing options available for small-scale miners in the country.

Nigeria: The World Bank (WB) funded the \$10 million Sustainable Management of Mineral Resources Project (SMMRP) that concluded in May 2012. SMMRP provided grants to artisanal miners and worked with over 133 mining cooperatives. Hayes and Van Wauwe (2009) reported that the fund was designed to finance equipment, provide training and promote access to finance and product markets.. Miners were required to form cooperatives with a minimum of ten members to qualify for grants no greater than \$50,000 to be used

¹ The reference is to the Grameen Bank, founded in 1976 by Muhammad Yunus in Bangladesh as a credit delivery project targeting the rural poor. In 1983 the Bangladesh government enacted legislation transforming the Grameen Bank Project into an independent bank. The organization and its founder were jointly awarded the Nobel Peace Prize in 2006.

to pay for services and purchases. Funds were not given in cash, and matching amounts were required by the cooperative. No evaluation has yet been conducted on the project's broader impacts.

Papua New Guinea: Hayes and Van Wauwe cited a project funded by the Japan Social Development Fund and implemented by the Wau Ecology Institute to assist mining communities in Papua New Guinea that included business and microfinance skills. As a result of this, more than 25% of participants opened new accounts with the Wau Micro-Bank (Hayes & Van Wauwe, 2009). It is unknown if credit was also provided.

Sierra Leone: During field research in Liberia for this report, the Director of the Local Enterprise Assistance Program (LEAP) reported that she previously had spent six years working in Sierra Leone for the MFI Salone Microfinance Trust. The trust was founded by Child Fund International as a microfinance program in 2002 and is now operating as an independent institution. The MFI had been providing loans directly to ADM groups that were already in existence and who had come to the MFI looking for funding. Some of the groups already had savings. Salone Microfinance Trust decided to give loans through the group to individuals. Prior to giving loans, the MFI confirmed the individuals were part of a group, how long they had been mining, whether they had family in the area and their reputations with community and local leaders.

For collateral Salone Microfinance Trust required 10% of the loan amount as savings, as well as backing from the group and community leaders. The MFI used 2.5% monthly interest rates and had a 95% repayment rate. The repayment was managed through the association with interest due monthly and the principal quarterly. When individual miners were unable to find diamonds within their repayment deadlines, the group sometimes would cover their payments. The MFI was very strict on repayment schedules and default would mean no future loans; however, the group would work with miners to try and collect by adding fines or reducing loan amounts. Their approach was to start small with 50 miners and, based on performance, they expanded their clients. During the initial period, Salone Microfinance Trust provided training on microfinance, business, management, planning and savings.

IDMP was implemented by Management Systems International through a cooperative agreement with USAID. The project ended in December 2007. The program is routinely cited as a case in which loans to miner cooperatives were unsuccessful. The program's Alluvial Mining Financing Scheme focused on miner cooperatives of 50–70 people and sought to rationalize artisanal production, provide opportunities to youth, bypass middlemen, diversify miner incomes, consolidate the supply chain, demonstrate creditworthiness to the banking sector and encourage self-policing (Levin & Turay, 2008).

The scheme was cancelled after one year due to lack of achievement of intended operations and outcomes. "Its principle failings were that the cooperatives found very few diamonds, made very little money and suffered corruption. The principle reasons had to do with inadequate socio-cultural preparation, design and implementation difficulties; inadequate prospecting and exploration; donor delays and removal of support for the revolving fund by the donor" (Levin & Turay, 2008). The cooperatives received business skills training, yet the process was rushed and the program ended up directly undertaking many of the activities that would have helped strengthen the cooperatives. Only five of the registered 35 cooperatives qualified for funding, and they struggled to turn a profit and find diamonds within the scheme's year of operation (Levin & Turay, 2008).

South Africa: Dreschler (2001) also reported that the Government of South Africa

“...launched the Small-scale Mining Development Framework intended to stimulate and develop the sector. The National Steering Committee of Service [NSC] Providers to the Small-scale Mining Sector was started to provide technical, managerial and financial support for small-scale mining projects. The financial assistance comes from two departments from trade and industry: Khula (who provide loans) and Ntsika (who provide services in kind such as training and capacity building) and the Industrial Development Corporation (IDC), which provides commercial bank loans. The process for getting funding for small-scale mining is the following: pilot projects are identified and a business plan prepared based on technical input and managerial process. The business plan is then submitted

to IDC for evaluation. If approved, IDC usually grants 90% of the loan and the project (usually in the form of a cooperative) is responsible for raising the remaining 10%.”

By 2001 the NSC had negotiated a number of loans with artisanal mining cooperative, yet it is unclear how these cooperatives have subsequently performed.

Tanzania: The country’s Mineral Policy of 1997 set forth several strategies to improve small-scale miners’ access to credit and provide increased security for creditors. The strategies included supporting the formation of formal enterprise groups such as miners’ associations with commercial companies, formalizing traditional funding systems by promoting forward sales and group savings, encouraging MFIs to develop affordable credit schemes, promoting the use of third-party guarantees, encouraging NGOs to develop SCGs and promote savings and arranging a trust fund for basic mining equipment (Dreschler, 2001).

Spiegel (2011) also reported that Tanzania has advocated for a government run-system as the best way to ensure funds reach small-scale mining communities. Findings did not show how these efforts have resulted. It was also found that the WB is supporting a Sustainable Management of Mineral Resources Project for Tanzania that is focusing on entrepreneurship among small-scale miners through grants for community and technology development. Research also did not produce findings on the impacts of this effort.

Zimbabwe: In 2007 the Zimbabwe Ministry of Mines extended loans to female artisanal miners through a Mining Industry Loan Fund designed for ADMs. The fund of 50 billion Zimbabwe dollars was reported to have been poorly disseminated in delayed loans, diminishing the actual value of assistance (Hayes & Van Wauwe, 2009).

Zimbabwe, Tanzania and Sudan: The Global Mercury Project was funded by the United Nations Industrial Development Organization and operated in Zimbabwe, Tanzania and Sudan from 2002 to 2008. Based on findings that artisanal gold miners required access to finance, a Microfinance Initiative was begun in 2006 that included advocacy for an increase role of government (Spiegel, 2011). No data was found that reported on how the program was implemented or its impact.

2.4 KEY FACTORS FOR SUCCESSFUL FINANCIAL SERVICE PROVISION

While several examples of approaches across countries exist, limited analysis is available to understand the range of impacts and outcomes. Many reports cite cases of existing or upcoming programs, but research does not indicate that any follow-up evaluation was undertaken. Additional research is needed to better understand lessons learned and best practices. Based on the current literature, however, several key considerations for successful initiatives are apparent, including targeted approaches, appropriate financial products, importance of non-financial services and expanded MFI diamond sector knowledge.

As detailed below, findings and recommendations from research undertaken in CAR and Liberia echo key considerations highlighted in the literature. A strong microfinance sector is important to the success of any program targeting ADMs and MFIs in CAR and Liberia need continued development, including expansion into rural areas, diversified loans products and increased human resource capacity. Any program would need to carefully evaluate ways to mitigate risks for MFIs as well as ADMs, who often have limited experience with formal financial services and receive complex support services from middlemen. Such risk can be reduced in several ways, such as i) development of miner groups and cooperatives in skill development, management, marketing and collective action; ii) improvement of ADM prospecting through better techniques and access to geological data; iii) expansion of licensing, land titling and policies which support diamond sector formalization; and iv) increased income diversification among ADMs. With such foundations the potential for successful financial service provision increases and consideration could be given to options such as pilot programs, lending through ADM projects, loan guarantee funds, and targeted lending approaches for ADMs.

3.0 THE CENTRAL AFRICAN REPUBLIC

3.1 DIAMOND MINING IN CAR

Contribution to the Economy. Diamond production has been taking place in CAR since the 1930s, and due to CAR's alluvial diamond deposits, ADMs continue to predominantly undertake the activity. Over 400,000 people are directly engaged in artisanal mining and 2.8 million indirectly or directly benefit (Van Bockstael et al., 2010). The Ministry of Mines reports the export value of diamonds was over \$64.3 million in 2011 and diamonds are second to timber as the country's largest export commodity. Production occurs throughout the country with large deposits particularly in the west and east. As noted in the PRADD 2012 Work Plan, "diamond mining contributes 60% to CAR's export earnings, even though production is almost entirely by artisanal methods. According to the 2010 United States Geological Survey (USGS) assessment report on CAR, the estimated total amount of diamonds remaining in CAR is twice the amount that has been exported since 1931: 39 million carats." In addition to large quantities, the quality of diamonds in CAR is high and there is significant global demand.

Government Engagement and Support. Despite its contribution to the national economy, by many accounts the diamond sector has been historically neglected. In 2004 the government began taking steps to document and formalize the sector in support of the 2003 Kimberley Process Certification Scheme (KPCS). The government's moves to facilitate formalization has included decentralizing the bureaucracy into mining areas, reducing the permit cost to 30,000 CFA francs per year² and encouraging mining cooperatives through allowance of direct sales and export. To foster internal control, buying slips issued by the government follow the diamond from excavation to export. In addition, miners are required to keep a notebook that records all the diamonds mined from their sites. The Ministry of Mines also has collaborated with the National Union of Central African Mining Cooperatives (UNCMCA) that was founded in 2004 to support mining cooperatives. It is estimated that currently 80% of diamonds mined in CAR are exported legally even though only 4% of miners hold permits.

The PRADD Program. The goal of PRADD is not only to increase the flow of diamonds in the formal sector but also to improve the benefits to the miners operating in the system. PRADD began its CAR operations in 2007, and the project works with the Ministry of Mines to support CAR's formalization efforts. PRADD is based in Bangui and has field offices and community mobilizers in Berberati, Bola and Nola in the south-western part of the country. Now in its fifth year, the program works with 3211 miners on formalization, land tenure, environment and livelihood issues and has made significant advances. In particular, PRADD has worked to create or strengthen mining groups to improve their capacities in diamond valuation, cooperative organization and management, mining practices and group savings and planning. PRADD has also worked with mining communities on the development of alternative livelihoods outside of mining. These communities are now active in fish cultivation, soap making and agriculture production activities that are bringing in needed sources of steady revenue. Recently PRADD began to offer tools and

² A 2010 PRADD study reviewed the permit costs in 10 countries and analyzed the impact of cost reductions on permit allocations. Findings showed government revenue would not be negatively impacted by permit cost reduction due to increased permit sales at the lower cost. The government of CAR changed its policy based on the report's findings.

equipment through a credit program to qualified miners working with the program. A major constraint reported to PRADD by miners and other actors in the diamond sector is the lack of financing for activities and the difficulties associated with the current financing system.

3.1.1 Profile of Artisanal Diamond Miners

Prospection and Extraction Techniques. The majority of the miners have little to no formal training in mining prospection or extraction and learned their trade from previous generations or personal experience. No miners interviewed reported any geological analysis services available in the area and acknowledged their activities were largely luck-based. Prospection consists of looking for indicator stones and sometimes digging deep narrow holes to determine depth to the gravel where diamonds are found. Depending on the location of a site, miners may travel far from their homes to supervise activities and not return for several weeks or months. If gravel is not hit or stones are not found within one to three months at one site, miners typically will start a new pit adjacent to the first, continuing in this fashion until diamonds are found. Miners reported that it was almost certain a diamond would be found by the fifth pit, and one very rarely had to dig more than 10 pits before finding a diamond.

Access to Services. As found in field research and household surveys conducted by PRADD, ADM communities in CAR are in isolated areas with poor infrastructure, often lacking basic services, and with few economic alternatives to mining. Many of the towns and villages in extraction areas are either closely linked to the diamond sector or exist specifically to support the sector. Based on export data and the prices reportedly paid to miners, PRADD estimates that \$18.2 million is circulating among miners and an additional \$43.1 million among collectors.³ This money operates outside the formal financial sector as there are few if any banks or MFIs operating in the diamond mining areas. In addition, there is no stipulation that any portion of taxes paid on exports should return to the communities from where diamonds were extracted. Thus there is little indication in diamond mining communities that they are the origin of millions of dollars' worth of diamonds. Interviews with field agents for the Ministry of Mines revealed the government does map and analyze diamond deposits and intends to expand these activities through the newly enhanced Directorate of Cadastre, Research and Exploration. It was confirmed, however, that the information gathered will be for the benefit of large-scale miners.

Assets and Savings Practices. The vast majority of miners have a low asset base, and few own a home, land, business, car or motorcycle. Some miners have mining equipment, which ranges from shovels to water pumps. Miners in CAR do routinely find diamonds and some are able to transfer from shacks to houses and expand their assets; however, the majority struggle with poverty in hopes of finding a diamond. The belief that one diamond found will be followed by more also leads many miners to focus on the short term. With limited available services, miners most frequently look to convert any income into durable goods such as building material, land, equipment or transportation. Miners also reported using funds from diamonds to support household expenditures and hiding the money at home or in the forest.

Experience with saving money derived from diamond sales was low. Due to personal expenses and conversion of money into goods, many miners reported no money left over to save. Few miners reported saving funds to support future mining cost. Several miners were members of kelembas (ROSCAs) and used them for a portion of their savings. Only so much money could reasonably be entrusted to the kelembas, and members reported that even kelembas did not use banks to guard group funds. Often the leader would keep the money at home, making security and risk of theft a concern for member miners (once a diamond is found in a community, everyone finds out about it quickly, and the use of safes or lock boxes is not common).

³ Adding 20% to the 2011 diamond exports to adjust for black market sales, PRADD estimates \$77.2M as the value of the actual diamond economy. PRADD research shows miners on average receive 24.1% of the export price, from which PRADD estimates that \$18.2 million is circulating among the miners.

PRADD estimates that upwards of 66% of miners do not keep their money in financial institutions, and few miners interviewed reported having ever had a savings account with an MFI. Some reported that MFIs have previously operated in the area; however, few miners were members and the MFIs closed, leaving miners with no services available. Barriers to engaging with the MFIs included the required identification card to open an account, distance of branches from mining communities, lack of interest in using banks and lack of trust. A few miners reported having savings accounts with Express Union, but they noted that this MFI had been trying to reach them as they had not made deposits for some time.

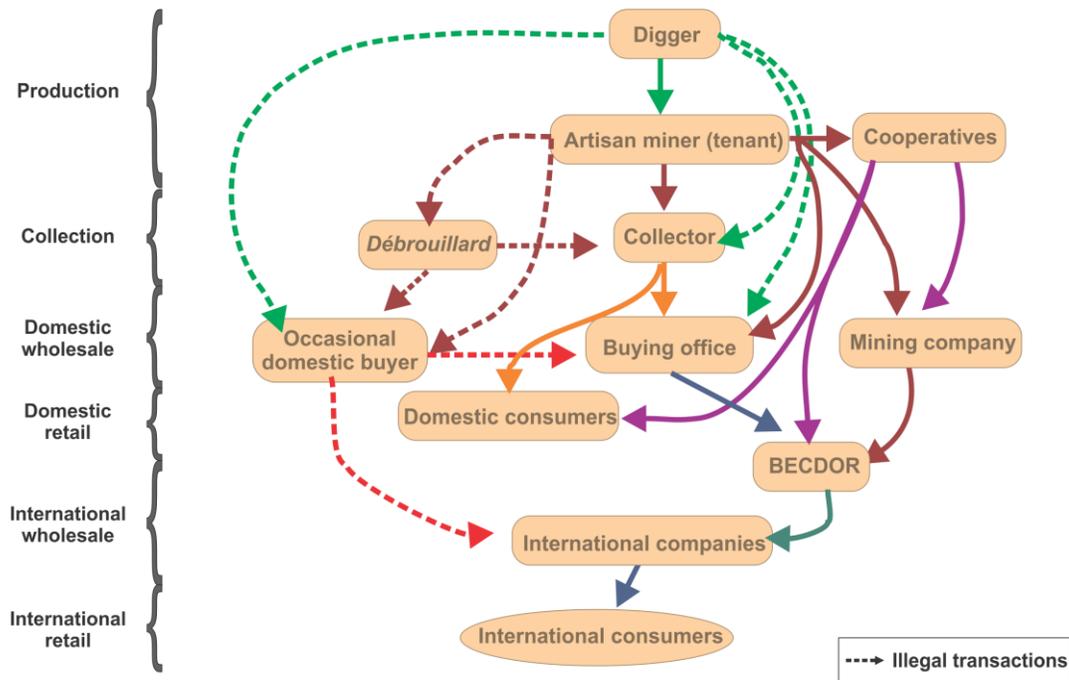
Engagement in Cooperatives. Several miners interviewed reported belonging to cooperatives. Some of these groups were relatively new and had been developed through PRADD; others had been in existence for several years. Their level of activity varied; none of the cooperatives interviewed were involved in exporting, although they reported selling diamonds to collectors or diamond houses. Cooperative members faced the same challenges as individual miners (i.e., limited access to services and a low resource base). Some cooperatives shared equipment, undertook group savings and conducted small investments or loans to members. None of the cooperatives reported a group bank account or engagement in group sales and negotiations. PRADD's work with mining cooperatives has focused on strengthening their capacities to work together, negotiate prices, save and have common goals.

UNCMCA has not provided many services to cooperatives, and it was not actively functioning during field research due to corruption and leadership scandals. The government allowance of export rights for cooperatives has also strained the reputation of cooperatives within the country, as many were formed solely to export diamonds and do not function as real cooperatives based in the mining communities. Collectors reported mixed feelings about cooperatives, and none interviewed had had any interaction with them. They tended to view the cooperatives as competition, given that they can export directly, and stated that many of them were not genuine cooperatives. Other collectors understood that cooperatives could be a source of diamonds to purchase and were open to working with them.

3.1.2 Diamond Sector Value Chain

Building on previous PRADD value chain and market analysis reports documenting the structure of the diamond sector, research to support this study confirmed previous findings and highlighted the sector's complexities and dynamics as it gradually shifts toward formalization and legality. Figure 3.1 presents the value chain's players and relationships, originally developed by Friedman and expanded in this report to show the inclusion of cooperatives (Friedman, 2008). The system is led by diamond houses that operate out of Bangui, as well as their regional buying offices. At the time of the research there were six diamond houses in CAR, with three controlling the majority of the market. These buyers either purchase diamonds directly from miners or through collectors who had bought the diamonds from the miners. The collectors often work for buyers, and they operate at the community level in close contact with the miners.

FIGURE 3.1. DIAMOND VALUE CHAIN IN CAR



Permits are required for the diggers, miners, collectors and buyers to operate in the formal system. Outside the formal system, unlicensed miners often sell diamonds to licensed miners who then have the diamond certified by the government for sale. Unlicensed miners also can sell to a “Débrouillard,” an individual without a collector license, who will try to sell the diamond to a licensed collector or on the black market. Diggers also steal diamonds and go outside of the formal system to sell. Cooperatives now are formally provided for in the system, and they can transact with collectors and diamond houses and even directly export diamonds. A more detailed analysis of the market and trade dynamics is undertaken in the PRADD study, *The Feasibility of Direct Marketing of Artisanal Diamonds from Liberia and CAR to the USA*.

3.2 FINANCING FOR ARTISANAL MINERS

Collectors as Investors. The majority of funding to date in support of miners has come from collectors—a valuable service given the dearth of options. This structure results in a complex and tenuous relationship for both collectors and miners. The small number of independent collectors use their own capital to invest in the miners, however its estimated 90% of their funding comes from diamond house collectors diverting a portion of buyer provided funds for diamond purchases to miners. No collectors interviewed reported sourcing a loan from a financial institution to fund miners. The funds provided to miners come in the form of cash or cash plus equipment. Miners reported that collectors never give equipment only, but do give cash only, as some miners already have equipment. Not all miners have access to collector investments and available funds are not sufficient to meet demand from miners, which impacts extraction levels and miner productivity.

Limited Miner Alternatives. Miners are sometimes able to self-finance a portion of their work, such as prospection activities or permit purchase. This funding may come from savings, agricultural and alternative income activities or family; however, it is not sufficient to fund the costs of their mining activities in full. Some miners reported obtaining funds from kelembas; however, the practice of rotating allocations of small amounts limited the kelembas’ effectiveness in financing mining activities. Some miners reported using kelembas to pay for permits, but not to fund mining activities, as their available payouts were too limited. Miner resources are not sufficient to fully fund operations and without additional funding, more profound excavation is not possible given the need to pay for equipment and daily stipends for diggers. While some

miners reported having some level of equipment, many reported having only basic tools. Miners stressed that funding for diggers was a major constraint; if the miners could not pay the diggers, the work would not advance.

Collector Investment Factors. Prior to investing in a miner, a collector will evaluate several factors, including personal knowledge of the miner, mine potential and indicator stones or diamonds already found at the site. According to the miners, the mine is the most important consideration, not the miner license. Collectors will sometimes fund licenses, but typically they want to see diamonds before making such an investment. Neither collectors nor diamond houses use geologists or other specialists to confirm if a site has high potential. Both actors cited their main activity is buying diamonds—taking on other activities would be too costly. Collectors often work closely with communities and typically know miners, which factors into their investment decision. Being active in the communities also helps them monitor their investments. Miners reported that funding typically ends after one to three months if diamonds are not found, leaving miners in a difficult position without other financing options available. With little information, collectors are often forced to evaluate whether to provide a miner additional funding to reinforce their investment rather than lose what has already been allocated.

Sales Transaction. Once a miner finds a diamond he is obligated to sell it to the collector who has provided financing, or he will risk conflict and the loss of future funding. As noted by Friedman (2008), the danger with directly embedded value chain finance is that the lender often wields too much control over the borrower. The collector has the upper hand in the price negotiation given their superior diamond valuation and market knowledge, as well as detailed investment data on what has already been provided to the miner. PRADD's work with miners to improve their skills in diamond valuation has improved their bargaining power; however, miners remain caught in a cycle where, absent alternative financing, their ability to negotiate better prices is constrained.

The situation is further complicated by: (a) miners not keeping good records of funding; (b) multiple investments that make tracking more complicated and (c) the cultural practice of not discussing investments during price negotiation. Prices offered to miners do not overtly detail the diamond value less investment plus a service fee, although essentially this is what occurs. Miners do not ask for the details nor do they produce their own list of allocated funds, as this would be culturally inappropriate. Despite this process, however, both parties ultimately come to a price they find reasonable. Collectors are held to maximum prices based on guidelines issued by the diamond houses; however, it is widely understood that miners end up with a reduced price. One head of a diamond house estimated that miners could double the prices they receive based on what he has seen when miners come to sell to him direct; however, miners' fears of losing financing prevents them from selling to buying houses to seek better prices.

Perspective of Diamond Houses. Diamond houses reported knowledge of collectors diverting a portion of the funds advanced to support miners. One diamond house estimated that for 10,000CFA provided to a collector, approximately 3,000CFA would go for miner financing. The practice is not sanctioned by the buying houses, but there is no issue so long as the collector produces the value in diamonds. That being said, the amount of money the buyers are willing or able to front to the collectors has significantly decreased. Starting in 2000 the funding was reduced as the buyers realized collectors were defrauding the diamond houses and were not using the funds to purchase diamonds, but rather were buying cars and luxury items for their personal use. In 2008 with the downturn in the global economy and demand for diamonds, many buyers also faced financial constraints that caused ripples throughout the chain.

There is an appreciation by the diamond houses that if production is to increase, funding is needed, and they see this as a critical issue. Representatives acknowledge they are in the best position to provide funding to miners given their long-term business model, which can bear losses and investments over an extended period. One diamond house noted they operate with 30% losses but are able to ride this out with the big payouts over the long term. However, while the diamond houses appreciate the miners' need for finance, they cannot actively take on this role as it is outside their core activities (to purchase diamonds), would require significant investment and, above all, is "extremely risky."

3.3 COSTS TO FUND ARTISANAL MINING

Miners require a constant source of financing given the labor requirements for artisanal extraction. Depending on the mine size and available funding, a miner may employ anywhere from five to 500 diggers. Diggers are not paid until a diamond is found, at which point they split a share of the profits with the miner. Typically miners provide diggers rations for food and medicine, or an equivalent daily stipend, to sustain them as they work. Miners also need to provide the equipment for the diggers—usually a one-time cost and some material may already be on hand. At the artisanal level there is no heavy machinery; however, tools such as shovels, jigs and water pumps (given the nature of alluvial deposits) are required.

Estimating artisanal mining costs is challenging. To better understand the costs through its program, PRADD has conducted general analyses. Table 3.1 details the average cost to fund a mining operation for one year.

TABLE 3.1. ESTIMATE MINER COSTS FOR ONE-YEAR OF OPERATIONS*

Estimated Expense	Quantity	Unit Cost in CFA	Cost
Mining permit – Miner (1/miner/year)	1	30,000	30,000
Transport to permit office (round trip once/year)	1	2,500	2,500
Mining permit – Diggers (1/digger/year)	5	2,000	10,000
Production notebook (1/miner/year)	1	2,000	2,000
Machete (1/digger)	5	1,950	9,750
Crowbar (2/site)	2	11,000	22,000
Shovel (1/digger)	5	6,000	30,000
Borehole device	1	6,000	6,000
Jig (1/digger)	5	5,000	25,000
Protective Bags (1000/site)	100	300	30,000
Machine Pump (1/site)	1	135,000	135,000
Oil for pump (10 liters/2 weeks)	210	1,500	315,000
Gas for pump (200 liters/2 weeks for 6 months)	2000	1,000	2,000,000
Rations for diggers (15,000/week/digger)	42	15,000	3,780,000
Extra provisions for diggers (10,000/month)	12	10,000	120,000
Tent (1/site)	1	15,000	15,000
Boots (1 pair/digger)	6	10,000	60,000
Raincoat (1/digger)	6	7,500	45,000
Umbrella (1/digger)	6	3,500	21,000
TOTAL			6,658,250

* Working 1 pit for an average of 300 days (42 weeks) with 6 diggers.

Estimation difficulties arise from the speculative nature of the activities, diversity of mining sites and limited means to evaluate the potential of a site prior to making investments. The extraction costs also depend on the type of mine site and its depth. Sites in some areas cannot be mined year round due to rains, but in other areas, extraction with a pump can continue through most of the year. Miners report that on average it takes no more than five mines to find a diamond, with each pit requiring one to three months of work. This could result in over a year of excavation and costs prior to seeing a diamond. Hence the principal challenge of diamond mining: a diamond might be found in the very first mine or it could take ten mines to find one.

3.4 MICROFINANCE IN CAR

Microfinance has over 25 years of history in CAR, through a combination of development programs from donors and the growth of local institutions. The government is keen to expand microfinance services in CAR

and has identified microfinance as a key component of its development strategy. There are currently 13 MFIs operating in the country, and all have operations supported by external funds. PRADD's prefeasibility study details the sector regulations and types of institutions sanctioned by the government. There are three categories of MFIs in the country: those that capture savings from and loan to their own members; those that capture savings and loan to the broader public and those that do not collect savings at all (Dalanguere, 2011). Commercial banks operating in CAR have limited experience with microfinance, and only Ecobank operates a formal microfinance operation, which targets predominantly SMEs. Other commercial banks see too much risk in the sector and have not engaged.

Product Diversification. The sector has mostly targeted SMEs with a limited number of institutions expanding into loans for agriculture, health, transportation and school fees. Few loan products exist among the MFIs, with most requiring monthly or bi-weekly payments over one to two years. *Crédit Mutuel de Centrafrique* (CMCA) reported targeted agriculture and poultry products with delayed payment terms of three to nine months. The newly created *Société Financière Africaine de Crédit* (SOFIA Credit) expressed openness to expanding into agricultural lending, where an experienced farmer with an identified buyer could secure a delayed payment loan of three to six months. Equipment leasing is not common, and MFIs who had experimented with leasing reported recovery problems. A few MFIs have experience with group loans; however, among MFIs, government and donors interviewees report group lending has not been widely successful in CAR. They tend to be seen as high risk clients with groups lacking solidarity, which reduces confidence.

Reduced Operations in Rural Areas. The experience of MFIs in the rural areas outside of Bangui has been challenging and often dangerous. Currently nearly all MFIs once operating in rural areas have closed their offices and retreated to Bangui. Only Express Union remains outside Bangui, but it mostly focuses on transfers and savings instead of loans. SOFIA Credit is looking to expand into rural areas, while CMCA is taking a cautious approach to expansion after closing all their rural offices. MFIs reported that operating outside of the capital posed numerous security threats, ranging from road robberies to attacks on banks to theft by bank personnel. The independent nature of the branch offices made internal control challenging and resulted in tenuous loan portfolios and poor management. In other cases defunct institutions defrauded clients who lost savings. Major constraints to rural operations also include poor road conditions, limited electricity access, high operational costs and limited human resource capacity.

Operational Challenges. According to the Ministry of Finance's microfinance unit—the *cellule*—that is tasked with supporting the development of the sector, many challenges remain to increase microfinance's impact and sustainability. During interviews *cellule* representatives noted the average account delinquency percentage among MFIs in CAR is 30%. Delinquent accounts are defined as anything between 15 days and five years in arrears. MFIs do not want to write off loans in hopes that clients will eventually pay, and in fear of what the actual losses would be. Some MFIs acknowledged the challenge with delinquent accounts and noted cases where leased equipment was sold and loans not repaid, individuals disappeared after taking loans or groups were trained and disbanded after receiving loans. MFIs stated the key to sustainability includes internal controls, pre- and post-loan award client investigations, mentality change among communities and on-the-ground operations.

The government also supports the *Association Professionnelle des Établissements de Micro finance en Centrafrique* that collaborates with the *cellule*. This group is mandated to build the capacity of the MFIs and foster greater understanding of microfinance in the community. The United Nations Development Programme (UNDP) recently concluded a microfinance program focused on capacity building for MFIs and is looking to expand the program. If UNDP obtains funding for its expanded program, a major component will be to support the expansion of MFIs back into rural areas and further strengthen management capacities.

Lending Practices. Guarantees are required for MFI loans; these include co-signers, a land title, a business title, a viable business plan, a history of profitability and mandatory savings. The *cellule* noted that one of the issues leading to high delinquency rates is that MFIs spend more time focusing on the guarantee question than on the loan. More time spent on analysis of the client and design of more targeted loan products would

greatly benefit the sector. The majority of government and donor assistance to date has focused on improving operations and management vs. diversifying loan portfolios and expanding products. The International Finance Corporation (IFC) has been establishing operations in CAR over the past three years. The group is looking to expand support for loan product development for MFIs. Currently it is focused on equipment loans and SME development. MFIs have yet to invest in alternative guarantee mechanisms and continue to view group or village lending methodology with skepticism, given the culture and context of CAR.

3.5 POTENTIAL OF MICROFINANCE IN THE DIAMOND SECTOR

Institutional Perceptions and Experience with Miners. If correct, PRADD's estimate of \$12 million currently in the hands of miners represents a significant untapped market for MFIs and commercial banks. Client potential is high in the artisanal sector with over 264,000 miners and diggers lacking services. To date, however, the mining sector has not been a target market, and no financial institution interviewed had a clear understanding of the diamond trade in CAR. Some of the commercial banks had experience with the diamond houses (mainly for payroll transactions), but the issue of financial services for collectors and miners has largely not been considered. Common among all institutions is a lack of understanding about the level of formality of the sector, the value of diamonds and market and system dynamics. Their perceptions of miners were that they oscillate working in the formal sector, do not have regular cash flows, are hard to track, engage in high-risk activities and are highly independent and secretive, reducing their prospects as potential clients. A few MFIs had limited experience with miners as clients and reported the following scenarios.

- CMCA previously had branches in mining areas in and around Berberati. They reported some miners opened savings accounts, but the MFI never issued them loans. CMCA had difficulties with miner accounts. A typical scenario was that after a miner opened an account and made an initial deposit, he would not return for three to four months. Upon returning, the miner would then withdraw all funds and not return to the branch. The irregularity of their visits and the swings in their accounts made it difficult for CMCA to function. Providing loans to miners was never considered, given this irregularity and lack of confidence in being able to find the miners for repayment. CMCA also reported that 4,000 members were needed for a branch to function, but after four years of operations branches in the Berberati area never reached 1,000 members. The MFI had difficulties attracting miners as members and found them to be highly skeptical of financial institutions, or did not want others in the community to know of their membership and funds.
- Express Union has only been operating in Berberati for one year. While the institution mostly provides money transfer services, it is an MFI that offers savings and loan products. Miners have not approached Express Union for loans, and no loans have been issued to miners to date. A few miners had opened savings accounts, but no cooperatives or groups have inquired. Those miners with accounts currently do not have any deposits with Express Union. The MFI understands that miners do not want the community to know they have money and is not pursuing miners as clients. The idea of lending to miners is seen as risky and hardly plausible given that miners did not have movement in their accounts, lacked guarantees of equal values to loan amounts and swung between high and low fund levels. All of these factors led to questions about whether the bank could remain profitable, particularly when more staff would surely be needed to manage such a client base.
- Ecobank's branch in Berberati reported that they previously had provided loans to miners, with disastrous results. The manager was not present at the time of the loans and thus could not provide full details, but he reported that miners had not repaid loans and it was not clear in the end what had been done with the money. The bank had given them monthly repayment terms, but when it came time for payments not only did miners not pay, they also did not have money in their accounts for the bank to withdraw. The bank spent considerable time trying to find the miner, with no success. The manager cited the miners' mentality as a major problem and that most of them are ultimately not interested in services

from the bank. Ecobank is not open to lending again to miners and prefer to give loans to government workers or small business owners, seen to be secure loan candidates.

Factor Considerations in Sector Engagement. Perceptions and experiences withstanding, some MFIs did express openness to lending to miners. MFIs were concerned about the issue of land titles, and all reported a mining license would be required for any loans. They did not find it feasible to fund prospecting and wanted to see some evidence that the miner would be successful prior to financing (e.g., diamond finds noted in their government-issued mining notebook). MFIs acknowledged that much depends on the individual, and it would be important to engage local leaders and others who knew the person and their particular situation. Social pressure would certainly be an important means for MFIs to enforce repayment terms. Several MFIs expressed interest in understanding that the miner had a market and a guaranteed buyer. It was clear through the discussions that while some MFIs were open to discussion about lending to miners, they lacked understanding about the sector and showed nervousness about hypothetical risks.

Miner Cooperative and Group Lending. MFIs interviewed were not familiar with mining cooperatives or their history in CAR. None had been approached by cooperatives to open savings accounts or request loans. In general, a few MFIs reported performing group loans but cited challenges in CAR with this model. When asked about the idea of lending to mining groups, MFIs were hesitant and thought dynamics in mining groups were sure to be more complex than issues they dealt with among non-mining groups. Several sources reported that groups had a hard time staying together and social pressure was not high to encourage repayment. CMCA had experience with group lending but stated it was not a large part of their portfolio. They preferred to lend through the group to an individual rather than to the group as a whole. When asked about the idea of group loans and repayment terms, miners debated the issue of having to repay for a member that did not have the funds to repay a loan. Expressing interest in this type of loan, however, miners reported that they would find a way to make the payment.

Miner Experience with Loans. Through the kelembas and funds from collectors, ADMs do have some experience with debt and savings. When using the kelembas, ADMs understand that the money needs to be paid back, in some cases with interest. Often no interest is officially charged and members pay a voluntary 5–10%. Miners reported that kelembas can be difficult as people move around and do not always show up to meetings. To pay kelemba debt, miners reported selling personal items. Kelembas required members to be part of the community and to own a farm or a house so they know where to find people and seek repayment if needed. Some miners reported kelembas would not always accept miners as members, citing that they do not repay loans and groups do not have the confidence of the community.

The system of financing through collectors gives ADMs a warped notion of debt and investment concepts. In some cases collectors and miners will enter into a formal contract that stipulates the funds to be provided and how the debt will be repaid. In these cases the contract will often note that if the miner does not find diamonds, the funds provided will still need to be reimbursed through future mines and the debt will stand with the collector. In the majority of cases, however, no formal contract is issued and if no diamonds are found, the miner is under no future obligation to repay the collector. The collector may come and reclaim equipment but it is understood the money has been spent and there is nothing to be done. Hence both ADMs and collectors refer to the funds as an investment rather than a loan. In this sense, the current financing system works for the miners. That said, when asked if they would prefer funds from collectors or MFIs, miners reported that MFI loans would be a more reliable source of finance, would be on better terms and would allow for more independence, even with interest requirements and debt repayment.

3.6 CONCLUSIONS AND RECOMMENDATIONS

While the majority of MFIs and banks in CAR have not considered lending to the sector and find it inherently risky, a few see potential and a market opportunity. Although there is potential for profits in lending to ADMs in CAR, given the dynamics of the sector and the uncertainty of diamond mining, any consideration of loans must be careful. Rushing into lending could have negative consequences not only for

the lending institutions but also for communities new to loans and formal repayment terms. The rationale for lending to miners is apparent, yet the complexities of the system and the speculative nature of mining open the question whether microfinance is a viable option.

ADMs' need for financing is understood, and the current sources from collectors are not sufficient to meet demand. Collector funds are limited and not a guaranteed source upon which a miner can reliably plan operations. While the current system is flawed and limits the negotiating power of miners in price determination, it is also true that collectors provide a valuable service. In many ways this service works for the miners as it is flexible, allows for personal considerations and does not require payment if diamonds are not found. ADMs report their interest in diverting away from the collectors and securing formal loans from MFIs, however it is not clear how they would perform in a shift to fixed terms and strict repayment periods. Miners currently lack the skills and experience with savings and loans, and further capacity building is needed to ensure they can manage funds and debt. The performance of cooperatives to date has not been highly successful, which constrains village and group lending models that rely heavily on group dynamics and internal repayment pressure. Miners come with a high level of risk that can be reduced by additional income sources, prospection data, strong personal reputation and experience mining. However, it is ultimately the mining itself that is speculative, and this poses significant challenges for MFIs.

While MFIs have been in operation for over 20 years in CAR, there are substantial obstacles in the sector in general, let alone when considering engaging with diamond miners. The security situation in rural areas has left MFIs hesitant to reengage outside of Bangui. MFIs need highly capable staff and additional resources to expand into the countryside and manage diverse loan portfolios while maintaining high levels of internal control. The demand for rural finance is high, yet MFIs face numerous constraints. Further expansion of new products to meet the needs of a range of sectors is needed, and innovations among staff on how to reduce risk in nontraditional manners will strengthen MFIs. With little current knowledge of mining in CAR, MFIs will have to carefully evaluate where market expansion fits within their growth models and what they can undertake without additional assistance. Interest from UNDP and IFC in supporting MFIs and rural finance offers potential over the coming years.

A series of first steps would help increase the potential for expanded financial services to ADMs and the ultimate success of any effort to provide lending to miners. PRADD has begun initiating some of these steps; however, it will take a concerted effort over time to evolve policies, engage MFIs and build miner capacities, attitudes and practices related to integrating with the financial sector.

- Continue to Develop Microfinance Sector: Human resource capacities in MFIs are low and more qualified staff is needed to make expansion into rural areas and new markets successful. Improvements are needed in the areas of internal control, portfolio management, product diversification, loan approvals, client engagement and better understanding of alternative markets.
- Expand Financial Sector Knowledge: PRADD can engage the financial sector and provide information on the diamond sector. Expanding stakeholder workshops to include the financial sector so they can come to understand the complex dynamics and opportunities will help foster their interest and engagement.
- Improve Cooperatives and Groups: While some cooperatives and groups exist in the mining sector, their capacities are low and their activities limited. PRADD work could be expanded to continue development of these organizations. Group management, planning, regulations, savings, equipment ownership, negotiation and sales could all be strengthened with long-term benefits for miner engagement with brokers, diamond houses, direct export or the financial sector.
- Strengthen the UNCMCA: The government can support the growth and development of miner cooperatives and their capacities by continuing to engage with the UNCMCA and collaborate on improving services. A strong UNCMCA that serves its members by improving their image, management,

operations and market opportunities would greatly benefit the sector and help facilitate cooperative loans from MFIs.

- Improve ADM Savings and Loan Capacities: Expanded training with miners on the importance of savings, benefits of engaging with the financial sector and how to budget and plan for expenses would greatly benefit miners and improve their capacity to work with financial institutions. Miners can begin expanding their integration into the banking sector by building their confidence in MFIs, utilizing savings accounts, managing cash flows and having movement in their accounts and building their relationships with institutions.
- Provide ADMs with Access to Government Deposit Data: A major constraint to miner productivity and access to finance is lack of data regarding the potential profitability of a mine. Financial institutions see mining as highly risky, and improved information showing a mine's potential would help reduce this risk. The time, effort and expense related to mining sites that lack deposits could be reallocated to have significant impacts at the miner and community levels.
- Initiate Geological Assessments: The program could support the development of a local institution to conduct geological assessments. This could develop into an autonomous private sector organization that provides the service to miners that would help ensure profitable activities and improve miner access to loans.
- Continue Promoting the Expansion of Income-Generating Activities: Economic diversification outside of diamond mining is highly beneficial for communities. The added income and improved nutrition of agriculture and aquaculture activities improves and cushions households against challenges in diamond mining returns. These activities also help reduce the risks for financial sector lending. In addition, as alternative income-generating activities increase and rural finance returns to the countryside, communities may see an entry into financial services through these areas that could eventually expand into the mining sector.

Although without the foundations above, any effort to provide services will face significant constraints, there is potential for microfinance and demand from miners for the services. However, a viable operation would need to cautiously evaluate the following potential avenues prior to engagement.

- Start with a Pilot Program: Loans should be initially offered to a small number of ADMs that have been well-vetted with the community and have high potential for repayment. This pilot program could undertake group lending and evaluate its viability. Groups would need to understand that repayment is mandatory and lack of payment would negatively impact future loans to the broader community. Such a pilot program should include capacity building on savings, loans, management and planning. If the program is a success, evaluate and consider expansion.
- Provide Loans through Existing Program with ADMs: Loan provision through a development program strengthening miners provides access to potential clients while helping reduce risk in several ways. Beneficiaries have developed a relationship with the program and have shown their ability and interest to improve their condition. The capacity building efforts make miners better prepared to manage loans, and the close engagement with program officers helps improve oversight. Having sector-specific technical expertise is also highly beneficial. It is not recommended that programs directly provide funds to miners, as this will complicate their mission and limit lending sustainability. However, it is feasible that a financial institution could grow out of development program with a financial services component or that an institution could coordinate with an existing program.
- Thoroughly Evaluate Potential Clients: While diamond mining does pose risks, they can be reduced if MFIs take the time to evaluate potential clients and understand individuals. Prior to granting a loan, an institution should engage local leaders, mining officials and communities to vet potential clients. MFIs

should seek to understand reputations, community history and success rates with diamond mining. By ensuring they are community-based, MFIs will help improve their knowledge and oversight of miners.

- Understand the Diamond Sector: Prior to engaging with the diamond sector, lending staff should develop a thorough understanding. To have the on-the-ground presence needed, staff should be expanded and MFIs could consider having a specialized unit to manage this unique client base. Having sector specific knowledge will help reduce risks. A businessman in Bangui engaged in the sector was considering opening a MFI to predominantly focus on the sector, while a few PRADD staff members are also looking to start a MFI based on their miner and sector knowledge. This experience would be invaluable in looking to successfully lend to miners.
- Develop Targeted Loan Products: ADMs need a product that fits within their extraction cycles and variability. A loan term of one year would be sufficient; however, repayment should be delayed six months to a year. MFIs could also consider doing staged payments where miners are able to access additional funds based on certain criteria, such as equipment purchased, work begun and mine potential, which would continue to give the MFI more confidence in an expanded investment. After an initial period to allow miners to excavate, MFIs could require bi-weekly or monthly repayments. Often MFIs require advance payment of the interest up front and a minimum amount of held savings, which would be prudent with miners. Interest rates would need to be competitive with the standard rates among MFIs, and a subsidized rate is not encouraged as the goal is to integrate miners into the financial sector and provide options for sustainable services. Equipment leasing is not recommended due to the labor requirements and the fact that some miners already have equipment. Prospecting loans pose an even higher risk for MFIs, and are also not recommended.
- Review Traditional Guarantee Practices: MFIs should continue to explore group lending along with client evaluation and savings as the key means to guaranteeing loans to miners who lack sufficient resources to qualify for typical loan products. These models have been successful with low income borrowers in many countries throughout Africa and have potential with diamond miners if continued assistance is provided to improve their capacities. MFIs can also look to diamond houses to provide a guarantee they will buy the diamonds from miners; however, the houses are not interested in co-signing or engaging in contract farming type of arrangements with MFIs and miners. As done in neighboring Cameroon, MFIs should look into traditional beliefs and cultural practices as a means to secure alternative guarantees that carry significant weight with individuals and communities.
- Encourage Lending through a Loan Guarantee Fund: Among the few MFIs interested in lending to artisanal miners, all expressed the need for some kind of guarantee fund to reduce their risk and facilitate their expansion into mining communities. Ecobank noted this had worked well as a model through the International Fund for Agricultural Development and the WB had provided loans to small agricultural producers who were provided technical support and oversight by WB field agents. Without such a fund, MFIs interested in lending to miners in theory would face many barriers converting this interest into practice.
- Investigate Lending to Collectors: With lack of available financing being a dominant constraint to the sector, financial institutions should consider lending to collectors as well as miners. While they are also a high-risk client given their involvement in the sector, they are less risky than miners. As collectors are tied to diamond houses, they have greater legitimacy in addition to having licenses, on-the-ground history with mining communities, experience managing loans to miners, typical collateral resources and sector-specific expertise. This option may facilitate great financial resource available to miners, yet it would also perpetuate the current directly embedded value chain finance system and would not ensure that collectors use the funds to purchase diamonds instead of fund miners.

4.0 LIBERIA

4.1 DIAMOND MINING IN LIBERIA

Contribution to Economy. While diamond mining has been occurring in Liberia since 1930, the sector has not developed to the same extent as in neighboring Sierra Leone, Guinea and the Ivory Coast. Mining continued informally throughout the country's armed conflicts from 1989 to 2003, and illegal trafficking prompted the United Nations to impose sanctions on Liberia's exportation of diamonds from 2001 to 2007. With a commitment to comply with KPCS and formalize its diamond sector, a legal trade in diamonds is slowly emerging. Exports have grown to 25,000–35,000 carats per year since sanctions have been lifted; however, diamonds are not a major source of revenue or driver of the Liberian economy. In addition, contrary to CAR, diamonds in Liberia are mined by both large and artisanal mining operations.

Liberia does enjoy high-quality diamond deposits that are largely concentrated in the western part of the country bordering Sierra Leone. Here the sector is dominated by ADMs, and although the Government of Liberia (GOL) has tried to foster expansion into large-scale mining, the country's deposits makes artisanal mining the most feasible for exploitation. It is estimated that approximately 30% of the population is involved in the diamond sector in Liberia, with some 100,000 ADMs and 500,000 diggers directly participating, and an additional 787,500 to 1,575,000 people indirectly benefiting (UNDP, 2005a).⁴ Diamond mining is a common source of income in rural areas where there are few viable economic alternatives.

Government Engagement and Support. Through the Ministry of Lands, Mines and Energy (MLME), the GOL has been working to increase the formalization of the mining sector and comply with KPCS. MLME developed a Mineral Policy, a Mining Cadastre Information Management System and the capacities of the Inspectorate, Regional Diamond Offices and Mining Agents (USAID, 2011). The MLME has acknowledged, however, that Class C ADMs have been the “forgotten children” in mining policies and outreach, as compared to larger operations that fall under Class B and A permits. Issuance of Class C licenses has remained low, with PRADD data showing 231 issued in 2010 and only 143 in 2011. The centralized nature and cost of licensing pose significant barriers for ADMs. There has not been a clear GOL strategy to address ADM populations, and the MLME's focus on extraction and tracking of diamonds has failed to take into account socio-economic issues. While the GOL desires to formalize the sector and expand government revenue, lack of full knowledge of the sector's scale and barriers to compliance undermine these efforts.

Cooperative Development. One way the MLME is engaging on ADM issues is through a Memorandum of Understanding with the Cooperative Development Agency (CDA) to develop mining cooperatives. While cooperatives have a long history in Liberia starting with the Cooperative Security Act of 1936, the mining sector has not previously engaged. The CDA was initially under the Ministry of Agriculture but became autonomous in 1981. The necessary social fabric was frayed during the war, but the CDA has been working on the revival of cooperatives, and is enjoying high levels of community interest as compared to previous state-run models.

The role of the CDA is to facilitate the registration and certification of cooperatives. A minimum of 15 members are needed for a cooperative but membership can run as high as 80 individuals. The CDA recommends starting with a smaller group to develop a common bond and improve capacity, supported by the agency. Prior to full cooperative certification, groups undergo four to six months of training following CDA's ten-step cooperative development strategy, which includes financial management, governance and

⁴ These estimates are disputed by the Ministry of Lands, Mines and Energy.

dispute resolution. In addition to cooperative certification and training, the CDA supervises cooperative activities and conduct audits to ensure good management.

The CDA's interest in fostering mining cooperatives is to facilitate information sharing and access to resources. It wants to support ADMs' understanding of diamond values for increased returns and decreased exploitation. Mining cooperatives are seen as having the potential to be a "torch for communities" and improve miner reputations, as well as provide additional control. They are seen as leading to job creation, increased production and ultimately improved livelihoods and services for mining communities. Working with PRADD, the CDA is supporting the creation and development of mining groups with the intention to establish mining cooperatives for the first time in Liberia.

The PRADD Program. Tetra Tech ARD has been implementing PRADD in Liberia since 2010, working with the MLME, the Department of Planning and Development and the Kimberly Process Focal Point. As in CAR, PRADD/Liberia fosters increased formalization of the diamond sector in addition to greater development benefits to ADMs. PRADD operates through its main office in Monrovia and field offices in Lofa Bridge and Weasua and, at the time of this report, was working with approximately 400 miners. The program has not had the longevity to advance alternative livelihoods and the development of associations to the same extent as CAR, however, it has made advances at the community and policy levels.

The PRADD team has worked to advance improved mining operations through visits to Sierra Leone and subsequent field testing of that country's Sustainable Mining by Artisanal Miners (SMARTER) mining technique with PRADD beneficiaries (Jeigula, 2011). PRADD is expanding its work with mining communities to include these techniques as well as continuing to support alternative livelihoods, reclaim abandoned open pits, improve diamond valuation skills and develop mining associations. PRADD has submitted 20 recommendations to address ADM integration, decentralization and land registry issues through reforms to the GOL (USAID, 2011).

4.1.1 Profile of Artisanal Diamond Miners

Prospection and Extraction Techniques. As in CAR, miners in Liberia do not have formal training and became engaged in mining through families or due to lack of alternatives. Miners are authorized to hold up to four 25-acre Class C licenses, and it is common for miners to have multiple claims. They typically are not exploiting all of their claims at one time given the lack of licenses and funds. The state retains sub-surface rights, and rights to mine diamonds in Liberia are granted to the individual who holds the mining license. This can complicate ownership issues with original owners who have worked claims but never had licenses or who held the land under customary arrangements. A license is required for prospection and extraction, but many miners fail to obtain one or both.

Mining areas are typically located in swamps, valleys, terraces and along the banks of rivers and streams, with pits ranging from three to four meters wide and one to three meters deep (Jeigula, 2011). During prospection, miners look for rocks similar to diamonds, known as "waterloo." Miners acknowledged that such indicator stones can be misleading and it is hard to know if one will find diamonds before digging. The length of time that a site can be mined depends on the location; swampy areas can be mined all year while rivers can only be mined in the dry season. Miners noted this issue impacts their interest in obtaining a license, as they may only be able to mine for six months of the one-year license period. Excavation is done by "diamond boys" who use basic tools such as shovels and pickaxes. Miners reported that it can take anywhere from four days to four months to find diamonds in a pit.

The lack of knowledge regarding a site's potential to yield diamonds is an issue, and miners acknowledge it is a risky endeavor that requires a lot of luck. PRADD's support of SMARTER mining techniques will provide miners with guidance on improved exploration. Miners do have some access to geological services for prospection analysis; however, the costs run L\$100 per day, or L\$700 per week, which is well beyond what

miners are willing and able to pay. The USGS is also starting to provide geological mapping and analysis support to the MLME in an effort to improve resources and access to information.

The MLME reported that they used to be engaged in these kinds of evaluations prior to the war. Ministry geologists would travel to the field and undertake surveys and collect samples for analysis and investor reports. Current field agents for the MLME noted that while the ministry still conducts geological surveys, they are held at the cadastral department. It was noted that these reports are locally made available only to class A and B miners. Class C miners need to request them directly from the cadastral department in Monrovia.

Access to Services. PRADD undertook a Participatory Rural Appraisal of target program communities in late 2010. Miners were categorized as having very limited access to services and living in highly underdeveloped and isolated regions of the country. Communities do not show the benefits of the diamond trade or provide clear indications of who is benefitting. Not all members of mining communities are Liberian, and it is estimated that upwards of half of some populations are foreigners, complicating GOL oversight and service provision. Mining zones are located in areas with poor infrastructure such as bad roads, unstable bridges and lack of electricity. The majority of houses are of a temporary nature with thatched roofs and dirt floors. Social services are limited particularly in the areas of health, education, water and sanitation. NGOs, donor and private sector engagement is low, and no financial institutions are operating in mining areas.

Formed in 2001 the GODIMUL union claims 100,000 Liberian miners as members. The union is tasked with advocating for miners and diamond boys and promotes licensing. While all miners are required to be part of the union, its effectiveness is limited due to many members not paying dues. The GOL collects a 3% export tax on diamonds, but these funds do not make it back down to the community level. The government is looking to improve this system, largely by seeking to collect income taxes from miners, which will be difficult. While the MLME does have local agents at the community level to monitor and validate diamond mining, the lack of licensing availability at the local level poses significant challenges for miners. A miner in Lofa Congo described the situation as follows:

“To obtain an annual license for the standard 25 acre plot, you have to pay the license fee of L\$150 in addition to a one-time clearance fee of L\$50 and L\$150 GOL survey. Technically a license is also required for prospecting, which would add an additional L\$150 if one were to comply. To get a license you have to have an identification card, which costs L\$25 a year and travel to Monrovia to apply. From Lofa Bridge, it’ll cost about L\$100 round trip. If you don’t know people, you have to also pay for housing and local transport while in Monrovia. It’s difficult as one can incur a month’s worth of costs waiting in Monrovia or pay ‘fees’ to expedite the process. If one were to also get a prospection license that would be two trips! While it’s possible to give your money and ID for a proxy to obtain the license, this requires a lot of trust and is risky.”

Assets and Savings Practices. Assets and saving practices in Liberia are similar to those in CAR. In both countries the asset base is low with few miners owning a home, land, business, car or motorcycle, and only some miners own basic mining tools. A few miners reportedly have been able to build homes in and outside the mining areas, yet the majority continues to struggle. Some miners reported engaging in other economic activities such as subsistence farming, shop keeping, trading, hunting and river fishing, which brings in modest income or provides food for their families. Miners noted they use mining profits to pay for school fees, family costs and home construction. In some cases miners have saved money to secure a mining license or reinvest in a pit, but often there is little remaining to save.

Some miners reported having bank accounts in Monrovia before the wars, but no longer. Financial services are limited in mining areas, and the closest banking institution remains in Monrovia. The majority of miners indicated they were not accustomed to banks and kept their savings in their homes. In Liberia, MFIs are not authorized to collect and hold savings from clients, and banks are the only formal option. Distance to

Monrovia was a major reason given for having no savings accounts with banks, and others noted that during the wars many people were unable to access their money and savings ultimately disappeared. Some miners did note that at a certain point money had to be taken to a bank in Monrovia as there was no other option.

Miners did report that membership in *susus* (ROSCAs) was common. *Susus* are often made up of men and women and include both miners and non-miners in groups of 20–60 people. It is common among *susus* to meet once a week and contribute L\$1000 toward a payout to one member who was responsible for repayment in small amounts without interest. While it was possible to give more than the typical amount, there was limited confidence in an approach that entrusted too much money with *susus*. Miners also reported that it was not possible to get payouts at will, as each person had to wait his/her turn.

Engagement in Cooperatives. Outside of *susus*, miners reported they did not have experience working in groups, whether related or unrelated to mining. Through the support of PRADD and the CDA, miners have been forming groups with the goal of becoming cooperatives; however, this is in preliminary phases. Some newly formed groups also include members outside of the mining sector. Miners expressed interest in cooperatives and see the value in working together. They did cite concerns of member movement or lack of social cohesion as barriers to engagement. The main driver for their desire to come together was frustration with few personal returns, low community benefit and limited individual bargaining power. There was hope that by working together, they would have greater access to funding and resources, more leverage and better prices from brokers. Some groups were moving toward membership fees that would be used to procure equipment, invest in agricultural activities or support community development projects.

4.1.2 Diamond Sector Value Chain

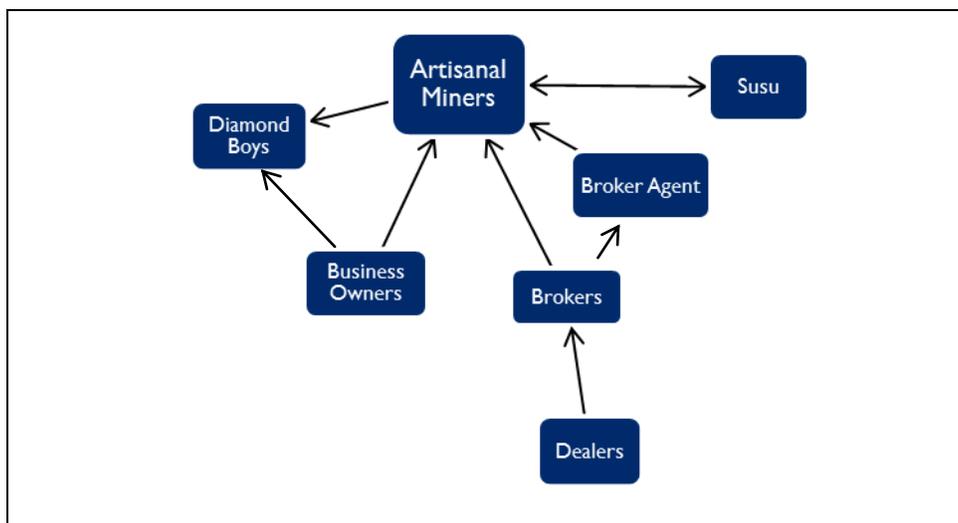
Field research into the diamond value chain supplemented the PRADD baseline survey and direct marketing reports, which provide more detail into market and trade dynamics. While similar in many ways to operations in CAR, the diamond value chain in Liberia has distinct differences. The current formal system has only been in existence since Liberia's compliance with the KPCS and has additional complexities due to its proximity to the Sierra Leone border and the lack of established long-term relationships among players. Exporters are referred to as dealers and are not allowed to directly engage with miners or have offices outside of Monrovia. There are currently ten dealer offices in Liberia. Dealers can be Liberian or non-Liberian, but only Liberians can also be brokers—those responsible for purchasing diamonds from miners. Licensing is required for dealers, brokers and miners, and the ADM must have diamonds certified by the Regional Diamond Office (RDO) for valuation and recording for the transaction to be legitimate. Brokers operate at the community level and sometimes engage agents to help monitor mining activities and facilitate purchases. Transactions outside the formal sector include dealers purchasing diamonds directly from miners, unlicensed miners selling to unlicensed brokers and diamond boys hiding diamonds from miners and side-selling directly to brokers.

4.2 FINANCING FOR ARTISANAL MINERS

Brokers as Investors. In Liberia financing options for ADMs are similar to those in CAR as shown in Figure 4.1. Brokers not only purchase diamonds from miners and set purchase prices, they also provide the main source of funding. Such support comes in the form of cash or cash plus equipment. Brokers may get their funding from dealers or they may be independent businessmen who self-finance all or a portion of purchases. Brokers operate at the community level and may also employ local agents to whom they provide funding for purchases. Brokers working directly for a dealer appeared to be less common than in CAR, with more informal relationships. If a dealer is Liberian he may also act as a broker and directly fund miners. It is also possible that a broker with an independent business will also be a miner. Small scale women-owned businesses often provide loans directly to diamond boys with the understanding the lenders will get 50% of what the boy receives from the miner. As in CAR, no brokers reported obtaining loans from financial institutions to support their operations. Outside the formal sector, several brokers are foreigners and also provide funding to miners, however, the source of this funding is not known. Miners may be able to fund a

portion of their activities from susu payouts, but this would only satisfy a small portion of their needs. Lack of available and sufficient financing was cited as a major issue by both miners and brokers during interviews.

FIGURE 4.1. FINANCING SYSTEM FOR ADMS



Limited Miner Alternatives. Miners reported that not only is available funding insufficient to satisfy demand, it is also not guaranteed or consistent. Miners without financing cannot get diamond boys to work and must reduce the scale of their operations and resort to more basic techniques (e.g., using pickaxes and shovels). Many miners operate in this way until they find a diamond and can solicit broker support. It is difficult for miners to obtain support without showing a broker they have found diamonds of over one carat at a mine. Miners have little income from other sources to fund operations, and few miners reported having enough farm surplus to sell or any income from small businesses. Those miners belonging to susus noted that the available amounts and lack of control on susu fund availability made them unsuitable to fund operations.

Broker Investment Factors. The main factors in broker investment are the availability of funds and the level of miner confidence. A broker who is interested in investing typically wants to see diamonds before committing funds. Brokers and miners noted that if a miner does not show stones when requesting funding, the broker will accuse him/her of guessing about deposits. In some cases a broker may provide a small amount of funds (e.g., for a bag of rice and shovels) to determine a site’s potential, and will give additional support if shown evidence of diamond deposits. Brokers interviewed did not report miner permits as an investment factor. It was noted that brokers do on occasion pay for a miner’s license and transport to Monrovia if they see good potential.

Funding is limited, however, and as one miner noted, “If they choose to support you, you’re blessed.” Trust plays into all transactions and dictates if a broker will provide funding and to what extent; brokers may provide equipment if trust is high but otherwise they only provide cash. Miners reported that brokers are quick to cut off support if they do not find diamonds, and while it was not possible to get an exact estimate from brokers, it was apparent their patience and interest in making further investments was low if a mine was not showing ongoing potential. No brokers reported using a geologist to evaluate potential mine sites or to utilize information beyond what was provided by the miners.

Sales Transaction. Broker funding also requires that miners sell directly to the broker who sets the price. Whether or not the broker has provided funds, the terms of sale are dictated by the broker who has the superior diamond valuation knowledge. Broker funding dictates that miners cannot compare potential prices across brokers. The UNDP reports miners maybe get 10% of diamond value (UNDP, 2005a). Miners often feel cheated by broker prices, however, if they do not accept, they risk loss of future funding or forced repayment of invested funds. The GOL Regional Mining Agent (RMA) is often involved in price dispute

resolution between brokers and miners and will help negotiate settlement deals between parties given his/her knowledge of diamond valuation.

If a broker has provided funding to the miner, the payment price is further complicated by the investment. Miners often either do not record investments or find it culturally inappropriate to detail received broker funds, which impacts their ability to negotiate prices. Broker calculations are variable and lack transparency. One broker explained that if a diamond is valued at L\$400 and they have provided a miner with L\$100 in support, they will give the miner a price of L\$250, leaving a return of L\$150 for the broker to cover expenses. Another broker reported that if he gave a miner L\$1,000 over time and the miner found a diamond valued at L\$5,000 he would only factor in L\$250 in repayment so as not to overburden the miner. He would not, however, elaborate on what price he would offer the miner. Like PRADD/CAR, PRADD/Liberia has been working with miners to improve their understanding of diamond valuation and cost accounting to better negotiate prices; however, the case remains that miners have limited bargaining power without alternative funding sources.

At the same time, the investment risk for brokers is high; miners might not sell to the broker who provided funding, or a claim may not return anticipated profits. Brokers reported they often operate at a loss and if a miner side-sells more than once it can cause a broker to go out of business. “When you fall down, you fall down,” one self-financed broker noted; there are no additional resources to tap if an investment goes poorly. The issue of miners not selling to brokers is substantial, and while brokers often have contracts with miners attested to by the RMA, enforcement costs are prohibitively high. If a miner does not sell to the designated broker, the broker will search for the miner and try to convince him to split the higher price the miner received or ask the RMA to assist. With Sierra Leone only two hours away by motorcycle from Lofa Bridge, brokers reported that it is very easy for miners to sell across the border.

While side-selling is an issue, several brokers also noted the value of providing support as it helps ensure they will have diamonds to purchase. Personal relationships and trust are key requirements for successful operations. Brokers interviewed did not have experience working with miner groups but found the idea of doing so appealing as it would reduce one-on-one transactions and facilitate greater trust. They noted that if banks started providing funds to miners, their relationship to the miners would change. This would not be viewed as a problem so long as they were still able to purchase diamonds.

Perspective of Diamond Houses. Access to dealers in export offices was more limited in Liberia than in CAR, and only one interview was conducted—with Afric Diam Company Diamond Dealers Association. Exporter perspectives equivalent to those gleaned in CAR were not obtained. The history of ADM funding and information on current dealer fund provisions to brokers were difficult to gather. Based on this interview, it appears that trust is a key issue facing dealers. They would prefer to directly engage at the extraction level rather than go through brokers, but this is complicated. Dealers face high transaction costs as they work to build relationships with brokers and miners, but both may be unsuccessful or a miner may leave. Dealers consistently have to find new brokers and miners to maintain their business. Dealers association membership is required for all dealers in Liberia, for whom easing export sanctions and support for licensing are priorities.

4.3 COSTS TO FUND ARTISANAL MINING

Miners in Liberia require constant funding to provide for their diamond boys, who undertake the actual excavation and extraction. As with CAR, the availability of funds typically dictates the extent and efficiency to which a miner can exploit potential plots. In addition to the basic tools used, miners need to provide sufficient provisions of food, medicine and cigarettes to diamond boys to ensure their performance. Profits from diamond sales can be split 50/50 with diamond boys.

The costs required to fund ADM operations in Liberia are less well-understood than in CAR, however, the dynamics and conditions are similar. In Liberia it is also unknown if a site will be profitable and how long and how many pits will be dug before finding diamonds. Some miners reported finding something within four months, but brokers claimed that this timeline could be drawn out even further. Table 4.1 estimates the cost

to fund a diamond operation for one year, taking into consideration the employment of six diamond boys and the inability to mine the full year due to weather. Depending on the type of mine site, the costs could be less or more depending on specific requirements.

TABLE 4.1. ESTIMATED MINER COSTS FOR ONE YEAR OF OPERATIONS IN LIBERIA

ESTIMATED EXPENSES	COST (L\$)
Clearance fees (official cost L\$50)	\$ 80
Transport to Monrovia (round trip)	\$ 28
Bribes and/or lodging in Monrovia	\$ 75
Class C mining license	\$ 150
Survey fee	\$ 150
Shovel (1/diamond boy)	\$ 19
File for sharpening	\$ 3
Jig (2/pit)	\$ 10
Sluice box kit	\$ 42
Cutlass	\$ 6
Digger	\$ 7
Machine pump	\$ 500
Oil for pump (1 liter/4 days while in use, 6 months estimated)	\$ 130
Gas for pump (3–5 gallons/day while in use, 6 months estimated)	\$ 833
Buckets (1/diamond boy)	\$ 15
Kitchen supplies	\$ 42
Provisions for diamond boys (2 cups rice/day each, Magie cube, oil, fish, cigarettes, medication)	\$ 1,354
TOTAL	\$ 3,442

* Working 1 pit an average 300 days/year on 25-acre claim with 3 diamond boys.

4.4 MICROFINANCE IN LIBERIA

The microfinance sector in Liberia is in the nascent stages as the country moves into a post-war economy. The majority of Liberian MFIs grew out of relief programs, and they have now transitioned into independent institutions. There are currently eight MFIs in Liberia, and all continue to operate with donor support out of Monrovia. LEAP, the first MFI, started operations in 1994, while most MFIs have been established over the last five to ten years. MFIs are not authorized to capture savings in Liberia and only offer loan products, whereas commercial banks capture savings and provide loans. The majority of lending occurs in Monrovia and focuses on trade and retail operations of SMEs with few loans at the micro level. Perceptions on the impact of the war were mixed among financial institutions. Many found the war has ongoing impacts on short-term and donation mentalities. The long-term provision of grants was seen as affecting the way many Liberians view money and financial services. MFIs are active in Liberia, but all those interviewed acknowledge that it is a long road to expand services and knowledge surrounding microfinance.

Government of Liberia Engagement. The Central Bank of Liberia (CBL) has received support for the development of microfinance through the United Nations and now operates a microfinance unit. The unit advocates the development of tailored bank products and works with banks on their development. The GOL is keen to expand financial services and is undertaking a new program in 2012, Leaf Facility, which will inject L\$200 million in loan extension assistance to local institutions. MFIs will have access to these funds for three years at an interest rate of 3% for on-lending after meeting certain criteria. The CBL does not want to get involved in the direct provision of loans, as they feel Liberians will see the money as a grant and not repay. The unit is studying the risk factors for agriculture and is looking to support an expansion of products. Through the United Nations Capital Development Fund the CBL supported a women’s cross-border trade program, where it worked with three banks to develop products targeted to these individuals. The program was successful.

In addition to the CBL, the CDA is involved in financial services and support. Prior to the wars, cooperatives could obtain loans through the Agriculture and Cooperative Bank with CDA approval. This bank no longer

exists and CDA does not have any current ties to banks. Financial institutions have expressed minimal interest in the CDA with only a few inquiring about lending to cooperatives but without any subsequent follow up. The CDA currently engages in direct lending through the United Nations High Commissioner for Refugees and has an ongoing program that provides financial services to cooperatives outside of Monrovia focused on agriculture and small business development. The government is also looking to strengthen credit unions, overseen by CDA, and has been active in supporting their apex institution.

Commercial Banking Experience. Liberia has four major commercial banks with varied engagement and experience with microfinance. Access Bank is known to be an active player in the sector and acknowledged holding 50% of the microfinance market. The bank, however, only holds 10% of the microfinance loans in the country and focuses more on individual SME lending than on traditional micro-financial services. Most banks reported their main focus is retail banking and medium- to large-scale business lending. Borrowing often requires three years of operations, cash flow, credit record and collateral. Ecobank noted that they sometimes provide smaller loans to the downward chains of their multinational clients, such as staff, vendors and suppliers, who are known through the company. They reported earlier efforts to engage with microenterprises had cost the bank lots of money. Microenterprise clients were found to be highly risky and lacking business skills. Clients would not use money for the intended purposes but rather to cover operating expenses that resulted in inability to repay loans. New actors are entering into the commercial banking market in Liberia, particularly Afriland Bank from Cameroon that has spun off village banking operations through its branches. Afriland is in the process of undertaking this step in Liberia. Through their model a community with 100 interested members can petition for a branch that will provide a range of lending options for micro- and SMEs, as well as producer groups.

Product Diversification. MFIs in Liberia focus on lending, as they are prohibited from mobilizing savings by the CBL; however, they noted the need for and likely benefits from increased facilitation of savings among their clients. MFIs are largely doing SME and microenterprise loans targeting women and, according to the CBL, 80% of their portfolios support trade and business activities. Agriculture finance is new to Liberia; Liberia Entrepreneurial and Asset Development (LEAD) works with farmers, while Access Bank, LEAP and Liberty Finance are looking to expand operations and developing products. Few MFIs have expanded into agriculture lending as the majority of lending has been targeted to Monrovia where the institutions are concentrated. As they look to expand into rural areas, MFIs are considering how to adjust repayment terms to meet more diverse client needs. Most MFIs require loan repayment within one to three years with weekly, biweekly or monthly payments, depending on the activity. SMEs were usually granted monthly payments to allow for business turnover. LEAD is among those offering agriculture sector products with loan interest due at disbursement and repayment at harvest or initial payments not required for six months.

Several MFIs have experience with group lending and, in the case of LEAP and Liberty Finance, they only do group lending. The typical group size is five people. LEAD reported using group lending to support farmers. All MFIs involved in group lending reported that ensuring repayment is challenging and a struggle to control. In some cases people form groups with others they do not know, groups or individuals vanish after receiving funding or only four of five members repay. The groups provide the backing for the loans, and many MFIs turned to group lending as individual lending to those without assets was too risky. Clients often do not understand they are required to pay if one of their group's members does not. Some MFIs reported they still faced clients who did not repay in full or at all even with group lending. One institution reported better success with a more experienced community member—for example, a property owner looking for resources who can form a group by selecting trustworthy individuals they know.

Operational Challenges. The growth of the microfinance sector in Liberia is constrained by limited resources and a dearth of human capacity. As microfinance is a relatively new sector, many MFIs reported few skilled staff available, and more capacity building is needed to expand the sector. Finding good people to staff institutions is a challenge, and even after providing training and opportunity, several MFIs said employees do not stick around or are not trustworthy. While institutions may be interested in expanding outside of Monrovia (where the market is nearing saturation and clients take loans from multiple institutions),

such an idea is difficult to consider without skilled and trustworthy staff to operate semi-autonomously. Internal control systems need to be expanded to prevent theft, and expansion into rural areas would strain existing systems. With a vibrant Monrovia market, several institutions cited their hands were full with their current activities and it would be difficult to expand with available resources. Besides limited human resources and control systems, constraints to rural expansion included poor roads, communications and limited electricity. Currently LEAP and LEAD are among those that have operations outside of Monrovia; however, LEAP reported they had expanded too quickly and had recently shut down half of their 12 rural branches. The closed branches did not start out on solid financial footing, and poor performance resulted from staff that was not well-trained and unable to secure loan repayments. Access Bank noted that they were taking a slow approach to expansion given the experience of other banks and MFIs.

Lending Practices. Several institutions reported repayment is a major challenge, and many banks and MFIs are struggling, whether they admitted it or not. The cost of loan administration is high, and sustainability would be an issue without donor funds. Institutions are employing a range of strategies to reduce risk and increase repayment. While the CBL does not require collateral, MFIs do require it in one form or another. Several MFIs reported they hold compulsory savings, permissible as a form of guarantee that is returned to the client following loan repayment. Some MFIs did not find savings as a useful guarantee, as people are asking for a loan because do not have money in the first place. Other practices include using co-signers, group lending, agricultural machinery, land deeds, cars, motorcycles or land titles as forms of collateral. As migration is a common problem, several MFIs reported researching if an individual is part of the community prior to issuing loans. (The issue of migration has also led several institutions to focus on group lending as the best form of guarantee.) Afriland Bank noted their use of various forms of collateral; they typically start with an analysis of what is valuable in the community, including traditional beliefs (which they reported to no longer exist in Liberia). Several MFIs require training as part of their loans in the areas of business skills, management and planning. LEAD reported they are providing technical production assistance on their agriculture loans to help secure repayment. Some MFIs require a certain amount of training before larger sums of credit are available. LEAP, however, summarized the situation by saying, “Collateral is secondary, a willingness to repay is key.”

4.5 THE POTENTIAL OF MICROFINANCE IN THE DIAMOND SECTOR

Institutional Perceptions and Experience with Miners. The pursuit of ADMs as clients either had been previously rejected or never been considered by the financial institutions interviewed. No institutions reported ever having issued loans in the diamond sector. Liberian Enterprise Finance Company (LEDFC) reported their donor had explicit policies prohibiting them from lending to miners, given the environmental impacts and high-risk factors. Ecobank explained it was a management decision not to engage in the sector and that, “What we don’t understand we don’t finance—this includes airplanes, fish and perishable goods.” The bank also noted that in diamond mining and other highly speculative sectors, such as oil, it engages only with large companies that can show existing cash flow to repay the loan should the activity not bear fruit.

In the majority of cases, however, many of those who did not lend to ADMs (despite interest in expanding the client base and market share) were not aware of diamond mining financing possibilities and were surprised to hear that upwards of 30% of the Liberian population may be involved in the sector.⁵ MFIs were unclear if artisanal mining was legal at all, and lacked other basic knowledge about the sector. There was little understanding of the KPCS or Liberian classifications of Class A, B and C miners, as well as permits required for extraction. It was also noted that it would be hard to differentiate a diamond from other stones. Institutions expressed uneasiness that ADMs were known to be highly mobile and thus could be difficult to

⁵ As noted earlier, the MLME disputes figures showing such a high percentage of Liberians engaged in diamond mining.

locate. Others cited ADMs' attitudes toward money (i.e., the belief that if one diamond is found, more will come) as a challenge that led to lack of planning and saving for the future.

Factors for Consideration in Sector Engagement. Institutions such as LEAP, LEAD, Liberty Finance and Afriland Bank expressed openness to ADM lending and found diamond mining to be a risk factor but not an absolute barrier. They understood the need for alternative financing for ADMs and saw microfinance's potential. The CBL microfinance unit reported they had not yet looked into the mining sector, but were interested in developing a concept note on how institutions might feasibly engage in ADM lending. LEDFC expressed interest in supporting alternative livelihood activities for ADMs or providing linkages to other services. The question of the commercial viability was an issue and how much it could be used to offset some of the risk. MFIs questioned if ADMs could manage the interest rate on loans and repay given their unpredictable revenue streams. Some MFIs reported ADM lending considerations would be eased by scientific data to support mining claims, experienced miner clients and positive standing in their communities. All institutions said government regulations would have to be followed and permits would be required for funding.

Institutions reported that a lack of regular income flows was not a barrier, but would require the right product, which in turn would require careful analysis and reflection to ensure such an operation would meet the needs of the institution and ADMs. LEAD, LEAP and Access Bank questioned whether a loan product was appropriate and posited that a savings product might better serve ADM communities. LEAD warned that "it's important to recognize that maybe people don't need lending." Institutions reflected that by starting with a savings product a relationship could be built and, if appropriate, financial services could be offered. Several also saw building the capacity of ADMs in planning and financial management as a key component to any lending activity.

A big concern was the costs of funds to target mining communities, community and market dynamics and the feasibility of supporting localized branches. Significant cash for loan capital and setting up a branch would be necessary, and a self-sufficient operation would require well-trained staff. All were clear that a new program would be required, as ADM lending would not fit within their current operations or funding streams. Afriland Bank said it would require further investigation, but that 100 ADMs interested in starting a branch would in principle fit within their model. Other institutions were constrained by their mandates for large-scale interventions. One person interviewed stated, "We target communities with at least 4,000 people and estimate 76% poverty rate... [B]etween 2000–2500 clients [are] needed for a branch. We looked at mining communities but we'd only have 800–1000 potential clients, which [is] too small." The IFC was interested in the mining sector, but wanted to focus on large-scale mining rather than ADMs.

Miner Cooperative and Group Lending. MFIs in Liberia were more comfortable with the idea of lending to mining groups than those in CAR given their experience with group lending methodology. MFIs understood that resource-poor ADMs would struggle to meet collateral requirements the same as many of their current asset-poor clients receiving services via groups. The question of miner migration and maintained presence in communities was an issue in considering lending to miner groups. The idea of lending to groups was seen as more feasible than lending to individuals and would provide more security, reduce transaction costs and provide an easier vehicle for capacity building.

Others also saw the potential of lending to mining cooperatives, including the CDA and RMAs. The diamond dealers association was in favor of mining cooperatives as they did not see any other way the system could properly and effectively function. When nascent mining groups in Liberia were asked about the idea of group loans and repayment terms, they expressed confidence in their membership, and responded that their members were part of the community and open to group loans. While many supported group lending and reported they would pay for others who could not pay, others were hesitant as they knew times would come when some would not find diamonds and all would be held liable. Overall, however, ADMs were in support of financial institution support and seemed to believe it would mean better benefits and more security and would ultimately result in higher diamond sale prices.

Miner Experience with Loans. ADMs reported they had never received a loan to support their activities, even ADMs who previously had bank accounts. Formal loans had never been an option, and financial institutions had never been present in or around mining communities. While miners did report taking payouts from susus, they noted this was typically for small expenses, and none reported having paid interest. During interviews, some ADMs understood interest rates but many were unfamiliar with the concept. Nonetheless, ADMs were interested in loans from financial institutions and found this to be a better option than dealing with brokers; time would be given for repayment, and the diamonds they found would be able to cover their debts. As in CAR, the ADMs' current funding system from brokers results in a constrained understanding of loan terms. When a miner does not find diamonds, both parties cut their losses and it is understood that the broker bears the loss. If a broker does seek to reclaim funds invested, their limited options and high transaction costs favor ADMs.

4.6 CONCLUSIONS AND RECOMMENDATIONS

ADM finance in Liberia is partial to many of the same factors as CAR; however, the evolution of Liberia's diamond sector necessitates further development prior to a feasible expansion of sustainable financial services. In the last five years, as Liberia embraces the KPSC, the expansion of the formal sector has advanced and the GOL has slowly begun to recognize and address ADM constraints. As the sector develops it is influenced by proximity to Sierra Leone, high transaction costs, thin market relationships and limited funding sources. ADMs are in isolated pockets of the country with few livelihood alternatives, limited bargaining power and scarce access to services.

During this period Liberia has also seen the increase in the availability of financial services through MFIs, and most have been in operation for two to five years. Monrovia now has several MFI and commercial bank options with a range of financial products available, including loans for SMEs and groups. Donor influence is high, and many MFIs grown out of relief programs are emerging as semi-independent institutions. MFIs have faced a host of challenges ensuring loan repayment, internal control and qualified staff, which has constrained expansion into rural areas.

Given these factors ADMs would be better served by targeted capacity building and advocacy and increased financial literacy than by loans. Communities would greatly benefit from non-financial services and savings products as they strengthen alternative livelihoods and mining cooperatives. A series of first steps that would help increase the potential to expand financial services is presented below.

- **Continue Development of the Microfinance Sector:** MFIs need increased human resource capacities, improved internal control systems, facilitation of rural expansion and support for diversified loan products. Communities would also benefit from an expansion of formal savings opportunities but only if financial institutions have the resources and capacity to safeguard community assets. Further training and resources are needed to strengthen the nascent MFI sector in Liberia.
- **Expand Financial Sector Knowledge:** PRADD can engage MFIs and commercial banks and provide information on the diamond sector. Expanding stakeholder workshops to include the financial sector in addition to GOL, NGOs and donors so they can come to understand the complex dynamics and opportunities will help foster understanding, interest and engagement.
- **Support Cooperative Development:** Mining groups are new to the country and require a range of skills and resources to strengthen their management, planning, collaborative and regulatory capacities. The CDA's approach to developing initial capacities prior to miner cooperative certification and oversight is a valuable expansion of its efforts and should be supported. Donors and NGOs can also work toward expanding cooperatives' access to services and alternative livelihoods.

- Strengthen GODIMUL: As the voice for ADMs continues to grow, GODIMUL can be a valuable resource to advocate for policy changes, licensing decentralization, improved services and expanded resources for ADM communities.
- Improve ADM Savings and Loan Capacities: Efforts should be made to develop training with miners on the importance of savings, benefits of engaging with the financial sector and how to budget and plan for expenses. Miners can strengthen their creditworthiness at the same time that they gain skills in financial planning and begin microsaving activities. As many MFIs are providing similar training to their clients, PRADD can look to leverage these activities and learn from their efforts.
- Improve ADM Prospection Techniques: Through the implementation of SMARTER techniques, miners will be better able to evaluate mine potential before committing significant resources. ADMs would also be served by the facilitation of lower-cost prospection services. The GOL could expand access of existing geological assessment data to Class C miners. Improved evaluation capacity will reduce costs and effort for ADMs as well as strengthen their access to financing.
- Provide for Geological Assessments: The program could support the development of a local institution to conduct geological assessments. This could develop into an autonomous private sector organization that provides the service to miners, which would help ensure profitable activities and improve miner access to loans. Such a service would need to ensure that costs would be more reasonable than the current services available while looking to develop a sustainable business model.
- Promote Income-Generating Activities: As in PRADD/CAR, economic diversification outside of diamond mining is highly beneficial for communities. Alternative economic activity can help balance incomes, improve nutrition and provide additional livelihood options. As MFIs begin to expand in Liberia there may be opportunities for mining communities to access service through their alternative livelihoods rather than mining activities.
- Develop ADM Policy: PRADD's recommended reforms to the legal, regulatory and policy frameworks can help advance formalization of the diamond sector in Liberia. Improvements in decentralizing the permit process, reducing permit costs, addressing land issues and integrating ADM socio-economic considerations will help strengthen the sector's development and ADM livelihoods.
- Dialogue with CBL on ADM Dynamics: The microfinance unit had not previously considered ADM finance and is interested in developing a concept note to analyze potential appropriate financial products. PRADD can help further educate the unit on sector dynamics, which will expand knowledge of ADM issues among the broader MFI, donor and NGO communities.

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ANNEX 2. LIST OF MEETINGS AND CONTACTS – CENTRAL AFRICAN REPUBLIC

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