

MAPPING ARTISANAL MINING SITES IN THE WESTERN CENTRAL AFRICAN REPUBLIC

Produced in Partnership with the Artisanal Mining
and Property Rights Project (AMPR)



November 2019

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Cover Photo IPIS: Two miners present their tools at the entrance of a gallery on the Gbaguene site.

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ACRONYMS AND ABBREVIATIONS

3R	Return, Reclamation, Rehabilitation Rebel Group
AMPR	Artisanal Mining and Property Rights
ARM	Mining Reconnaissance Authorization Zone
CAR	Central African Republic
COMIGEN	<i>Comptoir des Minéraux et Gemmes</i>
CSO	Civil Society Organization
CRAFT	Code for Risk Mitigation in Artisanal and Small-Scale Mining, Engaging in Formal and Transparent Trade
FACA	Central African Armed Forces
FDPC	<i>Front Démocratique du Peuple Centrafricain</i>
ICGLR	International Conference on the Great Lakes Region
IMC	<i>Industrie minière de Centrafrique</i>
IPIS	International Peace Information Service
KP	Kimberly Process
MINUSCA	<i>Mission Multidimensionnelle Intégrée des Nations Unies Pour la Stabilisation en Centrafrique</i>
MMG	Ministry of Mines and Geology
OECD	Organisation for Economic Co-operation and Development
OSM	OpenStreetMap Foundation
PE	Exploitation Permits
PEASM	Semi-Mechanized Artisanal Mining Permits
PR	Research Permits
SPPK	Permanent Secretariat of the Kimberley Process
SPPK-RCA	Permanent Secretariat of the Kimberley Process in the Central African Republic
UNMISCA	United Nations Integrated Multidimensional Stabilization Mission in the Central African Republic
USAF	<i>l'Unité Spéciale Anti-Fraude</i>
USAID	United States Agency for International Development
USD	United States Dollar
ZEA	Artisanal Exploitation Zones

EXECUTIVE SUMMARY

This report presents an analysis of the artisanal mining sector in western Central African Republic (CAR) and outlines some of the challenges surrounding gold and diamond mining, trade and export. From April to July 2019, the International Peace Information Service (IPIS), in partnership with national authorities, carried out a mapping of artisanal mining sites in western CAR. A total of 322 sites were visited in 7 prefectures. Of these, 201 exclusively mined gold, 61 exclusively mined diamonds and 60 mined both gold and diamonds.

In total, the population of workers actively involved in such minerals production was estimated at 62,042 individuals, 28% of whom are women. The study found an average (mean) of around 193 workers per site (median 77). Children under 15 years of age actively involved in production accounted for 11% of workers. IPIS conservatively estimates the total number of workers on mining sites throughout the country to be made up of between 150,000 and 200,000 individuals.

Artisanal mining is a particularly dangerous activity. Eighty-seven people were reported to have died at 42 sites in the 12 months prior to study team site visits, with 1,154 people reported injured at 116 sites in the same period. In addition, 33% of all 322 sites have been the scene of conflict in the last 12 months. In 80% of these 105 cases, such conflict was directly related to mining.

The total weekly production from the 261 gold sites visited amounted to over 35,700 grams in the week preceding the study team visit. Using this figure as a baseline, IPIS estimates the potential annual production from all gold sites in the CAR to be approximately 5,720 kilograms of gold. This estimate does not take into account possible loss of volume through gold purification mechanisms in artisanal smelters prior to export. Nevertheless, the production officially recorded in 2018 would still represent only 2.5% of the country's potential production.

Total weekly production from the 121 diamond sites visited amounts to 195.8 carats in the week preceding the study team visit. On this basis, IPIS estimates the potential annual production from all diamond sites in the CAR could be approximately 187,000 carats. The production officially recorded in 2018 would then represent only 7.3% of the country's potential production.

IPIS estimates the minimum income of a worker on both gold and diamond sites to be between USD 9.45 (median) and USD 11.77 (mean) for a 5.5-day working week. This report demonstrates that pre-financing mechanisms play a key role in determining the income of miners on sites. However, the collapse of the formal sector, particularly in diamond mining, has had a significant impact on diggers' standards of living. As gold sites offer greater predictability of yield, we have seen an increase in both production and the number of artisanal gold diggers in the CAR in recent years.

Mining in the CAR continues to be characterized by informality and fraud. Over a third (116 sites) of all the sites visited as part of the present sample cited Cameroon as the main destination for their minerals production. The quantity of minerals produced and exported is especially difficult to monitor as production is only recorded on 33.5% of sites (both formally or informally). The absence of mining administration representatives and purchasing offices near mine sites is cited as the main reason for the export of minerals to Cameroon, with no benefit to Central African communities.

I. MAPPING MINING SITES IN THE WESTERN CENTRAL AFRICAN REPUBLIC

The Central African Republic (CAR) is a State rich in natural resources and minerals. Of the sixteen Prefectures of the CAR, ten produce gold and nine produce diamonds. Despite this, the CAR ranks at the bottom of global indexes for economic and human development. According to the World Bank¹, 75% of the CAR's 4.6 million inhabitants (2016) live below the international poverty line, on less than USD1.90 per day. This has placed the country at the bottom of the human development index for several years.

Decades of economic crises, followed by several years of major insecurity from 2013² to the presidential and legislative elections in 2016, have left the country devastated and divided. It has seen 600,000 Central Africans flee to neighboring countries³, and nearly 581,000 people displaced internally.⁴ In order to support vital imports for its population, particularly food and basic necessities, the Central African State is endeavoring to guarantee security along the corridor from Bangui to Garoua-Boulai – a route essential to Bangui's logistical access to the outside world. In addition, securing this axis is key to the restoration of the country's legal export sectors for raw materials, including wood, coffee, cotton, gold and diamonds.⁵

The Central African State's resumption of control over the country's natural resource exports also requires the formalization of the artisanal mining sector. The latter is the main means of subsistence for hundreds of thousands of mining workers and their families. However, the development of fraudulent export channels and the predation of non-state armed groups that control several production areas continue to undermine the sector's development potential. The United Nations Security Council has stressed the need for the CAR Government to combat illicit gold and diamond flows in order to guarantee peace and stability in the country.⁶

To support the efforts of both the CAR's Ministry of Mines and Geology (MMG) and other key stakeholders, such as the Permanent Secretariat of the Kimberley Process in the Central African Republic (SPPK-RCA), to restore the Central African State's control over legal minerals production and exports, the *International Peace Information Service* (IPIS), in partnership with national authorities, have produced a diagnostic report and **mapping of artisanal mining sites in the western Central African Republic**. This report and mapping seek to better understand local socio-economic dynamics

¹ The World Bank in the Central African Republic, overview: <https://www.banquemondiale.org/fr/country/centrafricanrepublic/overview> consulted on 11 November 2019.

² See in particular IPIS - DIIS, *Central African Republic: Conflict Mapping*, Antwerp, September 2018. Available at: <https://ipisresearch.be/publication/republique-centrafricaine-cartographie-du-conflit/>

Or IPIS, *Central African Republic: Portrait of a territory rich in crises (2012-2017)*, September 2017. Available on: <https://ipisresearch.be/publication/republique-centrafricaine-portrait-dun-territoire-riche-en-crisis-2012-2017/>

Or IPIS, *Mapping the motivations behind conflicts: Central African Republic*, November 2014. Available at: <https://ipisresearch.be/publication/cartographie-des-motivations-derriere-les-conflits-la-republique-centrafricaine/> Accessed November 11, 2019.

³ Website of the High Commissioner for Refugees: <https://data2.unhcr.org/fr/situations/car> consulted on 30 September 2019.

⁴ Ibid.

⁵ IPIS - DIIS, "Laissez-passer" *L'économie politique des barrières routières en République centrafricaine*, Antwerp, November 2017, p. 50, available at: <https://ipisresearch.be/publication/laissez-passer-leconomie-politique-des-barrieres-routieres-en-republique-centrafricaine/> consulted on 27 November 2019.

⁶ United Nations Security Council Resolution, S/RES/2134, 2014, pp. 2-10.

(including potential conflicts and obstacles to the re-establishment of legal export channels), with a principal focus on the gold sector.

IPIS has worked within the framework of the “Artisanal Mining and Property Rights” (AMPR) project, funded by the United States Agency for International Development (USAID), which aims to strengthen property rights in mining communities and good governance of natural resources. In order to better understand the opportunities and challenges related to establishing a responsible gold supply chain, IPIS provides through this report **a diagnosis of the artisanal mining sector in the western Central African Republic by presenting key issues in gold mining, trade and export**, as well as its impact on the economy, local governance and social cohesion in a context of progressive restoration of security and the rule of law.

Particular attention has been paid to the role of women in the gold sector as they play an important role on many mining sites. Particular focus has also been placed on the use of mercury, the presence of children, and potential conflicts between artisanal miners and more recently arrived semi-mechanized mining companies. The data collected as part of this study will provide the Government of the Central African Republic, and in particular the Ministry of Mines and Geology and other key parties in the artisanal mining sector, with tools to analyze and understanding of the sector, including a geo-referenced database of the main gold mining sites in western CAR.

IPIS is an independent research institute that produces analytical and capacity building tools to support people working for peace, sustainable development and respect for human rights. Benefiting from many years of experience in mapping artisanal mining sites in the eastern DRC, Tanzania and Zimbabwe, IPIS has developed a working methodology **based on partnership with national authorities** and recognized community stakeholders to form teams of investigators with both the necessary legitimacy to conduct mine site visits and credibility in their investigation methods.

The main objective of this study is to provide specific data and recommendations for the establishment of responsible supply chains for the gold sector in the CAR. To achieve this objective, IPIS orchestrated the mapping of the principle gold sites in western CAR, in collaboration with MMG and SPPK-RCA. **The data collected is presented in this report as well as through the publication of an interactive map⁷ and a detailed and geo-referenced database of gold and diamond mining sites**, which has been shared with the relevant authorities.

I.1 METHODOLOGY

The methodology of this project is based on a partnership with MMG to collect primary, unpublished and reliable data directly from mine sites. Building on its considerable experience of analyzing artisanal mining in the Central Africa region over the past ten years, IPIS developed a questionnaire on the production, processing and sale of minerals in western CAR. This questionnaire was tested before deployment in order to adapt the questions and wording to the realities of the Central African artisanal mining sector and those expected to respond to these questions.

This questionnaire collated the location of the main gold and diamond sites, and their key characteristics (type of operation, number of *chantiers*, site management and registration). Localized artisanal mining dynamics (workers numbers, presence of children, role of women, production and sale price estimates), as well as information concerning the processing and trade of minerals were recorded for each site. Marketing and export channels, predation by armed groups (only in areas securely accessible to teams at the time of the study) and the supervisory role of government services (production control and

⁷ See chapter 1.4: *Presentation of the interactive map*. The interactive webmap is available at: <https://www.ipisresearch.be/mapping/webmapping/carmine/v1/>.

registration) were also surveyed. The questionnaire was shared for validation with the MMG, the SPPK-RCA, and the project's technical and financial partners in April 2019.

In parallel, IPIS recruited a Field Coordinator and organized the recruitment and training of field investigators. In total, ten people including three women – five teams of two investigators – were selected to map the mine sites. Five of these investigators represented the MMG as SPPK-RCA focal points, and five were recruited among local civil society organizations (CSOs).⁸

Involving local CSOs in research can strengthen their technical capacities and their natural resources knowledge, making them better equipped to advocate for their interests. Moreover, involving the Ministry of Mines, through SPPK-RCA focal points, helped to augment the technical capacities of the Ministry's employees whilst providing them with a deeper knowledge of the sector and applicable international standards, such as the OECD Guidelines on Responsible Mineral Sourcing from Conflict Affected and High-Risk Areas⁹, as well as relevant certification mechanisms. The deployment of joint teams (CSOs and MMG representative) also ensured the legitimacy of the presence of investigators in mining areas (reinforced by an MMG mission order) and the credibility of the information collected. It is hoped that the number of CSOs members and MMG participants taking part in field training and site visits can be increased in the future, and that the geographical coverage of the mapping exercise might be expanded to ensure greater coverage of the CAR's territory.

A four-day training was delivered to joint investigation teams¹⁰ in Bangui. This covered eight main modules:

- A presentation of the project and the objectives of mapping the artisanal mining sector in western CAR;
- A presentation of the artisanal gold and diamond mining sectors generally;
- Participatory research methods for site identification with local communities;
- The main research questions and the content of the questionnaire;
- Field research methodology and practical advice;
- Mobile Data Collection with the 'ODK Collect' app on Android phones;
- Security risk analysis, Standard operating procedures and Contingency plans;
- Use of portable satellite communication and GPS navigation devices.

Once the teams had been trained and equipped (telephones, satellite communication equipment, batteries, solar chargers, medical kits, etc.), two 21-day and 25-day missions¹¹ were organized north and south of the Bangui to Garoua-Boulai axis. A complementary mission, carried out by DPAM agents, who also participated in the IPIS training, covered diamond areas in the southwest of the country. In total, 322 mining sites were visited in seven Western Prefectures: namely, Lobaye, Mambéré-Kadeï, Nana-Mambéré, Ombella-M'Poko, Ouham, Ouham-Pendé and Sangha-Mbaéré.¹²

⁸ IPIS would like to thank its field coordinator, Mr. Jean-François Thalo, and the following investigators for their outstanding data collection and dedication despite the difficult conditions in which they had to carry out their missions: Alex Bienvenu DALANGUERE (SPPK), Soleil Parfait KALESSOPO (civil society), Noëlla MBIFOYO NAPANZI (SPPK), Daniella Suzy N'DEKELE MBONDIT (SPPK), Régis REGOBENGLI (civil society), André SOMSE (civil society), Roméo Boris WABIE (civil society), Arsène Frédéric YENDO TCHORO (SPPK), Wanerema ZIANTE KONDORBOY GOTHIA (SPPK) and Mercy Doreen ZOUHINGUI MAHATON KOMBO (civil society).

⁹ Available at <http://www.oecd.org/fr/daf/inv/mne/Guide-OCDE-Devoir-Diligence-Minerais-%20Edition3.pdf> accessed 26 November 2019.

¹⁰ For more information, see the article "New project of mapping artisanal and small-scale mining sites in the Central African Republic" available at: <https://ipisresearch.be/2019/05/new-project-mapping-artisanal-small-scale-mining-sites-central-african-republic/> Accessed on 11 November 2019.

¹¹ The missions took place from 20 April to 10 May 2019 and from 18 June to 12 July 2019.

¹² One of the objectives outlined in the terms of reference for this study was to analyze the gold mining sector in the western CAR. As a result, the mine sites visited are representative of the key gold mining sites in western CAR, whilst diamond mining sites were ancillary to (and therefore in the minority of) our sample. Notably, there are also significant differences between the artisanal sectors in the east and

Photo 1: Work of IPIS field investigators here at the Rizian site near Bossangoa.



The completion of questionnaires on mining sites was supplemented by each team drafting narrative reports presenting the security situation locally, as well as the main points of sale and marketing channels for minerals in the areas visited.

In addition, three qualitative research studies were conducted in the mining areas of Yaloké (Ombella-M'Poko), Bozoum (Ouham-Pendé) and Baboua (Nana-Mambéré).¹³ These additional field visits undertaken by IPIS researchers, together with civil society and SPPK representatives made it possible to conduct individual interviews to test hypotheses garnered from the preliminary study of the first site questionnaires. This enabled the study to examine issues

such as financing, working conditions, team organization and the mineral marketing chain in greater depth. Finally, depending on the context in each area of study, particular attention was paid during qualitative research to potential conflicts between artisanal miners and semi-mechanized mining companies.

Analysis of the data collected was carried out over several stages. First, the questionnaires were reviewed by the field coordinator and then by IPIS researchers in Antwerp. Where necessary, additional information or improvements were requested directly from the investigation teams, including during a mid-term feedback workshop held in Bangui in June 2019. Referring back to investigators' research notebooks was an efficient method to correct any data entry errors. Once all the data had been collected, it was analyzed again by the IPIS team in Antwerp. Particular attention was paid to consistency between the recorded data and the narrative reports or other free comment areas available in the questionnaire. Quantitative data was analyzed to identify potential typing or conversion errors, particularly with regard to mineral prices. Production data was cross-referenced with the number of diggers reported in order to eliminate potential outliers. Finally, the production of maps, graphs and statistical tables made it possible to analyze the data obtained for the preparation of this report.

the west of the CAR, the former not being included within this study. Site selection was carried out using several methods (referred to as "funnel" and "oil spill"). Once the teams arrived at known mining areas, interviews with the authorities made it possible to select the main themes of the visit. Under each theme, the teams conducted participatory focus groups to list the main mine sites to be surveyed ("funnel method"). Upon arriving at a mining site, teams moved from mine to mine in order to discover and map further unlisted sites ("oil spill" method).

¹³ See Chapter III. Qualitative analysis.

I.2 PRESENTATION OF THE ARTISANAL MINING SECTOR IN THE CENTRAL AFRICAN REPUBLIC

Before the 2013 crisis, minerals were the Central African government's third largest source of revenue generation, after agriculture and forestry.¹⁴ Diamond exports alone accounted for 11% of tax revenues in 2010.¹⁵ Already, at that time, at least 30% of diamonds were leaving the CAR illegally. The now booming gold sector is even more closely linked to informality: even before the crisis, about 95% of production left the country unofficially.¹⁶

The resumption of mining activities in the country since the 2013 crisis, and its intensification in some areas, have been confirmed by a USGS study¹⁷ founded on an analysis of satellite images collected between 2013 and 2016.¹⁸ This study estimated the number of mine sites in the Central African Republic to be around 2,560¹⁹ and the value of annual diamond production to be approximately 330,000 carats, 82% of which are smuggled out of the country.

A second 2018 study, funded by UNDP and UNICEF²⁰, confirmed this trend with an estimated smuggling rate of between 77 and 86 percent of annual diamond production. That study also assessed the CAR's estimated 2,560 mining sites to be spread over at least 186 mining areas ("foyers miniers")²¹ throughout the territory, with each mining site including an average (mean) of 13.7 *chantiers* per site, totaling an estimated 35,034 *chantiers* throughout the territory.²² Of the sites observed in that study, 73% were exclusively diamond producing, 16% are exclusively gold and 12% had mixed gold/diamond production.²³

¹⁴ IPIS - DIIS, *Central African Republic: conflict mapping*, Antwerp, September 2018, p. 83. Available at the following address: <https://ipisresearch.be/publication/republique-centrafricaine-cartographie-du-conflit/> consulted on 11 November 2019.

¹⁵ K. Matthysen et I. Clarkson, *Gold and Diamonds in the Central African Republic*, IPIS/ActionAid/Cordaid, February 2013, p. 6. Available at the following address: <https://ipisresearch.be/publication/gold-diamonds-central-african-republic-countrys-mining-sector-related-social-economic-environmental-issues/> consulted on 11 November 2019.

¹⁶ *Ibid.*, p. 6.

¹⁷ The United States Geological Survey (USGS) is a government scientific agency that has been assisting the Kimberley Process in monitoring diamond production in the CAR since the beginning of the crisis.

¹⁸ J.D. DeWitt, P.G. Chirico et S.E. Bergstresser, *The Central African Republic Diamond Database – A Geodatabase of Archival Diamond Occurrences and Areas of Recent Artisanal and Small-Scale Diamond Mining*, U.S. Geological Survey Open-File Report 2018-1088.

¹⁹ *Ibid.*, p. 20. USGS interpretation of satellite images has mapped 2,560 occurrences of small-scale mining activity in two distinct parts of the CAR. Each geo-referenced point in this database indicates a 1 km² area active between 2013 and 2017. We will see later that this study uses a different definition of a mine site that incorporates socio-economic factors and not just geographical factors. However, at present, the figure of 2,560 mine sites is considered the best available estimate until all sites have been visited by field teams and will be used in this report as a reference point for statistical analysis.

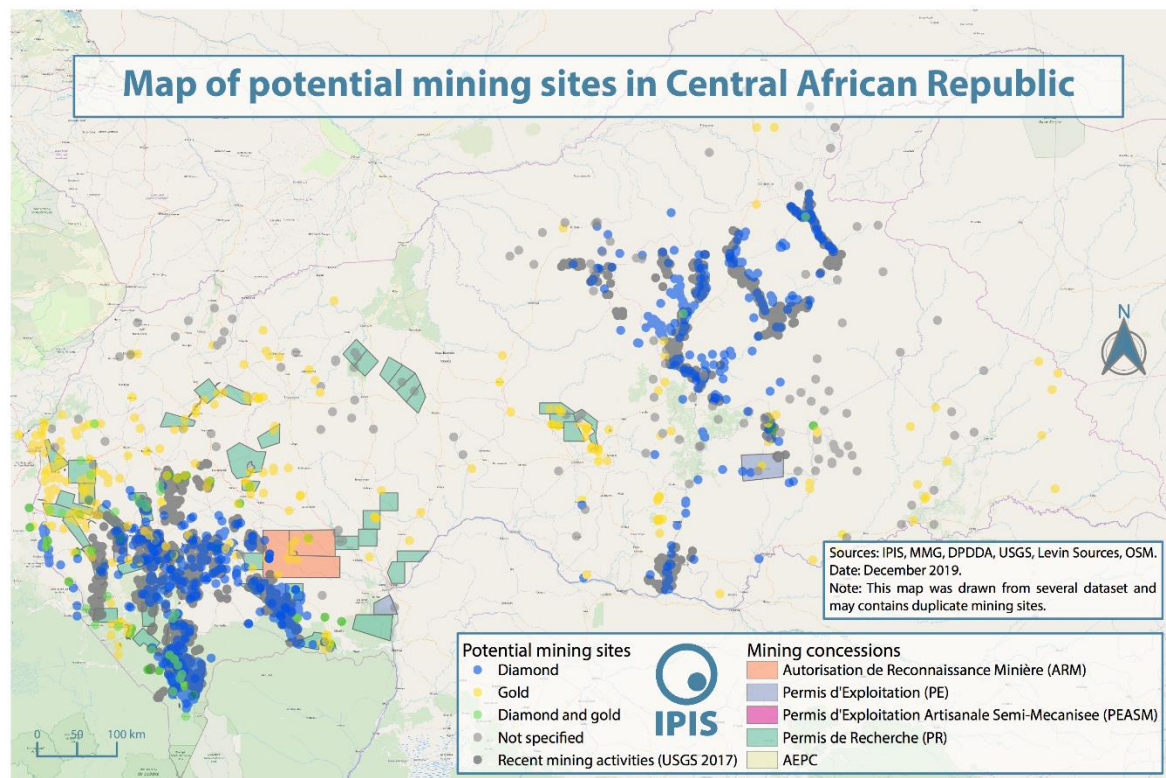
²⁰ S. Pennes et al, *Diagnostic of mining and socio-economic development prospects in the CAR in the light of the vision of the mining regime in Africa*, Levin Sources, October 2018.

²¹ *Ibid.* p. 35. "A mining area corresponds to a relatively autonomous rational economic unit, generally concentrated around a large village or small town, where one can obtain supplies of equipment and fuel, consumer goods, and where one can trade and sell one's production."

²² Several mining sites can be grouped within a mining area and several *chantiers* can be operated on a site. The questionnaires used in this study were completed at each mining site visited. IPIS found an average of 10 *chantiers* per site out of 322 sites visited in 2019.

²³ S. Pennes et al., *Diagnostic de l'exploitation minière et perspectives de développement socio-économique en RCA à la lumière de la vision du régime minier en Afrique*, Levin Sources, octobre 2018, p. 22.

Map 1: Mine site potential in the Central African Republic



Whilst there was very little industrial mineral production in the CAR in the years preceding the 2013 crisis, since that time mining in the CAR has been exclusively artisanal or small-scale²⁴, with all foreign industrial companies having left the country. Recent months, however, have seen an increase in the presence of semi-artisanal gold and diamond mining companies, particularly Chinese²⁵, working on a “small-scale” basis. Most of these companies only have research permits (PR) or semi-mechanized artisanal mining permits (PEASM) and some work with Central African cooperatives. Whilst their permits do allow for the sale and export of minerals to varying degrees, only a handful of these entities have ever submitted any production for export through official channels.²⁶ This has notoriously generated significant local social tensions in several localities, especially where such entities are controlled mainly by foreigners with the involvement of government officials and the Central African socio-economic elite.²⁷

²⁴ African Minerals Development Centre, *ASM Sector Report*, 2017, p. 95.

²⁵ IPIS - DIIS, *Central African Republic: Conflict Mapping*, Antwerp, September 2018, p. 101.

²⁶ *Ibid*, p. 102.

²⁷ T. De Jong et al, *Diagnostic Report on Diamond Smuggling in the Central African Republic*, USAID DPAM, May 2019, p. 19.

A. BOX I: CONFLICT DIAMONDS AND THE KIMBERLEY PROCESS

The high value/weight ratio of much of the CAR's mineral wealth, high levels of informality and institutional mismanagement have long seen minerals revenues being used as a means to finance conflict in the Central African Republic.²⁸ However, from 2013 onwards, these conflict links were further strengthened, with anti-balaka and ex-Seleka groups both becoming increasingly involved in very lucrative mineral predation. In addition to UN sanctions prohibiting the financing of armed groups operating in the country²⁹, this predation led to the imposition of a Kimberley Process (KP)³⁰ embargo in June 2013 with a view to preventing diamonds that did not comply with international KP certificates from entering the global market.

The partial lifting of that embargo on certain areas that were deemed compliant³¹ by meeting specific safety criteria in 2016 has helped to create official channels for diamond exports from such compliant areas. However, challenges remain to ensure that stones from non-compliant areas do not fraudulently enter the legal supply chain and, conversely, that diamonds from compliant areas are actually exported through such legal channels. Since the beginning of 2016, the Central African mining authorities, in partnership with the PRADD project³², have taken significant steps to formalize the artisanal mining sector. These formalization efforts have included active registration campaigns, whilst making artisanal mining licenses more accessible.

Central African diamonds come exclusively from alluvial deposits³³ whose exploitation is only economically viable through artisanal or semi-mechanized means. Gold, on the other hand, is found both in alluvial and hard rock deposits – the latter being found in large quartz veins in the form of a rocky nugget.³⁴ As a result, artisanal mining can entail both the digging of vertical shafts or extraction along riverbanks through river workings. In the latter case, minerals are reached by diverting all or part of a river using dams or canals, or else by deploying mechanized dredges³⁵ or divers to sift mineralized riverbed content.

Diamond mining is a labor-intensive activity that entails long exploration and preparation phases to reach a mineralized gravel layer. It offers no guarantee of success, even after months of hard work. Before the crisis, collectors from the main Bangui-based diamond buying houses acted as funders at several mines throughout the country in exchange for priority purchasing rights over the sale of minerals. This allowed them to spread risks and gains over several teams of miners across several sites. Thus, a collector who financed ten teams, of which only three were profitable, could nevertheless buy

²⁸ For more details on the context, see International Crisis Group, *Dangerous Little Stones: Diamonds in the Central African Republic*, December 2010.

²⁹ United Nations Security Council Resolutions, S/RES/2339 (2017) and S/RES/2399 (2018).

³⁰ The Kimberley Process is an international certification scheme designed to prevent diamonds from financing conflicts against legitimate state authorities by bringing them into the official supply chain. See in particular F. Southward, *Kimberley Process: Observations from the Sidelines*, IPIS, November 2013, available at <https://ipisresearch.be/publication/ipis-insights-kimberley-process-observations-sidelines-part/>. Accessed on November 11 2019.

³¹ In 2016, five subprefectures (Berberati, Carnot, Nola, Boda and Gadzi) were designated by the KP as “areas deemed compliant”, meeting the Kimberley Process criteria set out in the Operational Framework for the Resumption of Rough Diamond Exports from the CAR. These criteria include: (1) adequate and sufficient control by the Central African government in the compliance areas; (2) no evidence of systematic rebel or armed group activity affecting diamond production or trade; and (3) a comprehensive security situation allowing the free movement of goods and persons. See IPIS - DIIS, *Central African Republic: Conflict Mapping*, Antwerp, September 2018, p. 92.

³² *The Property Rights And Diamond Development (PRADD)* project is a joint project between USAID and the Department of State to assist the governments of the Central African Republic and Côte d'Ivoire in fulfilling their obligations under the Kimberley Process Certification Scheme (KPCS).

³³ J.D. DeWitt, P.G. Chirico et S.E. Bergstresser, *The Central African Republic Diamond Database – A Geodatabase of Archival Diamond Occurrences and Areas of Recent Artisanal and Small-Scale Diamond Mining*, U.S. Geological Survey Open-File Report 2018-1088, p. 4.

³⁴ S. Pennes et al, *Diagnostic of mining and socio-economic development prospects in the CAR in the light of the vision of the mining regime in Africa*, Levin Sources, October 2018, p. 22.

³⁵ Although only one dredger was reported in the questionnaires (at the Likekele site near Mbaïki), this type of semi-mechanized exploitation is increasingly common in the CAR. Often operated by Chinese mining companies, they require little labor for production of up to 200 grams of gold per day. See T. De Jong et al, *Diagnostic Report on Diamond Smuggling in the Central African Republic*, USAID DPAM, May 2019, p. 44.

the stones at a price that allowed him to deduct his previous expenses from the ten teams. Miners were therefore offered a price well below the market price but could still rely on the collector when a site produced nothing.

Gold mining, unlike diamond mining, is less haphazard in the sense that it is not linked to the chances of finding larger/higher value stones. In the gold sector, every gram counts and is sold at a more predictable (though negotiable) price. Although they require the same level of investment in terms of labor and equipment as diamond sites, gold sites make it possible to earn smaller sums more regularly. This does not mean that there are no pre-financing phenomena, but such phenomena exist on a smaller scale and with greater visibility on the potential production of a site.

I.3 A GOLD RUSH IN THE CENTRAL AFRICAN REPUBLIC?

Recent years have seen a sharp increase in gold mining in the CAR. Before the crisis, gold mining was considered a marginal activity compared to diamonds, with many “gold miners” being women or children acting on the margins of diamond mining sites.³⁶ Half of the miners working in the gold sector today started this activity after 2014.³⁷

This increase is due to several factors. First, it is due to the collapse of the diamond sector caused by the political and security crisis of 2013. This saw the dislocation of the socio-economic fabric³⁸ connecting artisanal miners and traders (often Muslims) and the consequent suspension of pre-financing mechanisms in mining sites. This crisis was accompanied by a total, and later partial, embargo imposed by the Kimberley Process on the export of Central African diamonds. As a result, many artisanal diamond miners turned to the gold sector to secure their livelihoods.

In addition, being a form of exchange in countries with limited infrastructure, many commercial traders and miners could use gold, which is easily transportable and concealable, to obtain and distribute the many imported goods essential to local populations. Finally, many people displaced by violence migrated to gold mines to find new sources of income.

I.4 PRESENTATION OF THE INTERACTIVE MAP

All data collected by IPIS has been geo-referenced onto an interactive web map.³⁹ This map represents different mining sites visited, whilst an interactive menu allows users to filter sites according to minerals produced, prefecture, worker numbers, and the presence of women, children under 15 years old and state services. It is also possible to select sites where an armed actor is present (or not), sites controlled by a barrier or sites where an accident or conflict has occurred in the last 12 months.

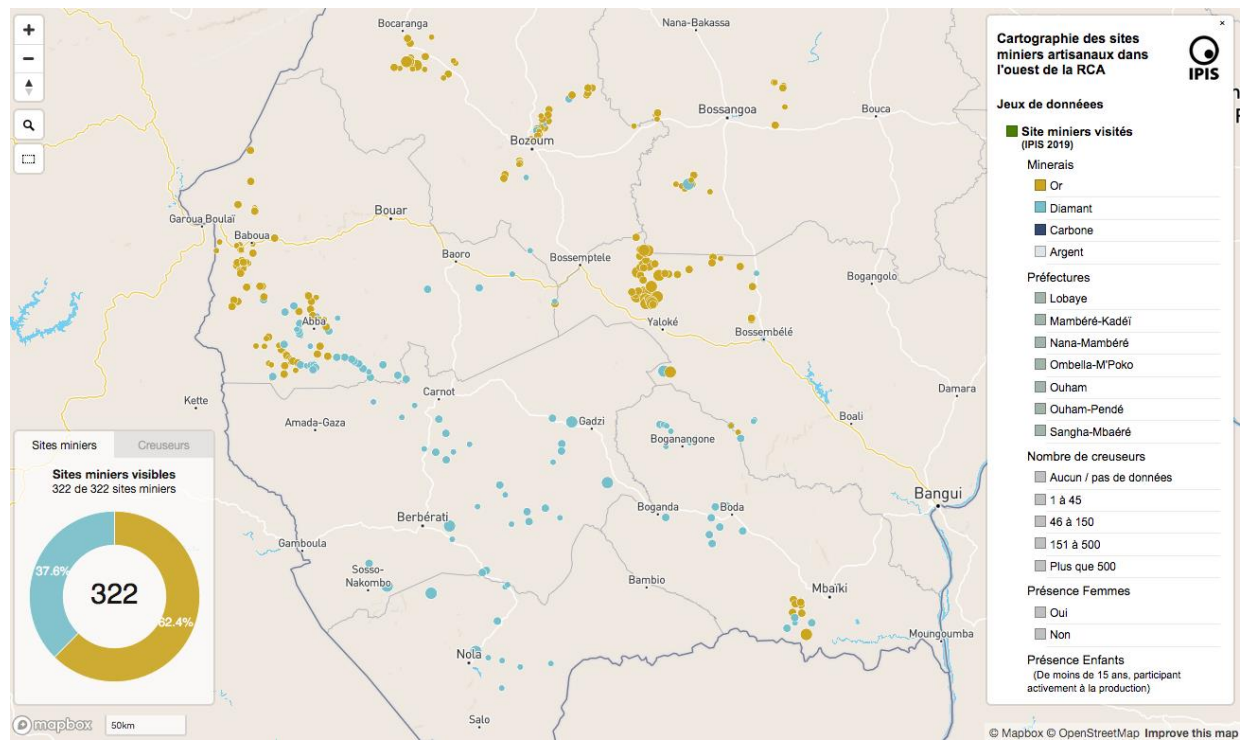
³⁶ IPIS - DIIS, *Central African Republic: Conflict Mapping*, Antwerp, September 2018, p. 86.

³⁷ S. Pennes et al, *Diagnostic of mining and socio-economic development prospects in the CAR in the light of the vision of the mining regime in Africa*, Levin Sources, October 2018, p. 27.

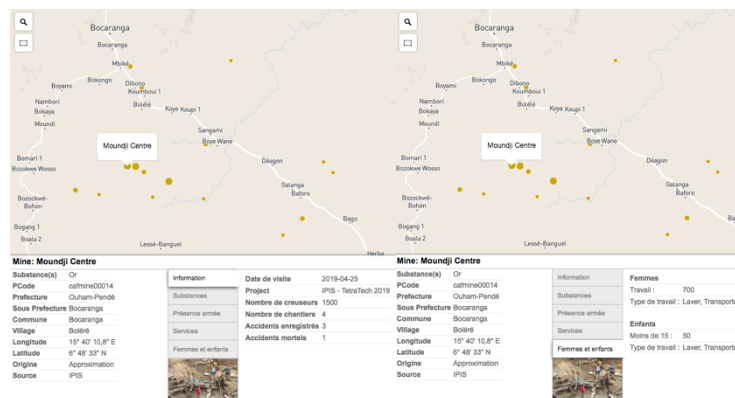
³⁸ For more information on the departure of Muslim collectors following the withdrawal of Séléka forces from the west of the country and reprisals against local Muslim populations in 2013 and 2014, see: Human Rights Watch, *Muslims Forced to Flee: Christian Militias Unleash Waves of Targeted Violence*, February 2014 and the Report of the United Nations Panel of Experts for the Central African Republic, S/2014/762, p. 3.

³⁹ Available at: <https://www.ipisresearch.be/mapping/webmapping/carmine/v1/>

Map 2: Interactive map of artisanal mining sites in western CAR



By clicking on a mining site, it is possible to display the data collected at the time the site was visited by the joint IPIS/MMG survey teams. Different tabs enable the visualization of the collected data.



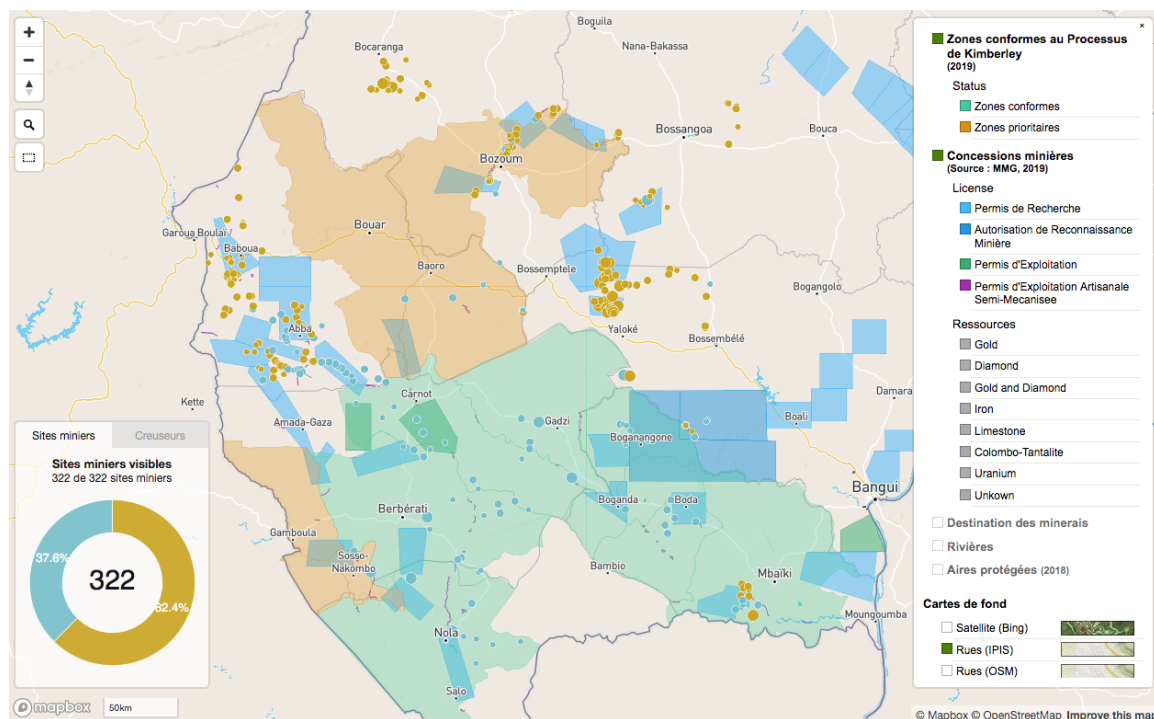
The interactive map includes other datasets such as potential mining sites in CAR and the delineation of Kimberley Process compliant areas.⁴⁰ The map also shows recent mining activities as geo-referenced by USGS through the study of satellite images dating from 2013 to 2017.⁴¹ Another data layer represents mining concessions in the CAR.⁴² It is possible to click on a concession to obtain more information on the type of permit, the minerals mined and the name of the owner of the concession.

⁴⁰ Source: IPIS - DIIS, *Revue publique Centrafricaine : cartographie du conflit*, Anvers, September 2018.

⁴¹ Source: J.D. DeWitt, P.G. Chirico et S.E. Bergstresser, *The Central African Republic Diamond Database – A Geodatabase of Archival Diamond Occurrences and Areas of Recent Artisanal and Small-Scale Diamond Mining*, U.S. Geological Survey Open-File Report, 2018-1088.

⁴² Source: CAR Ministry of Mines and Geology, September 2019.

Map 3: Visualization of mining concessions and KP compliant areas in western CAR



Finally, the interactive map shows the main destination of the minerals for each site visited, which makes it possible to distinguish the main points of sale in western CAR.

This map is also accompanied by a counter (bottom left) which highlights how many sites are visible at any one time and how many diggers are working on those sites. The selection tools (top left) allow for further interactivity whilst the map background can be altered to display either satellite view (Bing) or the OpenStreetMap Foundation (OSM) background map. IPIS maintains its own background map with the main roads and cities for the CAR. However, this map may contain errors. IPIS cannot be held responsible for the boundaries, names and designations used on this interactive map. Some of the datasets used to compile this map are available via the IPIS Open Data page⁴³, where you will also find instructions for use.

⁴³ Available at: <https://ipisresearch.be/home/conflict-mapping/maps/open-data/>

II. QUANTITATIVE ANALYSIS

II.1 PRESENTATION OF THE MINING SITES VISITED

Between April and July 2019, IPIS teams, composed of five members of Central African civil society organizations and five focal points of the Permanent Secretariat of the Kimberley Process for the Central African Republic (SPPK-RCA), visited 322 mining sites⁴⁴ in seven prefectures in western CAR to collect information on the socio-economic conditions of the artisanal mining sector.

The population of workers (i.e. all persons actively involved in the extraction and processing of minerals) at the sites visited is estimated at around 62,042 individuals (men, women and children). On average (mean) there are 193 workers per site (median 77) and 42 workers per mine (median 25). The lower medians highlight that there are more small mines than large ones.

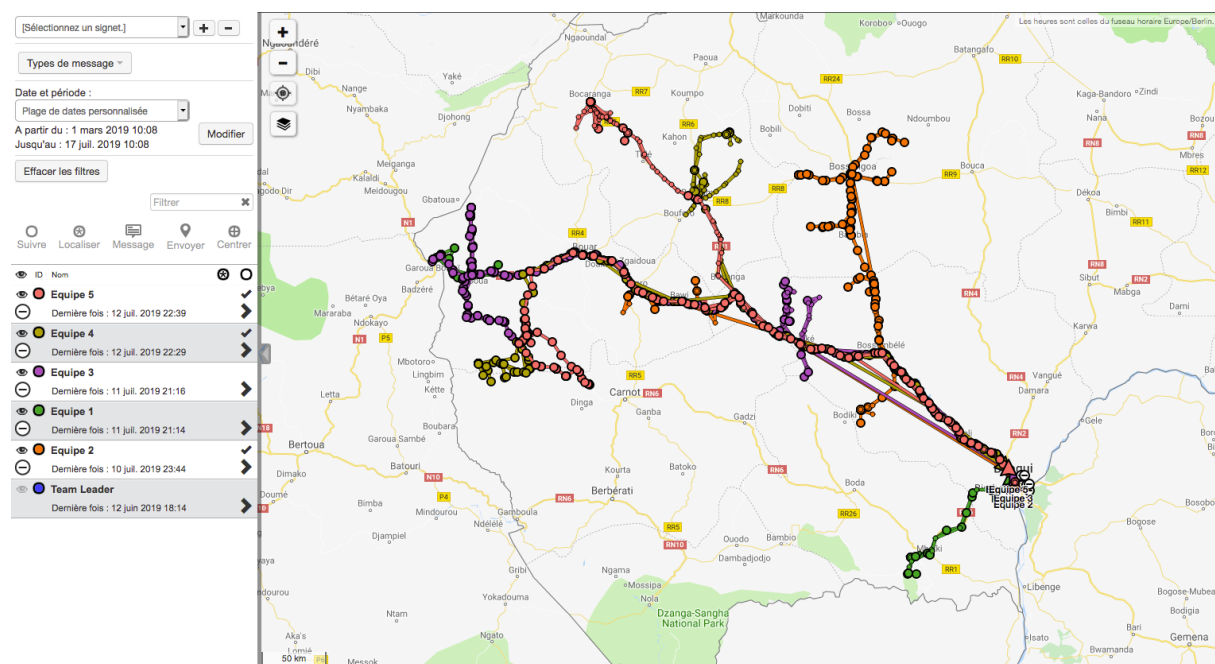
Table I: Mining sites visited by prefecture

Prefecture	Mining sites	Number of workers	Mean	Median
Lobaye	27	4,685	173	70
Mambéré-Kadéï	34	7,455	219	50
Nana-Mambéré	114	11,540	101	60
Ombella-M'Poko	60	26,351	439	225
Ouham	27	2,211	82	25
Ouham-Pendé	50	9,059	181	100
Sangha-Mbaéré	10	741	74	11
Total of sites	322	62,042	193	77

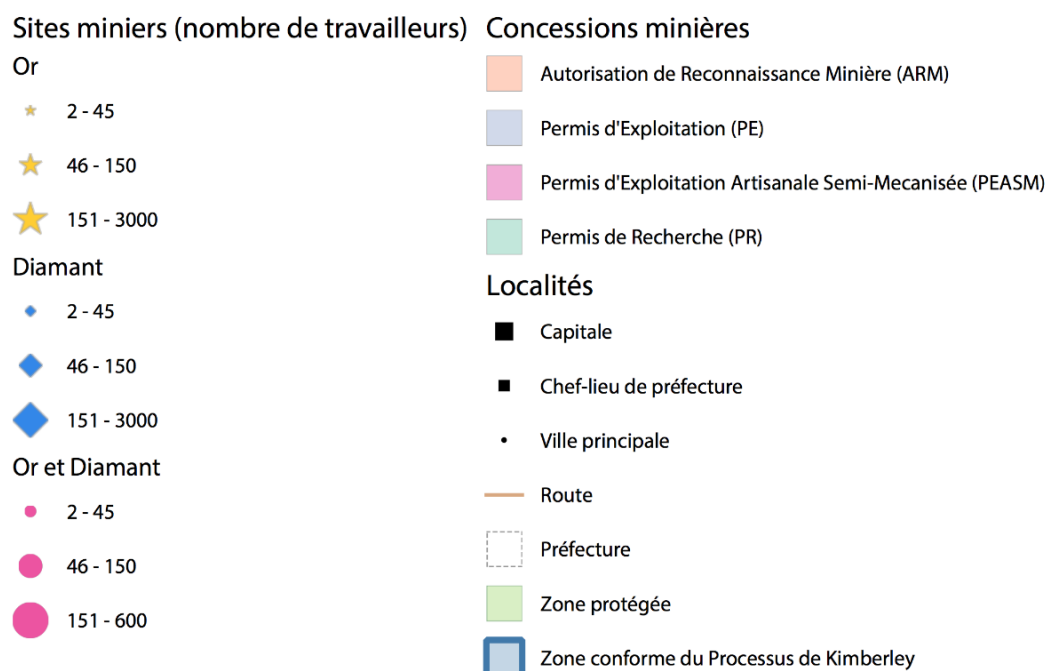
The geographical distribution of field visits was influenced by various factors, both internal (project specifications, logistical organization of team deployment) and external to the project (accessibility, climatic and security conditions). The teams were deployed in two phases: between April and May and then between June and July 2019, mainly along the national road linking Bangui to Cameroon via Yaloké and Bouar and then south of the Yaloké - Bouar axis. The prefecture of Nana-Mambéré includes nearly 35% of the sites visited, with a high concentration in the Abba sub-prefecture. However, it is the prefecture of Ombella-M'Poko that offers the highest concentration of workers on the sites visited (42%), particularly in the Yaloké sub-prefecture.

⁴⁴ For the purposes of this study, a mining site is defined as an area of mineral exploitation where workers identify the area on which they work in a social (by name), geographical (a river) or administrative (mining permit, informal authorization) way. Mining sites are located in mining areas (larger geographical areas generally defined by their main point of sale). A mining site can be composed of one or more *chantiers* that themselves include one or more pits. In this study, a questionnaire was administered at each mine site.

Map 4: Field work trajectories of IPIS investigators ⁴⁵

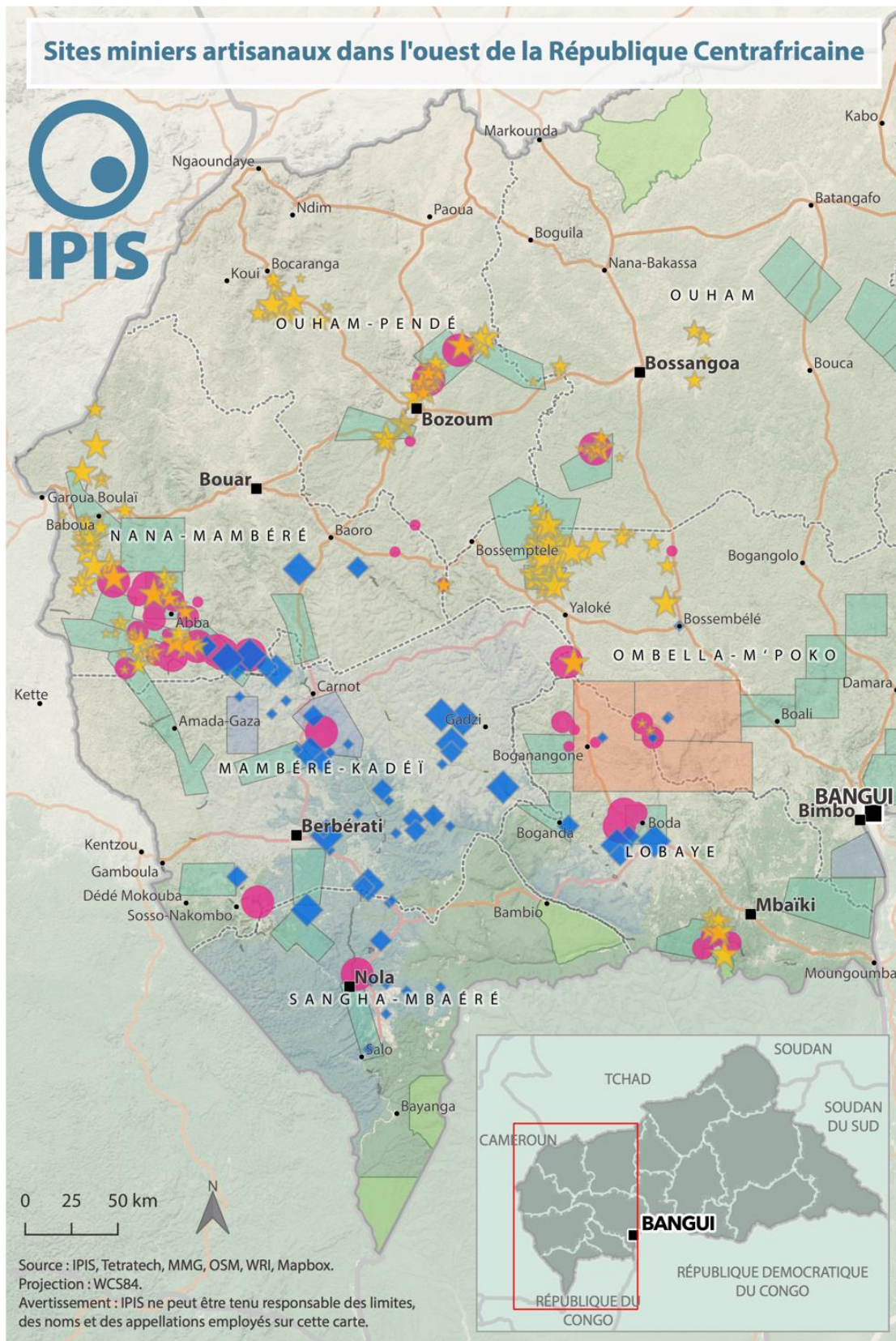


Map 5: Mining Sites visited in western CAR (continued below)



⁴⁵ IPIS source, through InReach Garmin. These trips do not include trips made by the teams of the *Artisanal Mining and Property Rights (AMPR)* project, which also completed 60 questionnaires south of the Yaloké-Bouar axis (among the 322 questionnaires included in this study) as part of their trips to another project.

Map 5: Mining Sites visited in western CAR (continued)



Of the sites visited, 201 are exclusively gold mining, 61 are exclusively diamonds and 60 are both gold and diamond mining sites.⁴⁶

Table 2: Distribution of mining sites visited by ore

Minerals	Number of sites visited	Number of employees
Gold	201 (62 %)	45,316 (73 %)
Diamond	61 (19 %)	9,233 (15 %)
Gold and diamond	60 (19 %)	7,493 (12 %)
Total of sites	322	62,042

According to two recent studies⁴⁷, the number of mining sites in the CAR is 2,560, including approximately 1,868 sites producing exclusively diamonds, 410 sites producing exclusively gold and 307 sites producing both gold and diamonds. The 322 sites visited therefore represent 3% of diamond sites, 49% of gold sites and 19% of mixed sites in the country.

Central African artisanal mining sites have been integrated into the pastoral landscape and economy of south-western CAR for decades. Nearly 75% of the sites are named after a watercourse or river. However, the definition of a mining site is not always as obvious as it seems. For the purposes⁴⁸ of this study, **a mining site is defined as an area of mineral exploitation where workers identify the area on which they work in a social (by name), geographical (a river) or administrative (mining permit, informal authorization) way.**

A mining site therefore has a certain operating unit covering a specific geographical area (e.g. workers on site generally come from the same village and what happens at one place on site - major discoveries, landslides, disputes, etc. - can affect the entire site). As such, it is important to understand that under this definition **a single mining site can encompass a number of individual *chantiers* that are** generally defined by the identity of their owner or operator. These individual *chantiers* can, moreover, be composed of a number of pits or shafts using several work teams. For example, the “Sangtana” mining site (Nana-Mambéré, Abba) consists of 10 *chantiers* with a total of 120 workers.

A. NUMBER OF WORKERS

The 322 sites visited by IPIS encompassed a total of around 3,200 *chantiers* (10 *chantiers* on average per site). Of these *chantiers*, only 326 had more than 50 workers (on average, one large *chantiers* per site), which means that sites are generally composed of one large *chantiers* and smaller satellite *chantiers* round about. On average (mean) there are 193 workers per site (median 77) and 42 workers per *chantiers*

⁴⁶ This project did not implement a random method for identifying mine sites because the study focused specifically on gold mining in the western CAR. As a result, they do not present a realistic distribution of gold and diamond sites throughout the CAR. To do this, we can refer to the Levin Sources study (2018) and a USGS report (2018), which estimate the total number of sites in the CAR at 2,560, for a proportion of 73% of diamond sites (1,868 sites), 16% of gold sites (410 sites) and 12% of mixed gold and diamond production (307 sites).

⁴⁷ J.D. DeWitt, P.G. Chirico and S.E. Bergstresser, *The Central African Republic Diamond Database - A Geodatabase of Archival Diamond Occurrences and Areas of Recent Artisanal and Small-Scale Diamond Mining*, U.S. Geological Survey Open-File Report 2018-1088, p. 20. As well as S. Pennes et al, *Diagnostic of mining and socio-economic development prospects in the CAR in the light of the vision of the mining regime in Africa*, Levin Sources, October 2018, p. 22.

⁴⁸ Levin Sources (2018) defines a mine site as a “coherent ecological set of mining production sites sharing the same watercourse, camp or mining village”, p. 7.

(median 25). The lower median figure means that there were more small sites than large sites in our sample.

At the 322 sites visited, IPIS teams estimated the total number of workers (men, women and children under 15 years of age combined)⁴⁹ actively involved in mineral production to be around 62,042 individuals.

Table 3: Number of workers on the sites visited

	Total	Mean	Median	Minimum	Maximum	Number of sites
Gold sites	45,316	225	100	2	3,000	201
Diamond sites	9,233	151	50.0	3	3,000	61
Mixed gold and diamond sites	7,493	125	61.5	7	600	60
Total of sites	62,042	193	77	2	3,000	322

Photo 2: The Ban site is an important site with nearly 3,000 workers.



The minimum number of workers at gold and diamond sites was respectively two and three workers. However, these numbers could reach as high as 3,000 workers at the Topia diamond site near Gadzi and the Ban gold site near Yaloké.

Although there are significant geological differences between the west and east of the country, the lack of statistical data on the number of workers in the east makes it difficult to estimate the total number of workers.

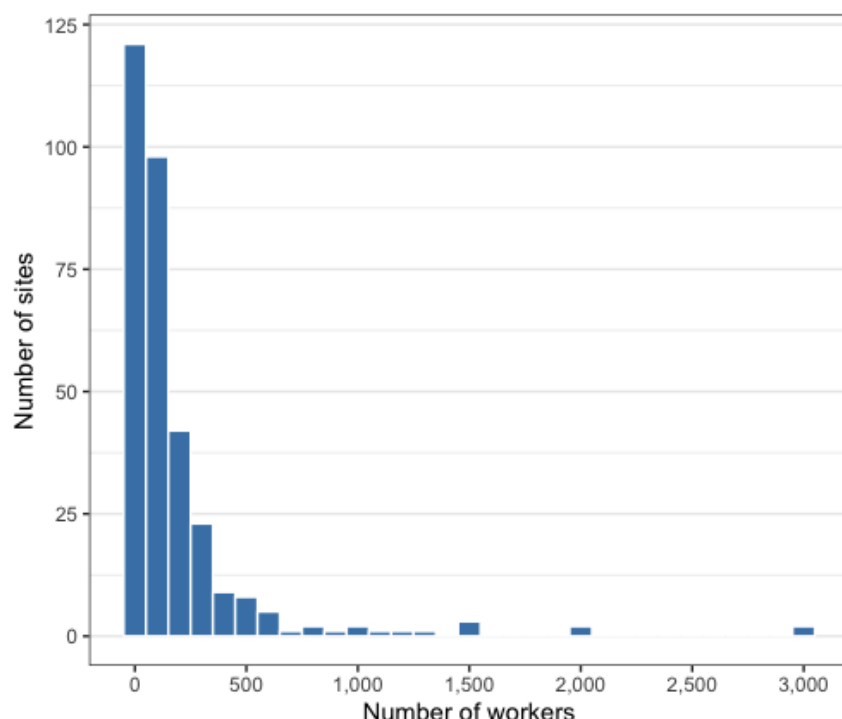
However, if our sample were representative of the whole of the

CAR, one could conservatively estimate the total number of workers on Central African mine sites at

⁴⁹ In this study, investigators were asked to assess the presence and number of children under 15 years of age who were actively involved in production (digging, crushing, washing, transporting minerals or processing waste), as well as the presence of children on sites not involved in production. These figures should be considered with caution as children's activity at the time of the visit may sometimes be difficult to establish. In addition, the survey did not address the issue of child labor between the ages of 15 and 18, partly because it is difficult to assess the age of a child over 15 visually, and partly because 15 years is the age legally allowed for admission to employment by the International Labor Organization. See: International Labor Organization, *Convention 138 on Minimum Age for Admission to Employment*, 1973, Articles 1 and 3.

between 150,000 and 200,000 individuals⁵⁰. In comparison, Levin Sources estimates the total number of mining workers to be around 272,000, though acknowledges that “*this result may be overestimated*”.⁵¹ While there is some difference between the two studies, both suggest a significant decrease compared to the pre-2013 crisis estimates offered by the *Property Rights And Diamond Development* (USAID) project, where the figure of 400,000 miners was reported. A previous USGS study,⁵² on the other hand, was much more cautious, citing “only” a range of 60,000 to 90,000 diggers in 2010.⁵³

Graph 1: Distribution of the number of workers per site



In addition, applying the median number of workers per gold, diamond and mixed site (see Table 3: *Number of workers at the sites visited*), extrapolation across the total number of gold, diamond and mixed sites estimated for the country as a whole, allows for an estimate of between 31,540 and 41,000 workers on gold sites, between 93,400 and 143,900 workers on diamond sites and between 18,900 and 23,650 workers on mixed sites.⁵⁴

⁵⁰ Using the total number of sites in the CAR provided by the Levin Sources (2018) and USGS (2018) study, we can calculate the total number of workers using the median of 50 workers per diamond site multiplied by 1,868 sites, the median of 100 workers per gold site multiplied by 410 sites and the median of 61.5 per mixed site multiplied by 307 sites (50 multiplied by 1,868 + 100 multiplied by 410 + 61.5 multiplied by 307 = 153,280) or we can estimate with the total median (77 multiplied by 2,560 = 197,120). The use of the mean number of workers would completely overestimate the importance of big mining sites that are not representatives of the majority of sites in our subset.

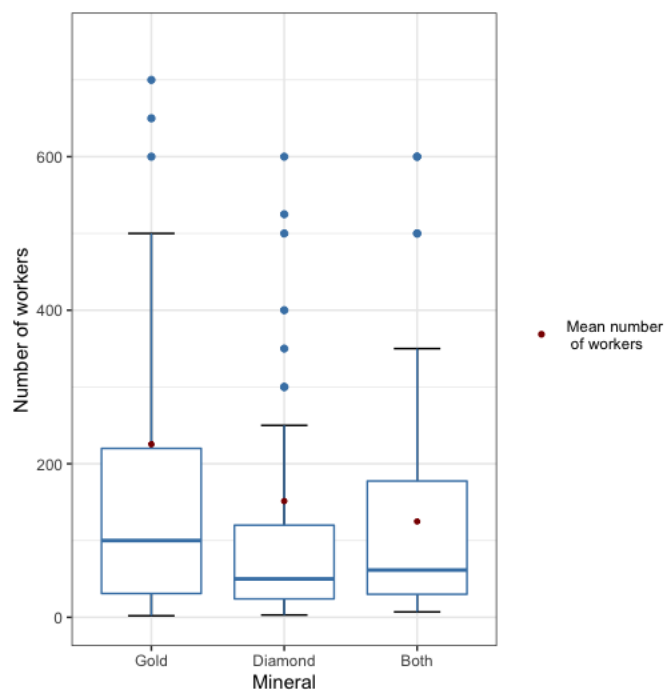
⁵¹ S. Pennes et al, *Diagnostic of mining and socio-economic development prospects in the CAR in the light of the vision of the mining regime in Africa*, Levin Sources, October 2018, p. 40.

⁵² PRADD, *Feasibility of direct marketing of artisanal diamonds from Liberia and CAR to USA*, June 2011, p. 6.

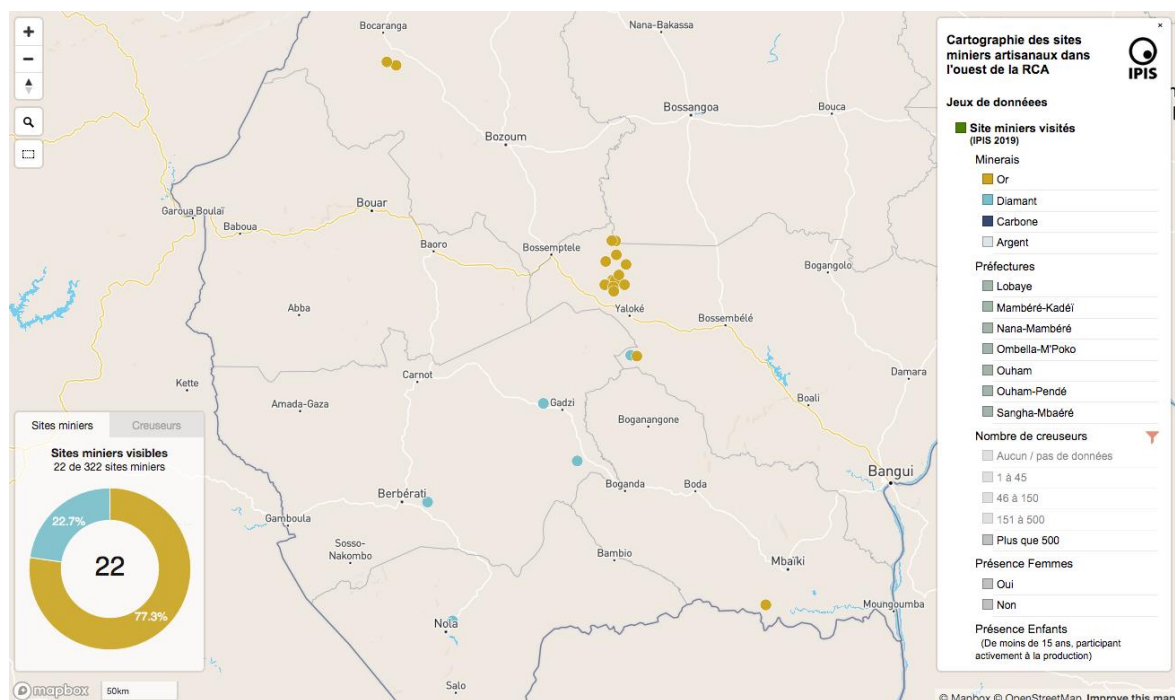
⁵³ P. G. Chirico, F. Barthélémy, et F. A. Ngbokoto, *Alluvial diamond resource potential and production capacity assessment of the Central African Republic*, U.S. Geological Survey Scientific Investigations Report, 2010–5043, p. 19. This estimation is coherent with IPIS estimation of diamond workers (50 multiplied by 1,868 = 93,400 individuals).

⁵⁴ These estimates can be calculated in two different ways: either by using the median of 77 individuals per site relative to the proportion of gold, diamond and mixed sites (which gives for gold: 77 multiplied by 2,560 multiplied by 16 divided by 100 = 31,539.2 individuals), or by using the median of 100 individuals for the 410 gold sites, 50 individuals for the 1,868 diamond sites and the median of 61.5 individuals for the 307 mixed sites.

Graph 2: Distribution of the repartition of workers by mineral



Map 6: Screenshot of mine sites with more than 500 workers⁵⁵



Another element suggesting that the number of artisanal workers may be greater than the estimated 200,000 workers is that on 81% of the sites visited by IPIS, respondents reported that the number of workers was “lower than usual”. This is due to the fact that the visits took place at the beginning of the

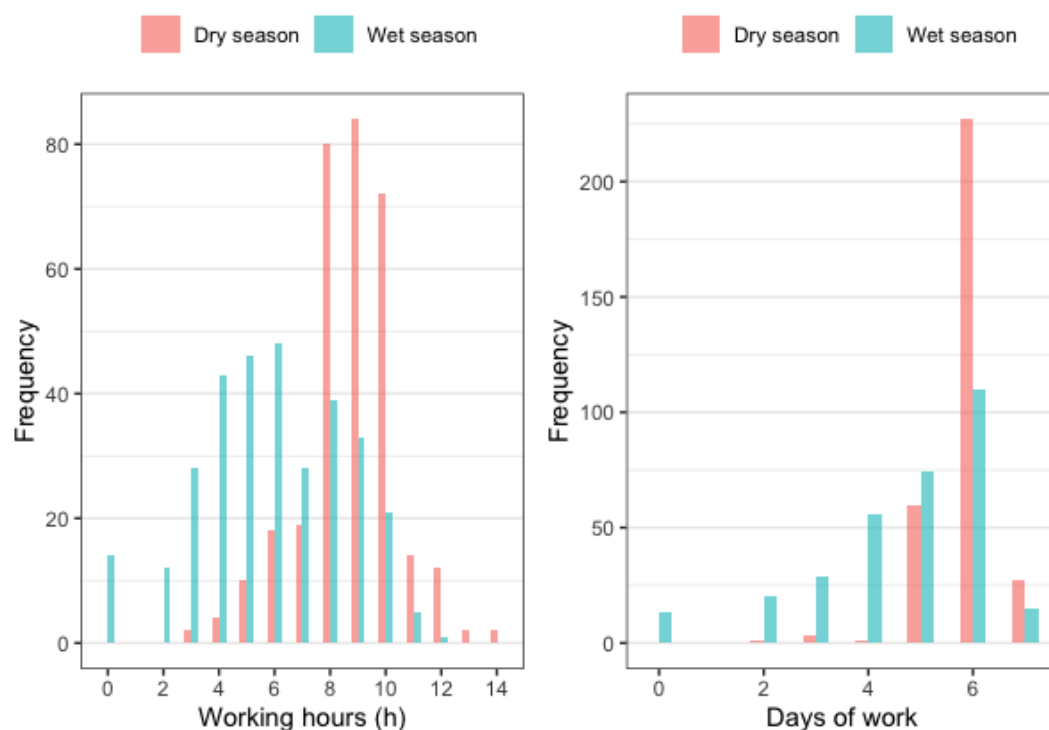
⁵⁵ Available at: <https://www.ipisresearch.be/mapping/webmapping/carmines/v1/#5.2/18/6/4/1/>

rainy season, which corresponds with the resumption of agricultural activities for many seasonal workers. Indeed, in a previous study in Ituri (Democratic Republic of Congo), IPIS visited the same gold sites in both the dry and rainy seasons, and noted a significant decrease in the number of workers on site by about 30% during the rainy season.⁵⁶

However, the impact of the rainy season varies according to the type of operation, the layout of the site, the ore sought and the means used (presence of motor pumps or not). At some sites, where the watercourse is far away, rain can even be beneficial because puddles can be used to wash ores. On the other hand, rain can be particularly negative because it makes the land heavier, which increases the risk of cave-ins for tunnel mining, and also causes shafts to flood, preventing miners from working.

Simply put, rain can also often prevent production from moving forward. Indeed, on most sites activity is most intense during the dry season. Working hours increase on average (mean) from 5.9 to 8.7 hours per day and the number of days worked from 4.7 to 5.9 days per week during the dry season.

Graphs 3 and 4: Number of days and hours worked per week in the dry and rainy seasons



Of the 62,042 people actively involved in production at the 322 sites visited, the proportion of women is estimated at 28%. Women are present and actively engaged in mining at the majority of artisanal mining sites in the CAR (83% of 322 sites).

⁵⁶ G. De Brier and H. Merket, *Pilot project for monitoring artisanal gold in Mambasa, Ituri*, IPIS, September 2017, p. 27. Available at: <https://ipisresearch.be/publication/projet-pilote-de-monitoring-de-lor-artisanal/>

Table 4: Distribution of the number of workers between men, women and children

	Total	Proportion	Number of sites	Mean per site	Median per site
Number of workers	62,042	100 %	322	193	77
Male	37,175	61 %	322	115	36
Female	17,579	28 %	268	55	20
Children under 15 years old	7,288	11 %	249	23	10

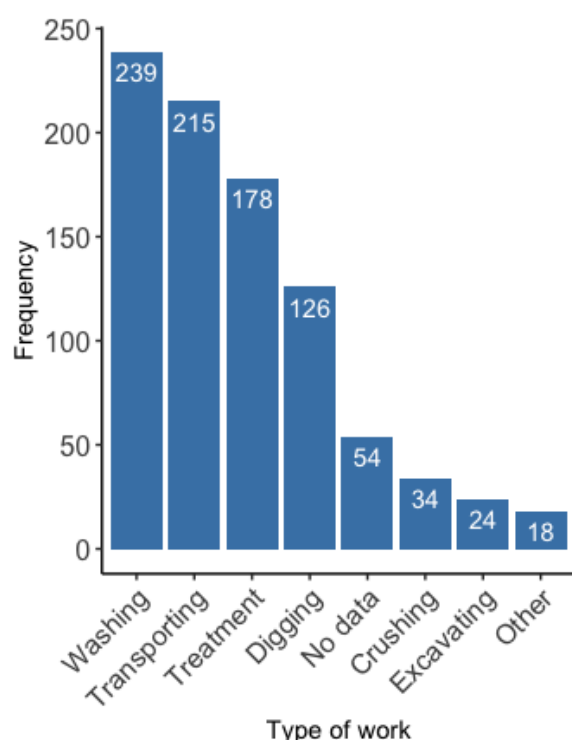
The median number of workers being lower than the mean value indicates that there was a majority of small sites in our sample. Most of the sites visited have about 77 workers, although the mean value for all sites is 193 workers per site.

Photos 3 and 4: Presence of many women actively involved in production at the Béké site or at the Nakeko site.



Although women are actively involved in mineral production at the vast majority of sites, their work is mainly confined to support tasks, often paid on a lump sum basis. Meanwhile, men are most often paid on the basis of production. Support tasks include activities such as washing (89% of the 268 sites on which they are present), transporting (80%) or processing minerals (66%). Finally, at 126 sites (47% of 268 sites), women are engaged in minerals extraction in the same way as men, though they were engaged as underground diggers at only 24 sites (9% of the 268 on which they are present).

Graph 5: Type of work performed by women on mining sites



Before the 2013 crisis, gold mining was mainly an activity for women and children, with men focusing on diamond mining. However, the Kimberley Process embargo and flight of Muslim diamond traders from western CAR saw many miners turn to gold mining.⁵⁷ Today, men outnumber women (almost 24,100 male miners for about 15,200 female miners) at the gold sites. As a result, women now represent only one third of this workforce.

Table 5: Distribution of the number of workers between men, women and children on the gold sites

Gold sites	Total	Proportion	Number of sites	Mean per site	Median per site
Number of workers	45,316	100 %	201	225	100
Male	24,093	53 %	200	120	40
Female	15,159	33,6 %	190	75	30
Children under 15 years old	6,064	13,4 %	172	30	15

While gold sites have largely opened up to male workers, access to diamond sites has not opened up to women. Table 5 shows that they represent just 6.4% of the 9,233 workers at sites in our sample. As for the labor force of children aged under 15 years, it is higher at gold sites than at diamond sites, both in number (more than 6,000 compared to less than 400) and proportionally (13.4% compared to 4.3%).

⁵⁷ IPIS - DIIS, *Central African Republic: Conflict Mapping*, Antwerp, September 2018, p. 79.

Table 6: Distribution of the number of workers between men, women and children on artisanal diamond sites

Diamond sites	Total	Proportion	Number of sites	Mean per site	Median per site
Number of workers	9,233	100 %	61	151	50
Male	8,249	89.3 %	59	135	34
Female	587	6.4 %	29	9.62	0
Children under 15 years old	397	4.3 %	27	6.51	0

At mixed sites producing gold and diamonds, women represent almost one-quarter of workers (24.5% of 7,493 workers). Given the traditional presence of women in the gold sector and their low presence on all-diamond sites, it is therefore likely that most of these women live mainly from gold mining on mixed sites.

Table 7: Distribution of the number of workers between men, women and children on mixed artisanal sites

Mixed sites	Total	Proportion	Number of sites	Mean per site	Median per site
Number of workers	7,493	100 %	60	125	61.5
Male	4,833	64.5 %	60	80.6	37.5
Female	1,833	24.5 %	49	3.6	17.5
Children under 15 years old	827	11 %	50	13.8	9.5

In addition, artisanal mining sites generate economic activity that can also provide subsistence income for women in communities living nearby, but not directly involved in production. This phenomenon was noted on 77% of the 322 sites visited (248 sites). The main activities of these women are to prepare and bring food to 88% of the sites (N = 248) or water to 77% of the sites (N = 248). At 42% of the sites (N = 248). Women are also involved in minerals trading. Finally, sex workers were reported as being present at 20% of sites (N = 248).

Photos 5 and 6: Washing and treatment of gold by women on the Miskine site. Gravel crushing near the Gbonkolo site.



B. HIERARCHY OF WORKERS ON MINING SITES

On a mining site, there is an informal organization (unwritten but known to all) of production and marketing. At the top of the production chain pyramid is the *site manager*. This status is often embodied by the customary chief if mineral extraction takes place on his territory or by the site landowner. A site is divided into several *chantiers*, managed by the *chef de chantier*, also known as *mining artisan*. His main role is to ensure the financing of the workers' teams during the exploration and exploitation phases, whilst managing possible difficulties (conflicts, floods, external interference).

If a *chef de chantier* owns several *chantiers*, or if the *chantiers* are fragmented over many pits, he or she can delegate management to a *pit manager*, also known as a *team leader*. This team leader will generally be in charge of six to ten workers. These workers who are directly involved in mineral production form the base of the production chain pyramid. They include miners, transporters, crushers, washers and all other mining workers.

Graph 6: Diagram of the Mineral Marketing Chain in CAR

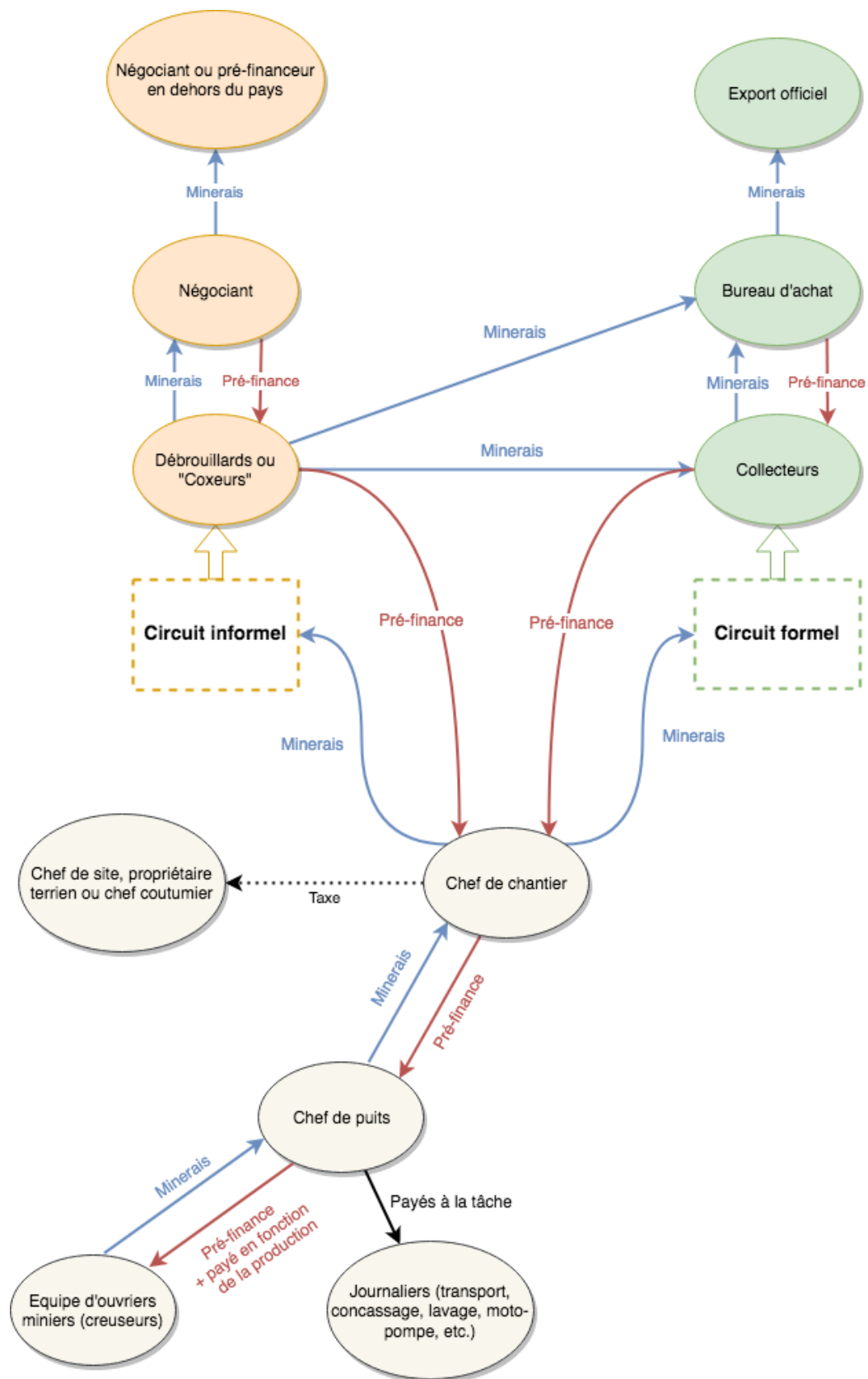


Photo 7: At the Nago site, near Bozoum, women constitute two thirds of the workforce.



Regarding the commercialization chain, a distinction must be made between formal and informal roles. In the upstream segment of the informal chain, we find unregistered transaction facilitators (*débrouillards* and *coxeurs*). These actors compete with registered collectors (*collecteur*), who are working legally because they have a license. In all three cases, these buyers are looking for small quantities of minerals to sell them to a second buyer with a profit margin. These different people, whether formal or informal, can play the role of financier (*financier*) or intermediary between mining sites and more distant financiers.

These initial buyers usually resell the ore to a trader (*négociant*) in the informal system or to a purchasing office (*bureau d'achats*) in the legal system. In both cases, the traders or representatives of the purchasing offices are located either in Bangui, a medium-sized town such as the prefectural or subprefectural capital, or on the other side of the border (most often in Cameroon). They extend their networks through *collecteurs*, *coxeurs* and *débrouillards*. The *négociant* and the *bureau d'achats* are *de facto* exporters of Central African minerals.

C. TYPE OF OPERATION

The main types of operation on the sites visited were shaft (62%) or open pit (61%) mining, riverbank operations (53%) or operations directly on the riverbed (dams or divers, 35%). The percentages depicted here total over 100% because in numerous cases a single site can accommodate different types of operation.

Photos 8, 9, and 10: Operation of a shaft at the Yakouma site, open pit at the Ban Camp-Bangui site and in the riverbed at the Ban Zoué site.



For example, an initial site may be opened along a river bank, while a second team works in the riverbed. Moreover, the variety of operating techniques in use at a single site prevents the calculation of production according to type of exploitation, since it is not possible to precisely differentiate between production at different *chantiers*.

Maximum mine shaft depth was on average 4.86 meters. However, this hides some disparities (nine sites had shafts with a depth equal to or greater than 15 meters, which is the legal limit for the depth of a mining shaft in artisanal production in the CAR) as well as the widespread but dangerous technique of digging horizontal galleries, which start from the bottom of a shaft and follow the gravel vein sometimes over 10 or 20 meters. The presence of such galleries was found at 38 sites, i.e. about 12% of the total sites visited.

Photos 11, 12, and 13: On the Gbonkolo site, the shafts can reach a depth of more than 15 meters. From the bottom of the shafts come unsupported galleries that follow the gravel vein for several meters.



Certain types of operation make it possible to ensure year-round production. For example, at the diamond site of Zingawe-le-Lobaye, near Mbaïki, activities are concentrated on the banks of the Lobaye River during the dry season and move up to terraces located nearby during the rainy season. This is also the case at the Tedom site near Bossemptele.

The vastness of the territory, the low population density (7.49 people per square km)⁵⁸ and the lack of road infrastructure render many rural and mining communities very isolated. In order to measure the accessibility of sites, they have been classified into three categories: those accessible by motorcycle, those for which it is necessary to walk less than an hour from a motorcycle road and those for which it is necessary to walk more than an hour from a motorcycle road. Most artisanal mining sites are accessible by motorbike or by under an hour's walk from a motorcycle road. However, 35% of the sites visited required at least one hour of walking. What isolates miners even more however is the lack of a telephone network coverage on sites, which affected 78% of the sites visited.

D. OPERATING LICENSES

According to respondents interviewed on site, approximately 32% of sites (103 sites representing 48% of 62,042 workers) were covered by an official authorization. In addition, 123 sites (i.e. 38% of 322) were covered by an "informal authorization" negotiated with customary authorities though lacking any legal significance. Some of these "informal authorizations" were also in place on sites operating with legal exploitation licenses.

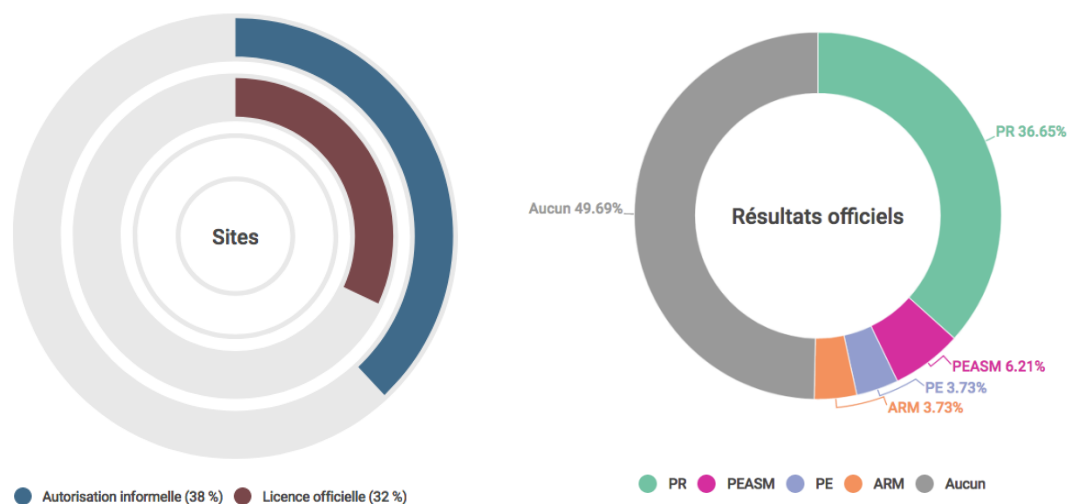
However, when we project the mining sites visited on the mining concession map⁵⁹, we find that in fact 118 artisanal sites are operating on a research permit (PR) designated area, 20 artisanal sites are operating on a semi-mechanized artisanal mining permit (PEASM) area, 12 sites are on exploitation

⁵⁸ World Perspective, <http://perspective.usherbrooke.ca/bilan/tend/CAF/fr/EN.POP.DNST.html> consulted on 26 November 2019.

⁵⁹ Ministry of Mines and Geology, September 2019.

permits (PE) and 12 sites are in a mining reconnaissance authorization zone (ARM). The remaining 160 of 322 artisanal mining sites (49.7%) are located outside any registered concession.

Graphs 7 and 8: Comparison of site status according to interviewees and official results on the status of artisanal mining sites visited in relation to authorizations and exploitation permits



These differences between the perceptions of site managers interviewed on the spot and the official MMG data can at first glance be explained by a discrepancy between practice and legislation in a sector particularly marked by informality. Indeed, the managers of artisanal sites generally consider that the fact of paying a patent entitles them to practice where they wish, provided that they obtain informal authorization (sometimes for a fee) from local authorities or site owners.

Indeed, although the Central African State recognizes the concept of artisanal exploitation zones (ZEA) in the mining code, these have not been yet implemented outside a few pilot projects currently under development. In addition, artisanal miners do not always know that they are operating in areas covered by a permit (research, exploitation or reconnaissance) held by a mining company. This can lead to conflicts between artisanal mining practices and companies duly registered with national authorities.⁶⁰

Chefs de chantiers, often regarded as the true owner of a *chantiers*, are deeply involved in field operations. Indeed, the presence of a total of 2,217 *chefs de chantiers* (for a total of 3,200 estimated *chantiers* out of 322 sites visited), of which only 4.3% are women, was reported on 97% of all 322 sites visited. This represents an average of seven *chefs de chantiers* per site.

At over two thirds of all the sites where *chefs de chantiers* are present (221 mining sites, representing 71% of 312 sites), they were reportedly not up to date with their license payments.

However, on 126 of those 312 sites (39%) *chefs de chantiers* pay a contribution to the customary leaders of the village closest to where the site is located. The sum paid is generally proportional to production⁶¹, and is in some cases considered a way of formalizing mining activity within the local community (see the

⁶⁰ See Chapter II. I.E. Conflict on-site.

⁶¹ Although it was not possible to systematically estimate the sum of such informal contributions, investigators generally found these to entail lump sum payments. On some sites, it may be a question of paying 5,000 CFA per year per *chantier*, on others, an amount of 20,000 CFA per transaction in the event of significant production could be levied. On other sites, payment even simply entailed a cut of the production in kind before washing the gravel.

notion of “informal authorization” above). According to our sample, *chefs de chantiers* pay a contribution on 73% of 61 diamond sites visited, 47% of 60 mixed gold and diamond sites and 26% of 201 gold sites.

E. CONFLICT ON-SITE

The acceptance of mining activity within communities can to some extent be measured by the prevalence of reported conflicts at a site. One-third of the sites visited (105 equating to 33%) had experienced conflict in the 12 months prior to the IPIS visit. In 80% of these cases (N = 105), such conflicts were directly related to mining (site boundary conflicts, mineral theft, conflicts between miners, owners or insurers, etc.). The remaining 20% concerned conflicts with people external to the site, including armed groups⁶² (6%), local authorities (5%), and farmers (3%).

With regard to conflicts with small-scale mining companies⁶³, of the 46 sites visited with one of these companies nearby, eight were in conflict with artisanal miners, according to local interviewees. The establishment of a mining company can have either a positive or a negative impact on artisanal miners. On the positive side, there was some mention of an increase in activities when artisanal miners are able to dig through mining waste from companies that have made lower layers of ground more accessible using bulldozers or machines (see Chapter III.3. *Focus: the Bozoum area*). Also, operators are noticing an improvement in the level of security thanks to the reinforced presence of *gendarmerie* or FACA elements to secure companies. This is particularly the case at the Willy site near Bossangoa (see Box 3: *Willy, tensions between mining artisans and Chinese companies*⁶⁴).

Conversely, however, miners more frequently complain that they have had to abandon their sites following the arrival of semi-industrial mining companies – something achieved either through force or by buying rights from *chefs de chantiers*. Miners also denounced the environmental destruction caused by these mining companies, who are responsible for mercury contamination (see Chapter III.3. *Focus: the Bozoum area*) and engage in large scale river diversion, both of which kill off all local aquatic fauna.

Acts of violence in the past 12 months were reported at only 8% of the sites (27 sites of 322). At 22 sites, these acts of violence were fights or conflicts between individuals, at four sites were perpetrated by armed groups and at one site violence attributed to the FACA. Acts of intimidation were not quantified in this study and were not reflected in the violence data obtained.

F. PRESENCE AND WORK OF CHILDREN

At the 322 sites visited, IPIS teams estimated the total number of workers actively involved in mineral production to be around 62,042 individuals. Children under 15 years of age⁶⁵ were estimated to constitute around 11% of these workers (7,288 children). Children were actively involved in production at the majority of artisanal mine sites (77% of sites, or 249 sites). However, according to our sample, the occurrence of under 15 year olds being actively involved in such production is more frequent at sites producing only gold (85% of 201 sites) or both gold and diamonds (83% of 60 sites), than at exclusively diamond producing sites (44% of 61 sites).

⁶² See chapter II.6. *On site security and insecurity*.

⁶³ By mining company, we mean semi-artisanal companies operating under a semi-mechanized artisanal mining permit (PEASM) or a research permit (PR). There are currently no industrial mining companies operating in the CAR.

⁶⁴ In chapter II.6.B. *The presence of armed individuals*.

⁶⁵ See note 49.

Photo 14: Presence of a saleswoman with her child on the Gbabé site.



Under 15-year olds mainly undertake production support roles, such as washing ore (85% of 249 sites), transporting ore (72% of 249 sites,) or processing ore (61% of 249 sites). At 51% of the mining sites children are also involved in actual extraction as diggers. At nine sites, that included underground mining, which is one of the worst forms of child labor.⁶⁶

⁶⁶ The International Labour Organization defines the worst forms of child labor as “work which, by its nature or the conditions in which it is carried out, is likely to harm the health, safety or morals of the child”. International Labour Organization, *Convention 182 on the Worst Forms of Child Labour*, 1999, article 3 (d).

Photos 15 and 16: Many children are present at mining sites, for example at the neighboring sites of Gbamboé and Lèlè.



In addition, under 15 year olds who were not involved in production were reported as being present at 253 sites (78%) of all sites visited. Although inactive at 87% of the sites at which they are present, such children can occasionally provide ancillary support to workers by bringing water (31% of sites in which they are present) or food (26% of such sites).

Photo 17: From an early age, children learn to imitate their parents' actions here on the Gore site.



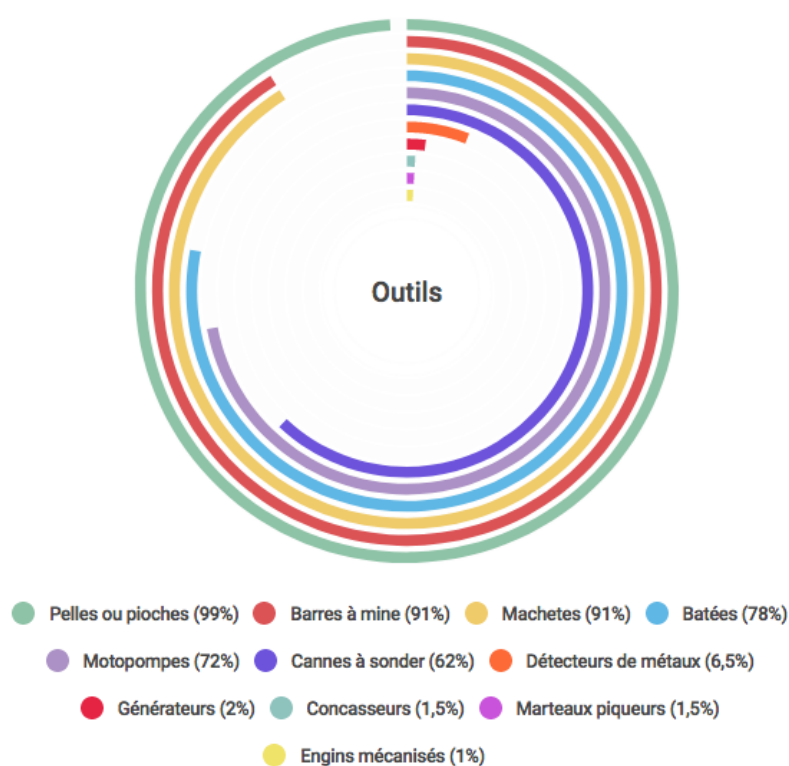
Artisanal mining is deeply rooted in the Central African social landscape and is often practiced as a complement to field work. Most children under 15 years of age at the sites (many of whom are simply inactive because they are young children) accompany their parents to a daily activity near the village. Indeed, only 3% of workers (on 18 sites) sleep in a mining camp without their families.

II.2 ANALYSIS OF PRODUCTION DATA

A. TOOLS AND EQUIPMENT

The mining industry is characterized by a high demand for labor and a low level of mechanization. The most commonly used tools are shovels or pickaxes (99% of all sites visited), crowbars (91% of sites), machetes (91% of sites), gold pans (78% of sites) and probing rods (62% of sites). Motor pumps were also present at 230 sites (72%), where they are generally offered for rental in exchange for a daily fee. On the other hand, more sophisticated tools, like metal detectors (6.5% of sites), generators (2% of sites), mechanical crushers or grinding mills (1.5% of sites), jackhammers (1.5% of sites) and other mechanized equipment (0.5% of sites,) are almost non-existent.

Graph 9: Tools and equipment observed at the sites visited



Photos 18 and 19: A team of miners present their equipment at the Lima site. Use of a metal detector at the Pouadougbe site.



B. HEALTH AND SAFETY

There was an almost total lack of any personal protective equipment at the mine sites visited as part of this study. Shoes or boots were reported at only 11 sites, and helmets or gloves at only one site. From a sanitation perspective, latrines had only been constructed at 37 sites (11% of sites covering about 8% of workers).

Artisanal mining is a particularly dangerous activity. In order to reach the mineralized gravel, workers sometimes dig shafts as deep as 10 to 15 meters. Once the gravel layer is reached, the miners cut horizontal galleries, starting from the bottom of the shaft and following the slope of the gravel layer. Young adolescents are generally the most likely to work there. These galleries are unsupported, forcing workers to suspend operations for several days in the event of heavy rains to wait for the soil to solidify again. In only a few cases, two entrances/exits are provided to facilitate an emergency exit in the event of a cave-in.

In the 12 months before the IPIS team site visits, 87 people were reportedly killed in total over 42 sites. These deaths were mainly due to tunnel collapses. In addition, 1,154 people were reportedly injured at 116 sites during the same period.

Photos 20 and 21: Diggers sometimes have to dig deep to reach the gravel (Gouroum and Gaga sites).



Cases of sexual or gender-based violence were also reported at ten sites. These reports can certainly be expected to be well below the reality when it comes to the prevalence of such cases. The stigma and discrimination attached to this type of violence discourages women survivors from reporting it. Given the sensitivity of the subject, more precise information regarding this issue requires a comprehensive study into gender-based violence using individualized interviews. Unfortunately, this was beyond the scope of the present research, where questionnaires were completed at mining site level and did not allow for more intimate/specialized questioning.

C. GOLD PRODUCTION ESTIMATES

Of the 261 gold sites (including mixed sites) visited by IPIS teams, 235 sites (90%) recorded at least some production in the week immediately preceding the survey. A total of 52,809 workers were active at these sites. Using production data at the 235 productive gold sites visited as part of this study, IPIS estimates that these sites produced over 35,700 grams in the week preceding the visit⁶⁷. This is an average (mean) of almost 142 grams per site. However, disparities in production between sites was observed to be significant. While some sites produced only one gram, others reported a production of two kilograms per week – namely, sites with between 1,000 and 2,000 workers (see Graphs 10 and 11). The median production at the sites visited was therefore closer to 28 grams per week – the most common production level identified at the gold sites visited.

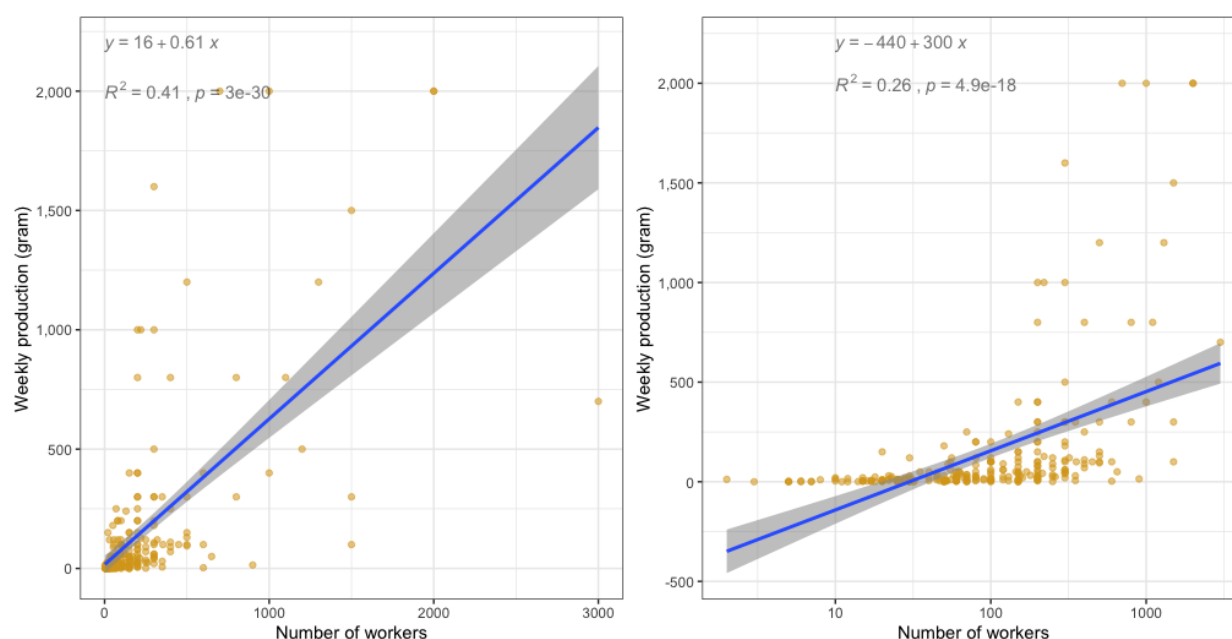
⁶⁷ Although at first glance, the production for the week preceding the investigators' visit does not necessarily reflect an average of a site's weekly production, experience shows that this is the most reliable method for estimating production at a large number of sites. Indeed, the production for the week preceding the visit is easy to obtain on site (provided that certain pitfalls are avoided in presenting the mission's objectives, which could lead to an overestimation or underestimation of production) and the accumulation of sites that had a good week and those that had a bad week makes it possible to obtain a reasonably reliable average.

Table 8: Estimated weekly gold production for the week preceding the visit

	Aggregate production of all sites	Mean production at sites	Median production at sites	Lowest production at sites	Highest production at sites	No. of sites
Weekly production in grams	35,724.4	141.76	28	0	2000	235

The linear regression (see Graph 10) of the relationship between weekly production and the number of workers at a gold site suggests that for each additional worker, production increases by 0.61 grams. This relationship is statistically significant.

Graphs 10 and 11: Weekly gold production estimates relative to the number of workers operative on each site, provided on both a linear and logarithmic scale.



D. ESTIMATION OF THE VALUE GENERATED ON GOLD SITES

The mean and median site prices per gram of gold differ by less than one US dollar (USD 26.76 and 25.64 respectively)⁶⁸, suggesting that the calculation of the price per gram of gold is determined by globally shared factors, such as, for example, the price per ounce of gold on the international market.⁶⁹ In previous studies in the DRC, IPIS noted that traders check the price per ounce of gold daily to calculate the local purchase prices.

⁶⁸ Between 15,654.6 CFA for the mean and 15,000 CFA for the median, calculated on the basis of 259 sites in our sample. For this and subsequent calculations throughout the report, a rate of 1 USD = 585 CFA, valid at the time of the survey (June 2019) is applied by default.

⁶⁹ One ounce of gold is equivalent to 31.10347 grams. During the time of the visits, the 50-day moving average price per ounce of gold was estimated at USD 1,292.13 (value as at 14 May 2019), or USD 41.54 per gram. Source: <https://or.fr/cours/or/usd> consulted on 11 November 2019. Although it is normal that the price per gram charged at the sites is lower than the price per gram of gold on the international market, this difference can also be explained by differences in purity, as artisanal gold is purified further down the marketing chain.

Photo 22: Small-scale gold mining on the Koro site near Bozoum.



The value generated at each site has been calculated in this study by multiplying the estimated production of a site by the estimated price per gram of gold applied at the site. Each week, gold sites produce an average (mean) of just over USD 4,000. However, this average is distorted by the much greater value generated at sites with particularly high production. As such, the median value of gold produced per site on most of the sites visited was, by contrast, the equivalent of about USD 641 per week.

Table 9: Weekly value (USD) generated at each gold site

	Total	Mean	Median	Minimum	Maximum	No. of sites
For the week preceding the visit	1,025,675	4,086.35	641.03	0	68,376.07	234

The value generated per site makes it possible to calculate the average productivity of miners by dividing it by the number of workers. Thus, we note that each worker on a gold site produces an average (mean) of USD 18.6 per week. However, the majority of workers (median) produce only USD 8.7 per week. It is important to note that workers retain only a fraction of the value generated by their production (see *Chapter II. 3. Income estimates and pre-financing mechanisms*).

Table 10: Estimate of the weekly value generated per worker on gold sites

	Mean	Median	Minimum	Maximum	No. of sites
Weekly value generated per worker (USD)	18.64	8.67	0	192.31	234

E. ESTIMATION OF TOTAL GOLD PRODUCTION IN THE CAR

Based on the data cited above, the number of gold sites in the CAR as a whole is estimated to be around 717 sites.⁷⁰ The 235 gold and mixed sites visited by IPIS therefore represent 33% of CAR's gold producing sites. As outlined above, these sites together produced in the region of 35,724 grams in the week before the survey visits for this study, with some sites producing little and others much more.

To estimate total gold production in the CAR with any true accuracy, more statistical data is needed to account for geographical differences (particularly between the east and west of the country), seasonal fluctuations, type of operation, depth of wells, etc., all of which can vary significantly and thus have a notable impact on overall production. In the event that the current sample were representative of the distribution of large and small sites throughout the CAR, however, then it might be estimated that all 717 sites distributed throughout the country produced around 110 kilos of gold in the week before the IPIS site visits.⁷¹ **Over one year, this would represent about 5,668 kilograms of gold⁷².** An earlier 2018 study estimated the production of artisanal gold in the CAR to be around 1.98 tons per year.⁷³ The higher sum indicated on the basis of the findings in the present study may be explained by either an increase in artisanal gold production in more recent years, and/or by a more detailed analysis of gold mining sites, as 33% of which were visited during the present study.

⁷⁰ More precisely, 16% of the estimated 2,560 sites are gold sites and 12% are mixed sites (gold and diamonds). S. Pennes et al, *Diagnostic of mining and socio-economic development prospects in the CAR in the light of the vision of the mining regime in Africa*, Levin Sources, October 2018, p. 5.

⁷¹ Total production estimated the previous week at the sites visited, projected over the total number of sites ($35,724.4 / 235 * 717 = 108,997.42$ grams).

⁷² That is, $108,997.42$ grams times 52 weeks = $5,667,865.84$ grams. The potential production of artisanal gold should not be confused with the volume of exports. Indeed, production may decrease in volume between the mine site and the point of export if the gold is processed in artisanal smelters in order to increase its purity and thus its price, or if the gold is resold on the local market.

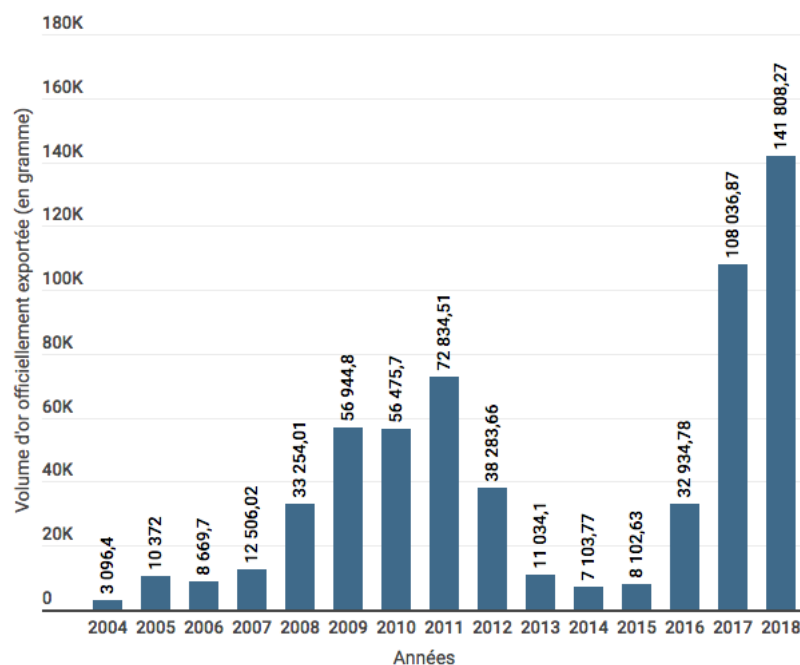
⁷³ S. Pennes et al, *Diagnostic of mining and socio-economic development prospects in the CAR in the light of the vision of the mining regime in Africa*, Levin Sources, October 2018, p. 34. The study had multiplied the estimated total number of gold diggers in the CAR (60,000 individuals) by the world average production per gold digger (33 grams per year).

Photo 23: Two women working at the Yabossio gold site near Bozoum.



For 2018, BECDOR officially recorded the export of just under 142 kg of gold. Although this represents a significant increase for official exports over previous years, IPIS estimates suggest that it only represents around 2.5% of the country's potential production.

Graph 12: Official gold production in the CAR⁷⁴



⁷⁴ Source: Becdor, Ministry of Mines and Geology, July 2019.

F. DIAMOND PRODUCTION ESTIMATES

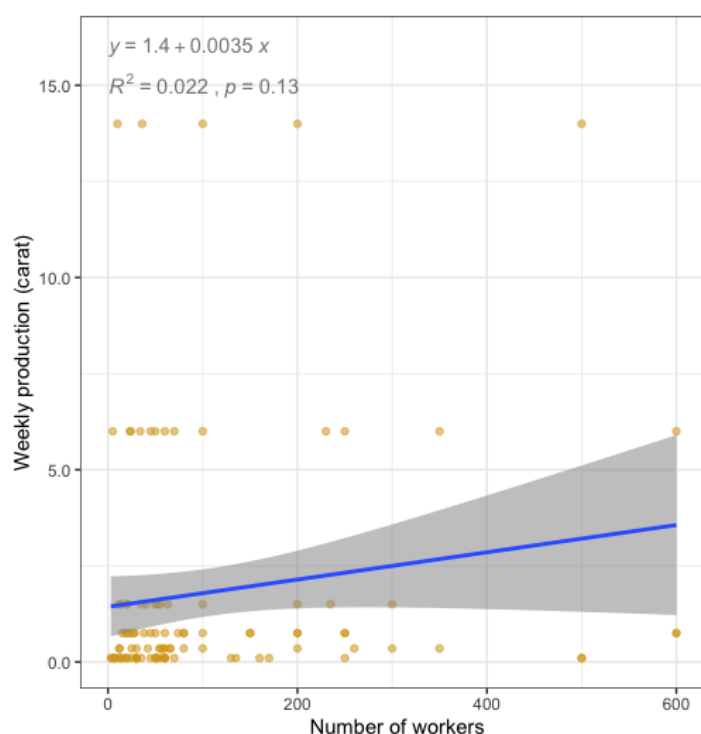
The data presented in this chapter was collected from 121 diamond sites: 61 of which exclusively mined diamonds and 60 of which mined both diamonds and gold. The investigators collected data on the weight (*caratage*) of the stones produced at each of the sites visited, and estimated the weekly production on the basis of reported production for the week preceding the visit⁷⁵.

Table 11: Estimate of weekly production⁷⁶ (carats) at the visited sites

Weekly production	Total	Mean	Median	Lowest	Highest
Total of visited sites (108 sites)	195,8	1,81	0,75	0,1	14

Graph 13 below suggests that there is no statistical relationship between the number of workers and carat production at diamond sites.

Graph 13: Relation between number of workers and weekly production on diamond mining sites (linear scale)



In addition, investigators asked for site level estimates of total production per site for the last 12 months. Although less reliable and more difficult to obtain, this assessment (cross-referenced on site from different sources) provides some more nuanced indications by creating room for reference to

⁷⁵ See footnote 67.

⁷⁶ For the week before the site visit. Investigators assessed on site the weekly production for the week prior to the visit at each mine site. Based on their assessments, we can calculate the total, mean and median production for all sites or for each category of sites (based on the average size of the stones they produce) as shown in Table 13.

more exceptional finds (stones larger than five carats) that are not sufficiently frequent to be included in production estimates for the week preceding the visit.

Table 12: Estimated annual production⁷⁷ (carats) at the sites visited

Annual production	Total	Mean	Median	Lowest	Highest
Total of visited sites (114 sites)	10,400	91.23	25	25	1,250

Whilst it should be noted that the absence of more systemic and prolonged production data collection renders estimates on the above data indicative at best, the present data nevertheless suggests a potential total annual production on all 121 sites visited of between 10,200⁷⁸ and 10,400 carats. On average (mean), these sites produce about 91 carats per year, however, the majority (median) produce around 25 carats per year. Some sites, by contrast, clearly produce much more.

Photo 24: Diamond mining along the Ouham River at the Mbisso site.



G. DIAMOND PRODUCTION ESTIMATED BY VALUE

To evaluate the value of a stone, the first indicator is its weight, which is calculated in carats. Since the price paid per carat increases in a non-linear ratio to weight, and since these rough diamonds are traded directly on or near the site, weight categories aid to better identify production and price per carat at each mine site.

⁷⁷ For the last 12 months before the site visit.

⁷⁸ Using the total production for the week before the visit multiplied by 52 weeks: $195.8 * 52 = 10,181.6$ carats.

Table 13: Estimate of the average size of stones produced on the sites and the price per carat

Sites producing on average stones that are...	Number of sites	Mean price (USD per carat)	Median price (USD per carat)
Less than 0.2 carat	8 (6.62 %)	252	162
Between 0.2 and 0.5 carat	21 (17.35 %)	222	154
Between 0.5 and 1 carat	22 (18.18 %)	308	308
Between 1 and 2 carats	25 (20.66 %)	367	385
Between 2 and 10 carats	39 (32.23 %)	415	342
More than 10 carats	6 (4.96 %)	323	342
Total sites	121 (100%)	338	308

According to site respondents, the mean and median price per carat would thus be around USD 338 and USD 308, respectively. By contrast, official figures published by the Kimberley Process indicate an average price per carat for export from the CAR as USD 149.12 (average of prices declared between 2004 and 2018)⁷⁹. This difference highlights that the largest stones, with a higher value per carat, regularly escape the official diamond registration and export circuit.

H. WEIGHT AND PRICE OF THE LARGEST STONES FOUND ON SITES

Of the 121 diamond sites visited, 58 had produced stones over 5 carats in the last 12 months. These 58 sites had reportedly produced a total of 542 stones over 5 carats,⁸⁰ or an average of 4.55 stones per site. The largest stones found at the sites in the last 12 months prior to the visit weighed an average (mean) of 7.79 carats (median 5 carats, N = 116). The average (mean) price of the largest stone was about USD 5,140 (median USD 1,196, N = 94).

⁷⁹ Kimberley Process: https://kimberleyprocessstatistics.org/public_statistics Accessed on November 11, 2019.

⁸⁰ In the CAR, “sizes” are defined as diamonds that exceed 4.80 carats. Monitoring is more important for these stones because of their higher value. The practice is to declare these stones to the USAF and the MMG Regional Directorate. Generally, levies are collected by the authorities on these stones and most often paid for by collectors in exchange for securing the packages, even if this is not provided for by law. See T. De Jong *et al*, *Diagnostic Report on Diamond Smuggling in the Central African Republic*, USAID DPAM, May 2019, p. 24.

Table 14: Highest weight and price for a rough diamond over the last 12 months

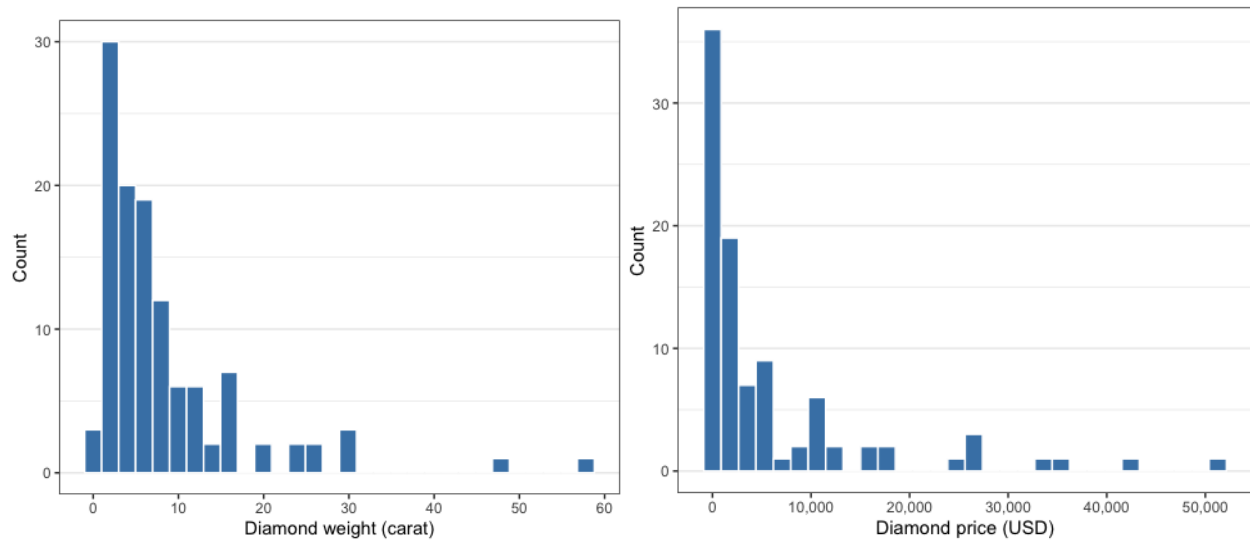
Largest stone found on site over the last 12 months...	Aggregate	Mean	Median	Smallest	Largest	Number of sites
Weight (carats) of the largest stone found on site	903.11	7.79	5	0.2	58	116
Best sale price (USD) received for the largest stone found on a site	483,099.2	5,139.35	1,196.58	17.09	51,282.05	94
Average price ⁸¹ (USD per carat) of the largest stone found on the site	-	622.04	341.88	8.55	4,273.5	93

⁸¹ In this table, the mean price (USD per carat) of the largest stone is first calculated on each site, then the mean and median of those values have been generated.

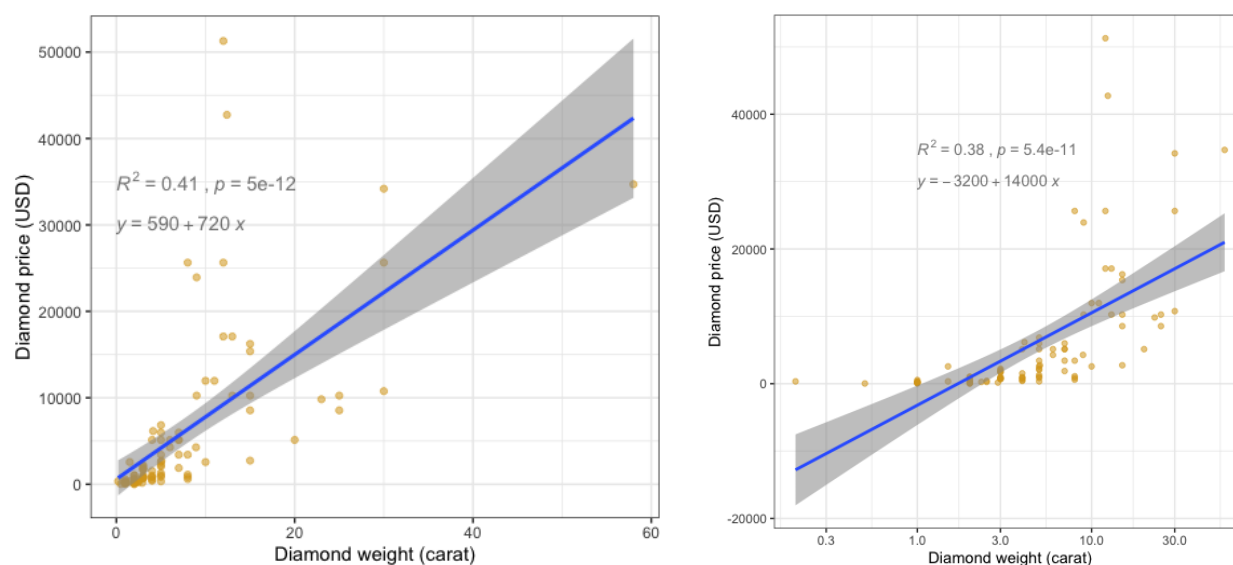
Photo 25: Diamond mining at the Gbato site.



Graphs 14 and 15: Weights and prices of the largest stone found on the sites during the 12 months preceding the visit



Graphs 16 and 17: Relationship between price and weight of the largest stone found on the sites during the 12 months prior to the visit (linear and logarithmic scales)



I. PRODUCTION AND VALUE GENERATED AT THE DIAMOND SITES VISITED

The paragraph above outlines the data collected on the weight of the stones extracted and their value relative to that weight. However, the value of a diamond depends on three other factors: clarity, color and cut.

The cut of a rough diamond is largely determined by its shape and at mine site level these shapes are often classified by reference to observable categories (ball, block, broken, rice or sugar).

Table 15: Estimate of the average stone shape produced at sites

Common name (in French)	Official name	Number of sites producing mostly this shape
Bille	Ballast	6
Bloc	Block	29
Cassé	Broken block	15
Riz	Shapable	8
Sucre	Cube	56
Total of sites		114

Another value factor⁸² is the color of a stone. At site level, stones are generally classified by reference to four main colors: white, candle, brown and tinted.

Table 16: Estimation of the average color of the stones produced on the sites

Color	Number of sites producing given color of diamonds on average
White	56
Candle	23
Brown	6
Tinted	31
Total of sites	116

J. ESTIMATION OF THE VALUE GENERATED ON DIAMOND SITES

A potential value generated per site has been estimated in accordance with the site's production multiplied by the price of stones charged on site.⁸³ This should not be confused with the potential income of each worker (see chapter II.3. *Income estimates and pre-financing mechanisms*).

Table 17: Estimated value generated at diamond sites (USD)

	Total	Mean	Median	Lowest	Highest	Number of sites
The week before the visit	59,222.14	616.9	128.21	7.18	7,179.49	96
The last 12 months before the visit	3,078,590	30,481.09	8,547.01	512.82	384,615.4	101

According to our estimates, the value generated at the diamond sites visited was approximately USD 3,079,000.⁸⁴ **Most of these sites generate just over USD 8,547 annually (median)**, but one site alone produced over USD 384,000 in one year (maximum).

Similarly, the week before the survey visits, diamond miners generated a revenue of over USD 59,200 at the visited sites, or an average (mean) of USD 617. However, the median revenue generated at sites seems more realistic, with most sites generating only around USD 128 for a week of work.

Total weekly and annual diamond values generated by sites, when combined provide one indicator of value generated per worker. Here, the value generated per worker can be seen to correspond with a site's production multiplied by the selling price, divided by the number of workers on each site.

⁸² The average clarity of the stones could not be satisfactorily assessed at each site in this study and has therefore been excluded from assessment.

⁸³ The average selling price of diamonds (in USD per carat) varies according to the mining sites. For this reason, we multiplied production by the mean price at each site and then calculated the total, mean and median for all sites.

⁸⁴ We obtain the same result by multiplying the annual production by the mean price on each site (USD 3,078,590) or by using the estimated production of the previous week multiplied by the mean price applied on each site, reported over one year (59,222.14 * 52 = USD 3,079,551.28).

However, the value generated per worker should not be confused with their potential income (see chapter II.3. *Income estimates and pre-financing mechanisms*).

The following table presents the potential value generated per week by each worker, on all sites and for each category of site (based on the average sizes of stones produced). Whilst it appears that a single worker generates about USD 19 per week on average (mean), in reality most workers generate a median of only around USD 2.3 per week.

Table 18: Estimate of weekly value (USD) generated per digger

Category of sites by average stone weight	Mean	Median	Lowest	Highest
Less than 0.2 carat (7 sites)	7.69	0.60	0.15	32.05
Between 0.2 and 0.5 carat (15 sites)	4.38	1.28	0.05	34.19
Between 0.5 and 1 carat (18 sites)	2.45	1.30	0.11	17.48
Between 1 and 2 carats (18 sites)	6.69	2.10	0.13	28.72
Between 2 and 10 carats (33 sites)	33.42	7.18	0.06	512.82
More than 10 carats (5 sites)	89.58	4.88	1.67	239.32
Total sites (96 sites)	19.11	2.29	0.05	512.82

In order to include exceptional diamonds that may have been discovered in the last 12 months, the below table takes into account estimated cumulative annual production at sites instead of merely weekly production.

Table 19: Estimate of the annual value (USD) generated per digger

Category of sites by average stone weight	Mean	Median	Lowest	Highest
Less than 0.2 carat (7 sites)	853.96	149.57	37.99	3,205.13
Between 0.2 and 0.5 carat (15 sites)	583.87	142.45	1.78	5 318.14
Between 0.5 and 1 carat (19 sites)	629.61	128.21	16.37	8,158.51
Between 1 and 2 carats (20 sites)	443.05	162.39	17.09	2,991.45
Between 2 and 10 carats (35 sites)	756.33	284.90	9.77	4,578.75
More than 10 carats (5 sites)	469.87	356.13	83.33	1,221.00
Total (101 sites)	637.43	170.94	1.78	8,158.51

On average (mean), workers generate about USD 640 per year on diamond sites, although most only generate around USD 171 (median) per year. However, workers retain only part of the value generated by their work (see chapter II.3. *Income estimates and pre-financing mechanisms*).

K. ESTIMATED OF TOTAL DIAMOND PRODUCTION IN THE CAR

Whilst bearing in mind the need for caution surrounding extrapolations based on the present study sample, it might be estimated that annual diamond production on the 121 sites visited at 10,400 carats⁸⁵ could generate a value of over USD 3 million.

Two previous studies estimated the total number of sites in the CAR to be 2,560, with 73% of these being diamond sites, 16% gold sites and 12% mixed gold and diamond sites.⁸⁶ The total number of diamond producing sites would therefore be 2,176 (85% of all sites). Here, the 121 diamond sites visited by IPIS would represent only 5.5% of the CAR's diamond sites.

Although western CAR historically produces more diamonds than the eastern CAR (likely due to a higher population density), eastern CAR is known to produce higher quality stones that easily reach 3 or 4 carats in weight, with finds of stones over 10 carats not being exceptional in that region.⁸⁷ Whilst aware of these two factors differentiating the value and weight of production between east and west, and bearing in mind the lack of further information regarding the distribution of the 2,560 sites between east and west, an attempt has nevertheless been made to extrapolate the results obtained in this study to the entire national territory for indicative purposes.

The result is an **estimated total annual diamond production in the CAR of about 187,000 carats**.⁸⁸ This estimate is lower than the average official production of the CAR before the crisis (see graph 18). The national annual production has been estimated to vary between 300 and 450,000 carats between 1960 and 2013.⁸⁹ This decrease can be explained by the disruption of pre-financing circuits, the dislocation of the socio-economic fabric and a transfer of labor to gold mining, particularly after the embargo imposed by the Kimberley Process in 2013. Certainly, more recent studies estimate that diamond production has decreased by at least a third since the 2013 crisis. In addition, initial purchase prices have fallen by up to 40%⁹⁰. These findings are approximately in line with our estimate.

The estimated 187,000 carats of production cover the last 12 months preceding the visits (between June 2018 and June 2019). In 2018, the Central African Republic officially recorded an export volume of 13,671.7 carats. This estimate would therefore suggest that officially exported production covered about 7.3% of the country's potential output during the same period.

⁸⁵ Between 10,200 and 10,400 carats, see Note 78.

⁸⁶ J.D. DeWitt, P.G. Chirico and S.E. Bergstresser, *The Central African Republic Diamond Database - A Geodatabase of Archival Diamond Occurrences and Areas of Recent Artisanal and Small-Scale Diamond Mining*, U.S. Geological Survey Open-File Report 2018-1088, p. 20. As well as S. Pennes et al, *Diagnostic of mining and socio-economic development prospects in the CAR in the light of the vision of the mining regime in Africa*, Levin Sources, October 2018, p. 22. Other potential minerals in the CAR's subsoil are only marginally exploited or their exploitation is poorly documented.

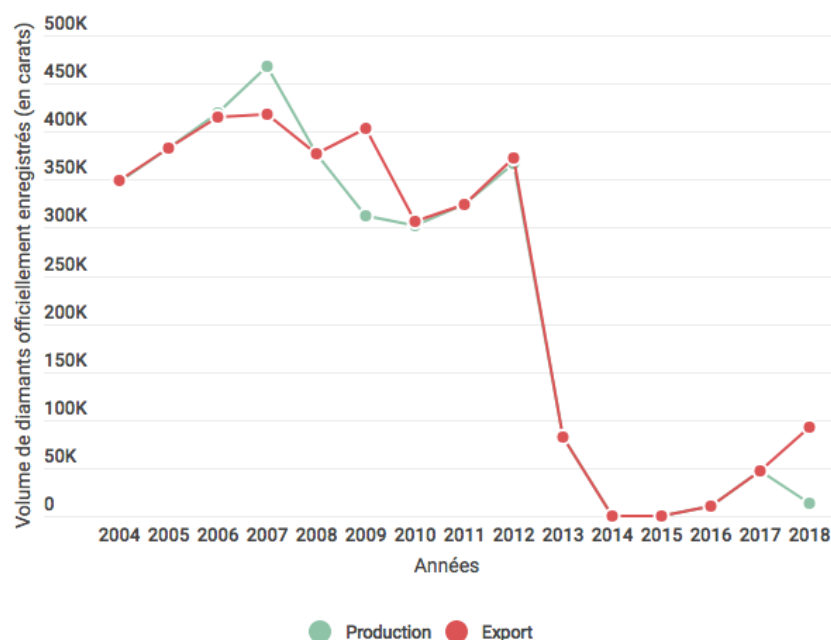
⁸⁷ K. Malpeli et P. Chirico, "A Sub-national scale geospatial analysis of diamond deposit lootability: The case of the Central African Republic", in *The Extractive Industries and Society I*, 249-259, 2014, p. 250 in IPIS - DIIS, *République Centrafricaine : Cartographie du conflit*, Anvers, September 2018, p. 77.

⁸⁸ Derived by taking the 10,400 carats at 121 sites visited and multiplying it by 2,176 diamond sites, equating to 187,028 carats.

⁸⁹ J.D. DeWitt, P.G. Chirico et S.E. Bergstresser, *The Central African Republic Diamond Database – A Geodatabase of Archival Diamond Occurrences and Areas of Recent Artisanal and Small-Scale Diamond Mining*, U.S. Geological Survey Open-File Report 2018-1088, p. 5.

⁹⁰ S. Pennes et al, *Diagnostic of mining and socio-economic development prospects in the CAR in the light of the vision of the mining regime in Africa*, Levin Sources, October 2018, p. 9.

Graph 18: Central African Republic diamond production and exports (in carats) 2004-2018 ⁹¹



II.3 ESTIMATION OF INCOME AND PRE-FINANCING MECHANISMS

A. ESTIMATED INCOME OF MINERS AT GOLD AND DIAMOND SITES

In both the gold and diamond sectors, the value generated by finds is not distributed equally among workers. Several distribution systems are used, depending on the type of ore, the size of the site, whether or not a pre-financing agreement is in place, and the operating phase of the site (the remuneration is not calculated in the same way if the site is in the exploration or yield phase), etc.

On some gold sites, revenues generated at the end of the week are used to reimburse advanced costs (food, motor pump, daily workers paid by the task...) and pay any taxes and commissions. The remaining amount is then divided into two (not always equally), with one part going to the site manager and the other part being divided (fairly or according to tasks) between the miners in a team.

According to our previous calculations, a team of ten workers on a gold site could produce around USD 186.4 per week, (taking into account an average per worker of USD 18.64, see Table 10). If the cost of motor pumps and pre-financing is estimated at USD 50 per week⁹², that leaves USD 136.4 to be split, one part for the site manager and the other for the team. An equal division would see **each team member receive USD 6.82 for his or her work week**. Here, about 36.6% of the value generated would go to the team members as a group.

At the Pouadougbe site in the sub-prefecture of Mbaïki, the income for 250 workers is estimated at 45% of the weight of the gold extracted, plus a pre-financing ration of 10,000 CFA per worker each week⁹³. The site manager's income is 25%, whilst the owner of the jackhammer and generator takes 10%. Finally, 20% is reserved for the owner of the metal detector. Production at this site was estimated

⁹¹ Kimberley Process: www.kimberleyprocessstatistics.org/public_statistics, accessed November 11, 2019.

⁹² IPIS, interviews at the Yabossio site, June 2019.

⁹³ At other sites, the ration mentioned is only 2,000 CFA or 5,000 CFA.

at around 70 grams per week. The workers therefore receive about 28 grams (45% of the weight of the gold found) for an estimated value of USD 717.92. This represents a gain of USD 2.87 per week per worker, which is in addition to the 10,000 CFA (USD 16.75) ration, or an **income of USD 19.62 per week**⁹⁴.

At the Nago site, near Bozoum, about 30 workers are active⁹⁵. Although the week before the visit the production was 3 grams of gold, the production for a good week is estimated by the site manager to be around 10 grams sold at 20,000 CFA (USD 34.19) per gram. This represents a value generated per worker of about 6,700 CFA (USD 11.45) per week⁹⁶ or **an income of 2,680 CFA (USD 4.58) per week per person**⁹⁷.

Photos 26 and 27: On the Nago site, a young girl is about to enter this unsupported gallery while a young man is already active inside.



At other sites, workers are paid by a certain percentage of ore divided into batches (piles) of gravel⁹⁸ without knowing in advance the mineralization ratio within a given batch. This is also the case for women who wash or crush ore and are most often paid by one or two batches per day⁹⁹.

⁹⁴ Share of production (USD 2.87) + weekly pre-financing (USD 16.75) = USD 19.62.

⁹⁵ IPIS, interviews at the Nago site, June 2019. During interviews, the site manager stated that “when production is good, it makes it possible to earn between 4,000 and 8,000 CFA per person per week” (between USD 6.8 and 13.67). This statement seems to correspond to the value generated per worker for the production of 10 grams of gold (6,700 CFA) rather than the income retained by each worker, which is difficult to calculate on a family site.

⁹⁶ Production of 10 grams multiplied by 20,000 CFA / 30 people = 6,667 CFA.

⁹⁷ Assuming that income is shared fairly and taking into account the estimate that income represents 40% of the value generated, i.e. 6,700 multiplied by 40 / 100 = 2,680 CFA.

⁹⁸ According to data collected by IPIS at the Gbonkolo site near Bozoum in June 2019, a bag of 80 kg of mineralized stone can be processed in about six batches. We can therefore estimate one batch to be the equivalent of about 13 kg of ore. However, the actual value of a batch depends on the mineralization ratio of the gravel. In a medium production site, one can expect to obtain one or two gold *buchettes* (between 0.1 and 0.2 grams) per batch, sold locally at 1,500 CFA (USD 2.56) per *buchette*.

⁹⁹ IPIS, interviews at the Gbonkolo site, June 2019.

Using the value generated by workers, previously calculated for gold or diamond mining sites, we can estimate the mean and median income of workers per week. **On average, gold and diamond miners can earn about USD 7.50 per week on production, but many miners earn only USD 3.50 on gold sites and less than USD 1 on diamond sites.** These figures do not take into account any pre-financing mechanisms.

Table 20: Estimated weekly income based on the value generated (USD)

	Gold (Mean)	Gold (Median)	Diamond (Mean)	Diamond (Median)
Value generated per worker per week	18.64	8.67	19.11	2.29
Estimated weekly income (40% of the value generated) ¹⁰⁰	7.456	3.468	7.644	0.916
Estimated weekly income + Pre-financing of 5,000 CFA ¹⁰¹	16	12	16.2	9.5

In addition, the investigators asked the following question: “How much do you estimate the average wage of a daily worker per day on the site?” The most frequent (mode) response was USD 1.71 per day (1,000 CFA) for both men and women, and the average is USD 2.14 (about 1,250 CFA). Compared to a 5.5-day week (average between the rainy and dry seasons), this represents **between USD 9.45 (mode) and USD 11.77 (average) per week**. A recent study estimated the average annual income of a mining worker at USD 1,590, or about USD 30.50 per week, while acknowledging that 44% of the mining workers in their sample had earned less than 200,000 CFA over the past year, or less than a dollar a day.¹⁰²

These factors highlight the crucial significance of pre-financing mechanisms, particularly at diamond producing sites, to compensating for the difference between the estimated weekly income calculated from production and the income reported at sites. Without pre-financing mechanisms, many miners would work at a loss, earning less than a dollar a week. **However, pre-financing mechanisms vary greatly from one site to another.** Only a more detailed study based on individual interviews would allow a better understanding of the estimation of a digger’s weekly income as a whole and as a function of potential differences between individuals according to the tasks performed within the same team.

B. RECORDING OF PRODUCTION

In theory, production should be recorded by the site manager. However, this is not systematically practiced on all sites. Therefore, the production figures obtained by our teams represent only an estimate of actual production. Production is recorded at only 32% of 322 sites, in either official (57 sites) or informal (47 sites) notebooks.

¹⁰⁰ 40% is an arbitrary estimation, although it is in line with relevant case studies on the share of the estimated income of miners compared to the value generated by each miner, either in CAR or in DRC.

¹⁰¹ Here we use 5,000 CFA per week per miner as a hypothesis for the pre-financing revenue, based on interviews conducted with miners on several sites as part of this study. Data collected during the present study mentioned cases of pre-financing going from 2,000 to 10,000 CFA a week, while T. De Jong *et al*, *Diagnostic Report on Diamond Smuggling in the Central African Republic*, USAID DPAM, May 2019, p. 44, mention a pre-financing example of 8,000 CFA a week.

¹⁰² S. Pennes *et al*, *Diagnostic of mining and socio-economic development prospects in the CAR in the light of the vision of the mining regime in Africa*, Levin Sources, October 2018, pp. 81-82.

C. PREFINANCING MECHANISMS

Lack of pre-financing and the dislocation of diamond trading networks in the wake of the 2013 crisis led to a decrease in site productivity and a drop-in diamond price by nearly 40%¹⁰³. Many workers turned to gold production, which had until then been considered marginal work left largely to women and children. Although gold sites require the same level of investment in terms of labor and equipment as diamond sites, they nevertheless make it possible to earn smaller sums more regularly. As a result, they are less dependent on long-term pre-financing mechanisms and offer better visibility on their production potential. Indeed, in gold production, every gram counts and is sold at a fixed (albeit negotiable) price.

This transition from diamond mining to gold mining was particularly referred to at the Dérébononou site, south of Yaloké, where many plots remain untouched due to a lack of financing after the departure of former collectors, as well as at the Sipi site, in the Abba sub-prefecture, where many miners have reverted to agriculture for subsistence, according to the site managers met by our investigators.

Photo 28: Gravel screening at the Kolongo diamond site.



Following the collapse of the legal value chain and the withdrawal of large diamond buying houses since 2013/14, some actors in the artisanal mining sector have redeployed to other more informal marketing networks. Old fraud circuits have been reinforced, playing on the proximity of various regional markets, either to Congo Brazzaville, Cameroon or Chad. Cameroon is often cited as the major conduit for the smuggling of Central African diamonds and gold produced in the west of the country.¹⁰⁴ A number of financiers who fled the 2013/2014 crisis resettled in neighboring countries, including particularly Cameroon, and some have redeployed networks of intermediaries now engaged in channeling production to border areas.

¹⁰³ S. Pennes et al, *Diagnostic of mining and socio-economic development prospects in the CAR in the light of the vision of the mining regime in Africa*, Levin Sources, October 2018, p. 9.

¹⁰⁴ T. De Jong et al, *Diagnostic Report on Diamond Smuggling in the Central African Republic*, USAID DPAM, May 2019, p. 13.

According to IPIS data, between 20% (median) and 40% (mean) of site managers declare themselves to be pre-financed by a funder. Such funders were present on 204 sites (63%) of the 322 sites visited, though they do not necessarily support all site managers at a site¹⁰⁵. Most of the time, it is financial or in-kind support (tools and food) that allows a site manager to develop a site during the prospecting phase, which is not very profitable. Funders are more prevalent at diamond-only sites (92% of 61 sites) and mixed sites (82% of 60 sites) than at gold-only sites (49% of 201 sites).

In total, funders were present at 204 sites of those visited. At most sites (90%), funders included local artisanal miners who cover production costs in the hope of a return on investment. At 59% of the sites, a funder role was also played by local merchants or shopkeepers. Informal buyers and approved collectors also pre-financed site managers at 45% and 42% of sites, respectively. On average, two to three funders were identified per site.

Logically, funders play a role in the sale of mineral production, either by receiving a commission or by obtaining precedence of sale at a more advantageous price. Production is purchased by informal buyers (204 sites), local mining artisans (197 sites), traders or shopkeepers (192 sites), and/or approved collectors (114 sites). On average, between four and five buyers visit each site, and these different actors are often present on the same sites.

There is also a difference between gold and diamond pre-financing. Diamond pre-financing is often considered “non-refundable”, which means that in the event of unsuccessful washing, the worker has nothing to reimburse the funder, who will have to recover his lost stake through larger profits on another site. In the gold sector, by contrast, the funder recovers their investment by buying the ore at a lower rate at source (generally around 12,500 CFA per gram, or USD 21.37) than in the city, where gold is bought at around 15 to 16,000 CFA per gram (or between USD 25.64 and 27.35). For example, on one site near Bossembele, site managers buy a gram of gold at 13,000 CFA (USD 22.22) and sell it at 16,500 CFA (USD 28.20) in town. The price per gram continues to increase at each stage of the marketing chain until the ore crosses the border and is integrated into the world market.¹⁰⁶

On site, prices do not generally vary with each transaction but are part of the relationship of trust between miner (often the site manager or mining artisan) and buyer, whether in the formal or informal chain. In the formal sector, the buyer, referred to as a “collector”, works for a buying office. In the informal sector, buyers can be referred to as “*coxeur*” or resource persons, and may be either self-employed or work for a prefinancier – often a trader located either in the Central African Republic or across the border.

If a pre-financier advances one million CFA to a collector or *coxeur*, that collector must provide him with the gold equivalent of that amount obtained at a rate fixed in advance (the price of 18,000 CFAF per gram of gold was mentioned in the Yaloké area). It is the funder’s responsibility to obtain the right quantity of product at the best price. To this end, financiers who support miners by providing material, food, cigarettes, etc. generally pay them a lower price (around CFA 14,000 per gram in the Yaloké area) whilst committing to buy their entire production.

¹⁰⁵ On about half of the sites where they are present (100 sites out of 204), funders support 75% or more of the site managers. At 85 sites, they support only 50% or less of the site managers.

¹⁰⁶ The price for one gram of gold can vary depending on its purity, which is different from one site to another. Artisanal gold production is sometime refined by local smelters before export.

Photo 29 and 30: The production washed after one week of work corresponds to a few grams of gold, despite very rudimentary tools, near the Gbonkolo site.



However, workers often hide part of their production in order to sell it at a better price, either directly in the city or to an informal buyer. These informal buyers, as well as collectors, also buy production from “self-financed” workers who are not in a relationship of dependence with a funder.

Most of the time, transactions are not recorded by means of a receipt, though purchase slips were nevertheless seen at 71 sites, and simple informal receipts at 14 sites.

II.4 DESTINATION OF ORES AND EXPORT CIRCUIT

In the CAR, and particularly since the 2013 crisis, the vast majority of exploited minerals (particularly gold and diamonds) are illegally exported. We estimate that nearly 92.7% of diamond¹⁰⁷ production and 97.5% of gold¹⁰⁸ production is not officially registered. Although these figures may be subject to debate, their order of magnitude gives an idea of the importance of fraudulent mineral export channels in this landlocked country and the limited state resources for border control.¹⁰⁹

Cameroon is the main exit route for Central African gold for production from the west of the country¹¹⁰, whilst Chad, the DRC and Sudan act as conduits for production from the east¹¹¹. However, much gold produced in western CAR is also sold to buying houses based in Bangui. These buying houses benefit from networks of representatives in major centers (such as Yaloké) or receive direct mineral offers from informal collectors.

Minerals leave the country mainly by road and the numerous crossings with neighboring countries. However, Bangui airport is also a frequently used transit point, particularly for flights to countries in the sub-region.¹¹² In addition to weak regulatory control over Central African supply chains and the high

¹⁰⁷ See chapter II.2.K. *Estimated total diamond production in CAR*.

¹⁰⁸ See chapter II.2.E. *Estimated total gold production in CAR*.

¹⁰⁹ World Customs Organization, *Fragile borders and customs activities in a post-conflict situation: the case of the Central African Republic*, WCO News, October 2017, p. 52.

¹¹⁰ Report of the United Nations Panel of Experts for the Central African Republic, S/2018/729, p. 25.

¹¹¹ Report of the United Nations Panel of Experts for the Central African Republic, S/2017/1023, p. 32.

¹¹² Report of the United Nations Panel of Experts for the Central African Republic, S/2018/729, p. 26, or T. De Jong *et al*, *Diagnostic Report on Diamond Smuggling in the Central African Republic*, USAID DPAM, May 2019, p. 35.

value of gold, the pervasive informality and opacity of the sector strongly contribute to some actors preferring informal channels for political or economic purposes.¹¹³

Selling price and conditions of access (distance, insecurity, road conditions, etc.) determine the destination of ore. Thus in 2018, collectors complained that the gold price in Bangui ranged from 20,000 to 23,000 CFA per gram while it was bought at 25,000 CFA in Garoua-Boulai, Cameroon.¹¹⁴ Even in the heart of Central African territory, buyer networks supported by financiers based in Cameroon can offer a better prices per gram. Yaloké collectors complain that even when they offer a price of 20,000 CFA to artisans, they are sometimes overtaken by illegal Cameroonian collectors offering 21,500 CFA per gram.¹¹⁵

The rate of tax on gold exports has been another factor fomenting illegal trade. In 2018, it stood at 5.25% in the CAR compared to 2.5% in Cameroon¹¹⁶. In order to encourage the formalization of the gold sector, a presidential decree of 23 July 2019 on the Amending Finance Act 2019 sets the cumulative rate of duties and taxes at 2.25% of the BECDOR value for raw gold.¹¹⁷

Of the 322 sites visited by IPIS in the western CAR in 2019, 564 destinations were mentioned, including 60 unique destinations (mean value of 1.75 destinations per site). As the question was asked on the sites during the investigators' visit, only the first destination or main point of sale was recorded, and it was not possible to systemically ascertain second and third tier trading destinations as part of this study.

The key destinations for minerals trading within the CAR are Bangui (mentioned at 67 sites), Yaloké, Abba, Bozoum, Berberati, Carnot and Bossangoa. Outside the CAR, Cameroon is the main destination for minerals from a total of 116 sites. Within Cameroon, the main destinations are Garoua-Boulai (mentioned at 65 sites), Mbaiboum (mentioned at 13 sites) or other unknown destinations within Cameroon (38 sites). Chad was also mentioned as a destination at 12 sites.

¹¹³ M. Hunter, A. Smith, E. Levin-Nally, *Follow the Money: Financial Flows Linked to Artisanal and Small-Scale Gold Mining*, mars 2017, p. 4.

¹¹⁴ IPIS - DIIS, *Central African Republic: Conflict Mapping*, Antwerp, September 2018, p. 98. Interviews with mining operators, December 2017 and February 2018.

¹¹⁵ *Ibid.* Interviews with mining operators in Yaloké, June 2016 and February 2018.

¹¹⁶ *Ibid.*, p. 99. The Central African authorities, aware of the potential impact of such a rate, have tried to compensate by taxing the volume of exports on a fixed value of 15 CFA per gram against 25,000 CFA in Cameroon.

¹¹⁷ See Appendix I. *Decree of 23 July 2019 on export duties.*

Table 21: Destinations mentioned at more than five sites

Destination	Number of sites
Bangui	67
Garoua-Boulai	65
Yaloké	48
Abba	44
Bozoum	36
Cameroon (neither Garoua-Boulai nor Mbaiboum)	38
Berberati	28
Carnot	25
Bossangoa	20
Gaga	16
Lamy	14
Boda	13
Mbaiboum	13
Baboua	12
Chad	12
Gallo	11
Bagandu	7
Bouar	7
Ndjo	7
Nola	6
Sagani	6

Production from gold or mixed sites (which constitute the largest part of our sample) is mainly evacuated to Garoua-Boulai (in Cameroon) or Bangui.

Table 22: Destinations mentioned at more than five gold or mixed sites

Destination (Gold or mixed sites)	Number of sites
Garoua-Boulai	65
Bangui	62
Yaloké	44
Abba	41
Bozoum	36
Cameroon (neither Garoua-Boulai nor Mbaiboum)	37
Bossangoa	20
Gaga	16
Lamy	14
Mbaiboum	13
Baboua	12
Chad	12
Gallo	11
Bagandu	7
Ndjo	7
Boda	6
Sagani	6

For example, at the Koungueda site north of Baboua, near the Cameroonian border, miners sell their gold mainly to Cameroonian Fulani who frequent the region and sell these purchases on in Cameroon. This allows miners to avoid moving with their production with the attendant risk of being robbed by 3R rebels also present in the region.

A. BOX 2: LINKS BETWEEN MINING AND PASTORALISM

Mining is a rural activity that is part of the socio-economic landscape of the Central African Republic in the same way as agriculture and local pastoral activity are. The different actors can move from one environment to another according to the seasons. Pastoral transhumance (both cross-border and internal) is also strongly rooted in local practices and interacts with other activities, either as a result of power imbalances (conflicts linked to the destruction of crops or livestock theft), or through exchange and cooperation between sedentary populations and nomadic or semi-nomadic populations¹¹⁸.

Photo 31: Oxen on the road to Bozoum.



Just as farmers find an outlet for their products from transient populations, allowing them to extend beyond pure subsistence farming and sometimes buy meat, artisanal miners also depend on transhumant herders to meet their protein needs. As a result, mining areas have often retained a presence of livestock, even in times of significant conflict¹¹⁹. The frequent use of minerals (especially gold) as a currency of exchange in isolated areas with limited cash flows¹²⁰ can turn transhumant herders into a channel for the flow of illicit minerals.

At the diamond sites visited by our teams, the main destinations for production are mining centers known for their diamond markets (Berberati, Carnot, Boda and Nola). The towns of Abba, Yaloké and Garoua-Boulai (in Cameroon) show a relative proximity to informal gold marketing hubs in Cameroon¹²¹.

¹¹⁸ See IPIS - Concordis, *Mapping pastoralism and establishing peace at the Central African - Chadian border*, (working title), publication scheduled for January 2020.

¹¹⁹ IPIS - DIIS, *Central African Republic: Conflict Mapping*, Antwerp, September 2018, p.90.

¹²⁰ The price of a cow can reach between 150,000 and 300,000 CFA.

¹²¹ The cities of Kentzou, Batouri, Kette and Bertoua have been cited in the past as crossing points for fraudulently exported Central African diamonds. See in particular O. Obale, *From conflict to illicit: mapping the diamond trade from Central African Republic to Cameroon*, Partnership Africa Canada, December 2016, p. 15, or T. De Jong et al, *Diagnostic Report on Diamond Smuggling in the Central African Republic*, USAID DPAM, May 2019, p. 13.

Table 23: Main destinations mentioned on more than five diamond or mixed sites

Destination (Diamond or mixed site)	Number of sites
Berberati	28
Abba	26
Carnot	23
Bangui	16
Boda	12
Yaloké	10
Garoua-Boulai	8
Nola	6

II.5 PRESENCE OF STATE SERVICES

A. ON THE SITES

Almost half (156 sites or 48.5%) of the 322 sites covered by this survey are visited by at least one government department. USAF was mentioned at 92 sites, and local authorities and the mining administration at 56 and 54 sites, respectively. Health services and the *gendarmerie* were mentioned at 40 and 15 sites, respectively. The frequency of their visits is usually said to be random, once a year or once every three months. It can be triggered if there is high production information or if workers call them to resolve a conflict. On the other hand, at 29 sites, some services are present on a permanent basis or at least once a week. These services were mainly USAF (13 sites), local authorities (13 sites) and health services (three sites).

For example, at the Moboma site near Mbaïki, the mining administration, local authorities and the USAF are permanently present. It is a large site with nearly 2,000 workers. In operation since the 1930s, you can still see the old galleries and abandoned crushers on site. Here, an administrative office composed of the mayor's agents and representatives of the artisanal miners manage the collection and distribution of production taxes, which include amongst others, 2% for the mayor's office, 2% for the village chief and elders, and 1% for the security agents (miner self-defense group).

On this site, about 35 buyers operating through a mining cooperative are the main financiers of several teams. They provide metal detectors, a jackhammer and a generator for an estimated production of 2 kg per week, which is exported to Bangui and then probably to Dubai. USAF is also present and secures the transport of the production.¹²²

Many actors interviewed complained about the continued absence of State services for the supervision of artisanal mining activity despite the improved security situation in their region. Thus, at the Mengui 2 site, near Mbaïki, one site manager stated that, "this is the first time that a person has arrived on our site on behalf of the Ministry of Mines". The absence of State services on the sites also makes it difficult to control and tax production. For example, the absence of both representatives from the Mining

¹²² T. De Jong et al, *Diagnostic Report on Diamond Smuggling in the Central African Republic*, USAID DPAM, May 2019, p. 44.

Service and a local purchasing office was cited as the main reason that minerals were exported to Cameroon - without benefit to the community - at the Adouzekede site in the Bossembélé sub-prefecture.

B. ROAD BARRIERS

Approximately 15% of the 322 sites visited were controlled by the presence of a barrier at the site entrance. These barriers are generally held by the Gendarmerie and sometimes by the services of the Town Hall, customs or the FACA.¹²³ This figure rises to 34% for the presence of a barrier between the mine site and the main point of sale. The price generally paid for crossing a barrier varies between 500 and 2,000 CFA for pedestrians and motorcycles. These barriers are most often well accepted by miners as a symbol of the restoration of security in their region.

II.6 ON SITE SECURITY AND INSECURITY

A. THE PRESENCE OF STATE FORCES

State security force (*gendarmerie*, FACA, MINUSCA, USAF, etc.) representatives had a presence at 22 of 322 sites visited (6.83%).

B. THE PRESENCE OF ARMED INDIVIDUALS

Self-defense groups¹²⁴ were present on 35 of 322 sites visited (10.87%). This includes three sites located within the Kimberley Process Compliant Zones: Ndjikiri, Gbato (near Berberati) and Yanguénda (near Nola). For more information see the [IPIS interactive webmap](#). Thus, although a number of weapons were present on or near sites, most were artisanal weapons or hunting rifles. Also, in many cases, former members of self-defense groups have reintegrated (or resumed their functions) back into the artisanal mining community, though they remain readily mobilizable in the event of conflict.

Non-state armed groups had a presence at 35 of 322 sites visited (10.87%), none of them located within the Kimberley Process Compliant Zones¹²⁵.

¹²³ For more information on roadblocks in Central Africa, see IPIS - DIIS, "Laissez-passer" *L'économie politique des barrières routières en République centrafricaine*, Antwerp, November 2017.

¹²⁴ In most cases, armed individuals claiming to belong to self-defense groups at mining sites in the western CAR belong to the Anti-balaka movement. This movement of self-defense militias was mobilized during the 2013 crisis through political and community networks recruiting many villagers and miners. After the crisis, many Anti-balaka returned to their primary activities (including mining).

¹²⁵ It should be noted that insecurity, including the presence of armed groups, prevented some investigators from visiting some mining sites. As a result, this figure does not represent the full percentage of mining sites controlled by armed groups in western CAR. Indeed, it should also be recalled that the number of sites visited in this study represents only 12.5% of the 2,560 sites estimated in the CAR according to J.D. DeWitt, P.G. Chirico and S.E. Bergstresser, *The Central African Republic Diamond Database - A Geodatabase of Archival Diamond Occurrences and Areas of Recent Artisanal and Small-Scale Diamond Mining*, U.S. Geological Survey Open-File Report 2018-1088, p. 20.

C. BOX 3: WILLY, TENSIONS BETWEEN ARTISANAL MINERS AND CHINESE COMPANIES

In Ouham, the Koro-Mpoko area, 50 km from Bossangoa, is home to the largest gold mine in western Central African Republic, known as Willy. Since the discovery of gold in June 2016,¹²⁶ thousands of miners from all over the country have moved to the mine to the point that daily production at the entire Willy site and its peripheral sites reaches up to 2,500 grams.¹²⁷

Photo 32: The Willy site includes several construction sites and attracts thousands of workers.



From the beginning of Willy gold rush, self-defense groups linked to anti-balaka have claimed to be “protectors” of the workers at the site. In May 2018, despite the strong presence of anti-balaka on gold sites in the region¹²⁸, the Central African government granted operating permits to two Chinese companies, Zighou mining¹²⁹ and Thien Pao,¹³⁰ to operate in Willy and its surroundings.¹³¹

In May 2019, IPIS visited ten sites in the Willy area. From the observations, it seems that artisanal production has decreased. At these ten sites, production in the week before the visit is estimated at 542.3 grams, or 54.23 grams on average (median 60 grams). On six of these ten sites, this trend can be explained by the fact that the pits are getting deeper and deeper and the diggers lack the appropriate tools to extract gold at this level of depth efficiently. In addition, some sites were still in the discovery phase, and therefore non-productive. This latest information shows, however, that the Willy area continues to attract new investment in artisanal gold mining.

¹²⁶ Report of the United Nations Panel of Experts for the Central African Republic, S/2017/639, § 95.

¹²⁷ *Ibid.*, § 95.

¹²⁸ Report of the United Nations Panel of Experts for the Central African Republic, S/2017/1023, § 230.

¹²⁹ In the meantime, Zighou mining has reportedly lost its research permit. Source: CAR Ministry of Mines and Geology, September 2019.

¹³⁰ Exploration Permit No. RC4-348 issued in March 2016 for gold and diamond.

¹³¹ Report of the United Nations Panel of Experts for the Central African Republic, S/2018/729, p. 120.

Photo 33: Mechanical machines and excavators from the Thien Pao company.



From a security point of view, there is a significant circulation of weapons on site, as well as an armed presence at 4 sites located on the Thien Pao concession. According to testimonies collected in situ, after having supported mine workers and participated in blocking the mining companies' activities, the anti-balaka reportedly changed sides around May 2019 and have since been in charge of “protecting the personnel of Thien Pao’s company”¹³². The latter do not hesitate to use force against miners who are demonstrating against the Chinese company. At the other six sites, the situation seems stable, though it remains fragile. At all sites, the Central African State maintains a permanent presence through USAF, while the mining administration covers eight of the ten sites on either a monthly or random basis.

D. THE CASE OF THE 3R ARMED GROUP

The armed group referred to as 3R¹³³ controls almost all of those sites (33 out of 35) with a non-state armed group presence in our sample. This is mainly due to the coincidence of this group’s zone of operations with the regions visited by our teams. This report will therefore confine itself to discussing the impact of this armed group, without addressing the influence of other armed groups on the artisanal mining sector in CAR, particularly in the north and east of the country.

¹³² IPIS, interviews conducted in the region in May 2019.

¹³³ 3R stands for “Retour, Réclamation, Réhabilitation ».

Photo 34 and 35: 3R fighters are present at Ndarssa site, as well as at Gbirinji site where metal detectors have been introduced.



3R maintains a permanent presence on 23 of the 33 sites at which they are present, and pay random visits to the other ten. 3R fighters tax a portion of the production or directly control its marketing by “securing” mineral packages to transport them on to their own commercial networks. Their presence is often marked by acts of violence or demonstrations of force (firing of firearms). At some sites, however, they are not considered a threat by miners because, “they are just buying gold and pursuing the Fulani for their oxen”.

However, at the Moundji Centre site, near Bocaranga, miners complain of a climate of insecurity linked to the presence of “Chadian rebels”, supported by 3R. This 3R group is even said to have installed a crusher on site and use mercury for gold amalgamation. At this site, mercury is burned in the open air without precaution.

When production is taxed (on 13 of the 33 sites at which 3R has some presence), 3R fighters are said to collect a total of USD 1,850 each week, or about USD 142 per site. This USD 142 taken represents around 7.5% of each site's weekly production.¹³⁴

¹³⁴ These 13 sites produce an average (mean) of 73.75 grams per week per site (production announced for the week before the visit). That is, with a median price observed on the sites of USD 25.64 per gram, a total of USD 1,890.95 per site. A tax of USD 142 therefore represents: $142 / 1,890.95 * 100 = 7.5\%$.

II.7 ENVIRONMENTAL IMPACT OF ARTISANAL MINING

A. USE OF MERCURY

A previous IPIS study noted that the use of mercury at artisanal gold mining sites in the CAR was not yet widespread, but that it could quickly increase with the recent influx of foreign miners.¹³⁵ The present survey confirms this trend. The presence of mercury was only mentioned on three artisanal sites and seems to have been introduced by foreign actors (Chadian collectors, Chinese companies¹³⁶) providing these methods to improve efficiency during the mineral processing phase. The mercury observed at these three sites would seem to come from China, Cameroon, Nigeria or Chad. As Sudan is the largest mercury importer in the region, it is likely to supply eastern CAR, though little is known of its use in that context.¹³⁷

A 2009 study indicated that local populations remain unaware of the dangers of mercury.¹³⁸ Ten years later, there is no statistical data on local knowledge of the harmful effects of mercury among Central African artisanal miners. However, during our visit to Bozoum in June 2019 we did notice that some civil society actors were concerned about the use of mercury by Chinese companies, and more specifically on the ecosystem of the Ouham River.¹³⁹

B. RIVERS AND FORESTS

For local populations, the environmental impact of artisanal mining is clearly visible. Indeed, on 78% of sites, “the color or smell of the water has changed because of exploitation of the site”, and on 98%, wholesale deforestation is practiced for the purposes of extending the site (on 308 sites), heating (167 sites) or supporting mine tunnels (153 sites).

¹³⁵ K. Matthysen & I. Clarkson, *Gold and Diamonds in the Central African Republic*, IPIS/ActionAid/Cordaid, February 2013, p. 30.

¹³⁶ See Chapter III.3 Focus: the Bozoum area.

¹³⁷ COWI, *Mercury trade and use for artisanal and small-scale gold mining in Sub-Saharan Africa*, Final Report, Banque Mondiale, December 2016, p. 70.

¹³⁸ T. J. Chupezi, V. Ingram & J. Schure, *Impacts of artisanal gold and diamond mining on livelihoods and the environment of the Sanga Tri-National Park landscape*, IUCN-CIFOR, 2009, p. 21.

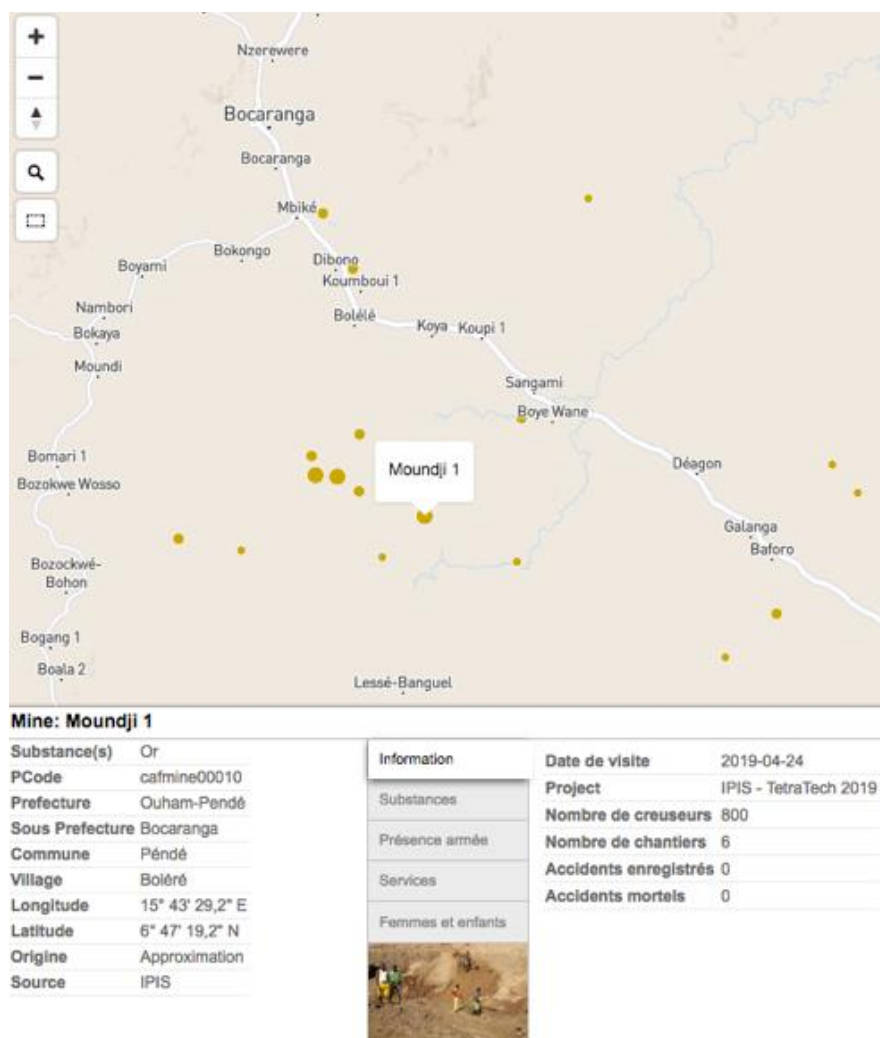
¹³⁹ IPIS, Interview with members of civil society in Bozoum, June 2019.

Photo 36 and 37: Use of motor pumps to dry the riverbank at the Zingawele-Lobaye diamond site. Artisanal mining sometimes requires a long phase of discovery causing significant deforestation here at the Yewere site.



The intensity of activities at the Moundji I site near Bocaranga, which has about 800 miners, has led to diversion of the local river to three large dams. This is also visible on the neighboring Kangabé site (500 diggers) on which a 700-meter canal and a dam have been built to allow exploitation of the riverbed. At the Papou site, near Bossembele, or the Pays 2 site near Bossangoa, rivers are diverted for gold mining, exposing the population to skin diseases and shortages of drinking water during the dry season.

Map 7: Zoom on the Moundji I site



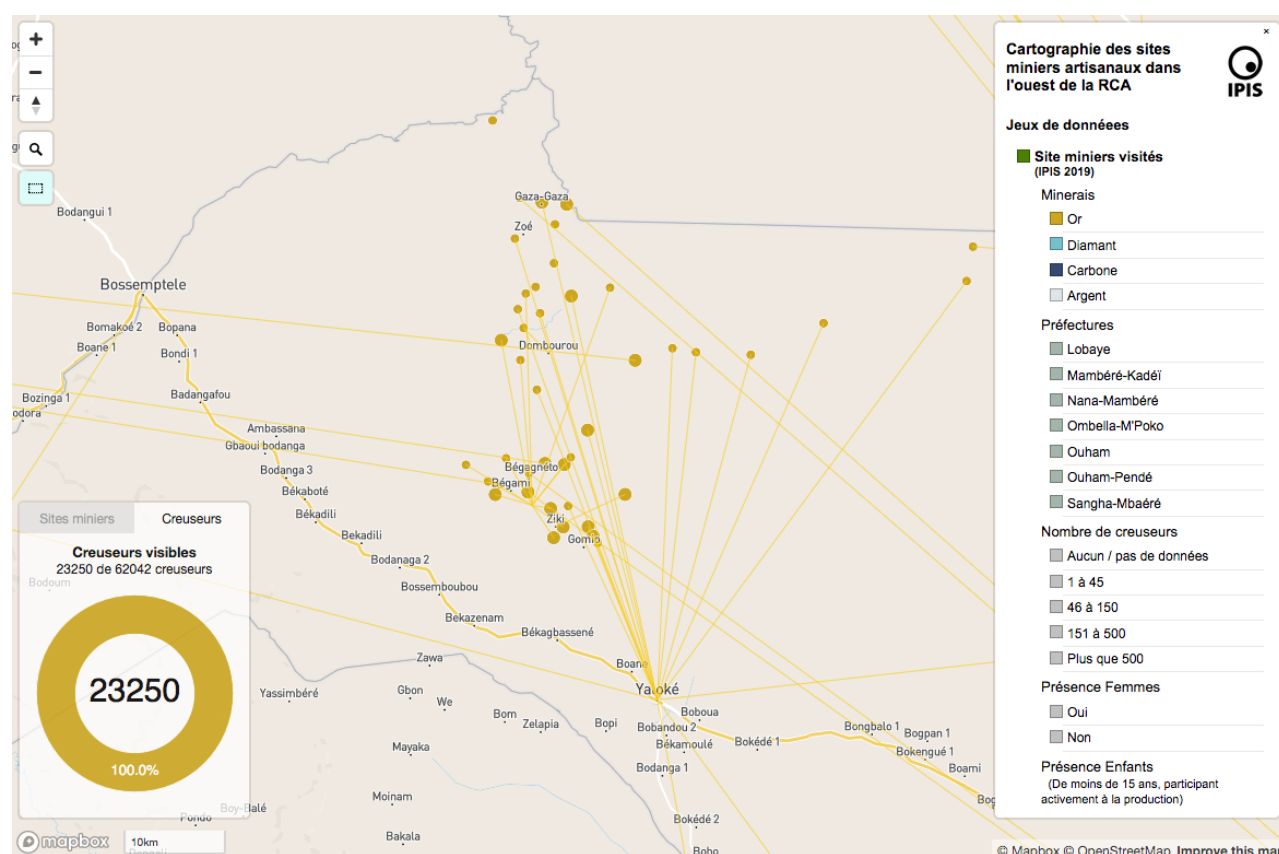
III. QUALITATIVE ANALYSIS

III.1 FOCUS: THE YALOKÉ AREA

A. SOCIAL DYNAMICS AND SECURITY

The majority ethnic group in Yaloké is the Gbanou, though there are many other ethnic groups in the area. Ethnic mixing in the area is significant, with the exception of the Fulani.¹⁴⁰ In January 2014, Muslims were targeted by anti-balaka abuses leading them to flee the region.¹⁴¹ Currently, the population remains very hostile towards Muslims and the Fulani. Very few Muslims have dared to return to Yaloké since the end of the crisis, and they remain almost wholly absent from its outlying villages.

Map 8: More than 23,000 diggers are active in the area north of Yaloké



B. SECURITY SITUATION

During the mission period, the security situation in Yaloké was calm. The dynamism of night activity indicates that this tranquility seems to have become the norm. However, this lull must be put into perspective by the fact that dormant cells of anti-balaka remain in the area. The latter have not been

¹⁴⁰ As Yaloké is a livestock community, most of the Fulani are Mbororo ("Bush Peul"), but there are also Fulbe Peul ("Village Peul"), who are settled. It appears that both subgroups have been ostracized. See IPIS - Concordis, *Mapping pastoralism and establishing peace at the Central African - Chadian border*, (working title), publication scheduled for February 2020.

¹⁴¹ United Nations Panel of Experts for the Central African Republic, Final Report, S/2014/762, p. 3.

disarmed and their ability to remobilize at will persists. One anti-balaka leader met at a mining site confirmed that, *“if there is an alert, we can be reconstituted in no time [...] There has been no disarmament, we still have our weapons at home”*. These former anti-balaka mobilized last year after hearing that a group of transhumant Fulani were arriving in the vicinity of the village. As these Fulani proved to be harmless to the local community, no altercation took place.

C. THE MINERAL PRODUCTION AND MARKETING CHAIN

In theory, on sites where a cooperative is present, it is responsible for the pre-financing of the miners. The cooperative provides miners with equipment (shovels, pickaxes, etc.), medicines, food and other services. At washing sites, “exploitation coordinators” check and control production to prevent theft. They also record the production in production books.

In Yaloké, a cooperative buys a gram of gold at 17,500 CFA from pre-financed miners and 20,000 CFA from independent miners¹⁴². In theory, if they are working sites within a cooperative’s operating permit, miners can only sell gold to a collector approved by that cooperative. On the ground, however, Cameroonian buyers, or collectors connected to traders based in Cameroon, offer higher purchase prices of about 21,500 CFA. The cooperative sells its gold production in Bangui and Garoua-Boulai. In recent years, diamond production has been sold in Cameroon due to a lack of buyers in Bangui.

The gold marketing chain usually begins with the financier. In the Yaloké area, this is sometimes a high-level businessman or a member of the Cameroonian elite of Garoua-Boulai. The rich traders and former Muslim gold collectors of Yaloké who took refuge in Garoua-Boulai are also among the financiers. Despite the crisis, the latter have been able to maintain close links with their bases and suppliers locally.

In order to cover several localities, the funder hires “focal points”. Where financing in a region or regions is intensive, a coordinator in charge of all the focal points of a region may be recruited. These “focal points” are usually small traders living near the mines. They receive funds, either from the financier or a coordinator, with which they are able to pre-finance projects and purchase production. In some cases, these focal points are authorized by a landowner to act directly as site managers.

As a general rule, financiers and focal points agree on a price per gram in advance, with the focal point being expected to reimburse the financier with a certain amount of gold. For example, for a gram of gold agreed at the price of 18,000 CFA (USD 30.77), a financier lending 1 million CFA would expect the focal point to repay this amount with the delivery of 55.56 grams of gold. The negotiated price will remain fixed until the capital is repaid. Here, the focal point can use local price fluctuations and their networks to generate their own margins.

These advanced funds enable the focal point to finance teams of miners by covering their production and subsistence costs (food, equipment, cigarettes, alcohol, etc.). Where pre-financing is provided, the focal point can impose a lower purchase price on miners, for example 14,000 CFA (USD 23.93) per gram of gold. If they can collect 60 grams of gold, the focal point will then have generated a margin of 160,000 CFA (from which the costs advanced to the workers would have to be deducted). If he is also a site manager, the focal point can obtain a larger margin by reserving part of the production for himself.

In theory, pre-financed miners should sell all their production to their focal point, who must sell all the gold recovered to their financier, including any surplus, at the agreed price.

In practice, however, there is much fraud, both on the part of miners and focal points, who can sometimes hide part of the production in order to sell it at a better price to another collector. To avoid such fraud, a focal point who runs a shop in town can hire representatives to visit sites and check that

¹⁴² IPIS interview with an active cooperative leader in Yaloké, Bangui, February 7, 2018. The figures quoted are from February 2018.

miners are not hiding part of their production, or else he can rely on *coxeurs*, a kind of informal street buyer.

In the Yaloké area, most financiers live in Garoua-Boulai or have settled there since the crisis. As a result, most of the region's gold will very likely transit through Cameroon.

D. CHINESE COMPANIES

A Chinese mining company, based in the commune of Gaga, has reportedly been operating on at least two of the Yaloke area mining sites in Zoué and Dambourou. According to local populations, the environmental and ecological consequences of these activities are irreparable. The Gbargbar River, previously used for fishing, has reportedly been diverted.¹⁴³

III.2 FOCUS: THE BABOUA AREA

A. SOCIAL DYNAMICS AND SECURITY

The two majority ethnic groups in the Baboua region are the Gbaya and the Fulani. Despite the war, a certain cohesion has been maintained in this region near the border with Cameroon, thanks in particular to the mixing of populations. This mixing is so entrenched that each community is able to speak the other's language and a local dialect mixing Gbaya and Ffulbe is said to have developed in the area. The presence of Central African refugees in Cameroon has rendered the border extremely porous. As such, Sango, the CAR's national language, is an accepted language of negotiation on the Garoua-Boulai side of Cameroon, though knowledge of Sango, seems limited in the region more widely.

With this strong social cohesion having mitigated the impact of the 2013/2014 crisis locally, the Fulani and Muslims have generally remained in their villages. In Abba (south of Baboua), those Muslims and Fulani who fled the violence in March 2014¹⁴⁴ have made a gradual return to the area, which is fairly well accepted by other communities locally.

B. SECURITY SITUATION

Armed group attacks on the Baboua - Abba axis in 2016 were particularly violent. Some villages attacked at that time have now disappeared, as is the case, for example, for Bilamon, on the Ndongori - Bondiba section, which was burned down by 3R elements. On the Nguia - Bouar axis, levels of insecurity are even higher because the main southern 3R and Siriri base is located nearby.

The presence of armed groups continues to pose security challenges. Nevertheless, in April 2019, UNMISCA¹⁴⁵ succeeded in dislodging the FDPC¹⁴⁶ from several strategic axes in the Baboua sub-prefecture, having the effect of shifting insecurity to Abba in the south and Besson in the north.¹⁴⁷ Armed groups are becoming more discreet than before, but their capacity to cause harm remains high.

¹⁴³ CNC, "Gaga, large-scale mining by Chinese creates tension", 16 March 2019.

<https://corbeaunews-centrafrique.com/rca-gaga-une-exploitation-miniére-a-grande-échelle-par-des-chinois-cree-la-tension/> consulted on 11 November 2019.

¹⁴⁴ Association pour l'intégration et le développement social des Peuls de Centrafrique, *Les Peuls Mbororo, Une communauté qui souffre*, June 2015, p. 40.

¹⁴⁵ United Nations Integrated Multidimensional Stabilization Mission in the Central African Republic.

¹⁴⁶ *Front Démocratique du Peuple Centrafricain*.

¹⁴⁷ RFI, "UNMISCA operation against FDPC positions", 6 April 2019. Available at <http://www.rfi.fr/afrique/20190406-rca-centrafrique-operation-minusca-zoukombo-fdpc-abdoulaye-miskine> accessed on 27 November 2019.

According to the local population, these groups have agents, or spies, in towns and mining sites, who inform them of the movements of potential targets for attack.

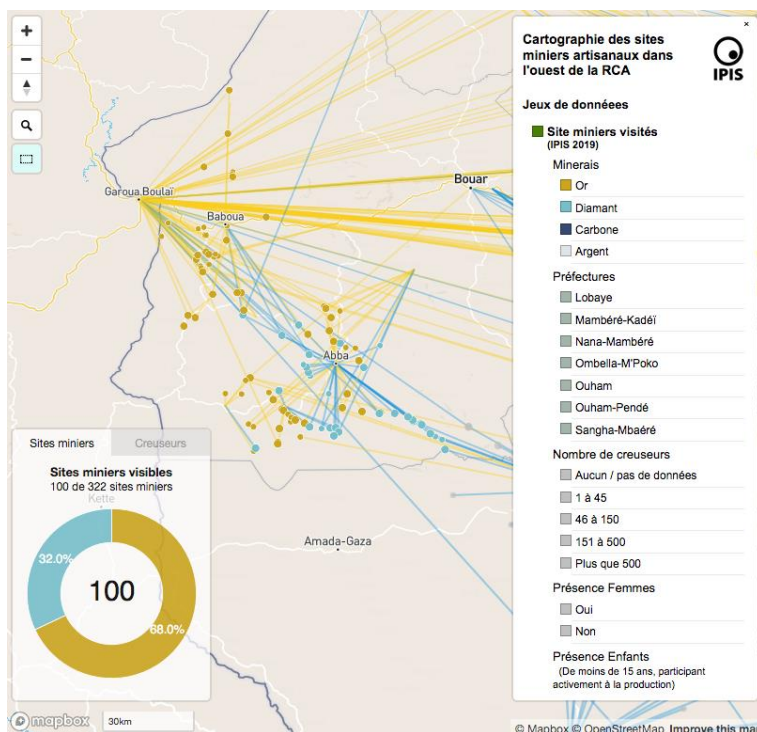
In Abba, self-appointed self-defense groups are made up of anti-balaka. According to information obtained *in situ*, the two local anti-balaka leaders are cousins and one of them is the son of an important local authority official. This family relationship would explain why they have never been arrested despite accusations of looting, armed robbery and hold ups against the local population and a Chinese mining company. Despite these accusations, one of these leaders, the “ComZone” of Abba, won the confidence of the population in December 2017 by supplying the gendarmerie with both men and 40 AK-47 rifles to fight 3R rebels who had come to the area to racketeer the region’s gold and diamond traders and collectors.

In Besson, the security situation is particularly worrying since 3R control the city. 3R abuses are so recurrent that the population calls them “the killers”. Besson is the capital of the Goudrot commune, the second farming commune of Nana-Mambéré, with that of Niém-Yelowa. Besson is mainly populated by the Fulani, who principally practice animal husbandry and trade there. For 3R, Besson is strategically significant due to its situation only 9 km from the Cameroonian border. From an economic perspective, the presence of transhumant in Besson and its surroundings offers financing opportunities to 3R through taxation and cattle requisitions.

C. THE MINERAL PRODUCTION AND MARKETING CHAIN

In Baboua, the gold market is dominated by a few traders who have particularly prospered in recent years. Our research suggests that most of them are closely linked to Central African politicians and some armed groups. Two specific traders have been identified.

Map 9: A hundred or so artisanal sites are active in the Baboua area



The first is the president of a mining cooperative whose board of directors includes a national member of parliament, which is prohibited by law. This cooperative negotiates both with Garoua-Boulai and Bangui networks.

The second identified trader acts as a focal point for financiers based in Garoua-Boulai. He acts as an intermediary between these financiers and the local miners, and appears to have bought three Prado jeeps, a truck and a pickup truck in recent years to facilitate this work. This trader regularly crosses the border and is said to have created a relationship of trust with 3R thanks to his knowledge of Foufoulbé.

The Abba region (south of Baboua) is one of the most important gold and diamond production regions in the west with many mixed (gold and diamond producing) sites. Muslims who were previously heavily involved in the minerals sector have returned to this region near the

Cameroonian border since the end of the crisis. However, their absence was initially quickly filled by new intermediaries who also remain active today.

On the ground, it would seem that there is a sharing of the respective zones of influence along certain major axes. Among the newer financiers, some are closely linked to 3R leader, “General Sidiki”, who particularly controls sites around Sagani, and on the Nguia - Bouar axis. The Abba “ComZone” also appears to have interests in mine sites in the Médi, Nakèkô and Abo-Gâa sectors.

In the surroundings of Baboua, the marketing chain is quite similar. Financiers use group or village leaders, or major mining artisans, as focal points. These focal points finance activities and buy back the production while generating a small margin.

Finally, in Besson, north of Baboua, although the main activity is livestock farming, artisanal gold panning also employs part of the population. There are two categories of operators: independent artisanal miners working on low-productivity sites and miners working on sites controlled by 3R. The latter operate the huge Bim site, located south of Besson. All miners pay a tax of 500 CFA per week to this armed group, and all the money collected reportedly goes to General Sidiki. Additionally, General Sidiki is said to have imposed himself on certain major collectors as their sole buyer at a fixed price of 15,000 CFA per gram.¹⁴⁸

Photo 38: Children dig along the banks, under the watchful eyes of their parents, at the Ngababere site near Baboua.



Finally, in the Baboua area there are also many informal itinerant buyers of gold and diamonds called *collecteurs banco* (named after the plastic bag they carry) or *coxeurs*. They travel through mine sites and small villages in search of mineral production, often in small quantities, and cross the border clandestinely to avoid being detected.

¹⁴⁸ Various IPIS interviews in Besson, June 2019.

D. CHINESE COMPANIES

On the Abba side, the Chinese company Tien Pao has reportedly started operating on two semi-artisanal mining projects, one towards Lamy (30 km southwest of Abba) and the other in Ndiba (25 km north of Abba on the Abba - Gallo axis). The public's perception of this company is extremely negative. In addition to having received no positive economic impact from its operations, the local population accuses the company of causing serious environmental damage, including "vast abandoned giant holes" and "criminal deforestation of the territory".¹⁴⁹ One mining artisan officially complained that Tien Pao had diverted the Gbemba River, allegedly flooding his own mining site that was in operation and engulfing two motor pumps. Minutes were drawn up by the mining police (*brigade minière*) and sent to the Bouar Regional Court.

Minister of Mines, who had just returned from a monitoring visit to the Abba region in September 2018, told *Jeune Afrique*¹⁵⁰ that he had "noted many breaches" and referred the case of three Chinese companies alleged to have violated several rules of the Mining and Labor Codes to his department. These companies were, namely: Zhigou Mining, *Industrie minière de Centrafrique* (IMC) and Thien Pao.

A local authority in Abba also reportedly complained that "*the Chinese specifications are empty. The government has not obtained any social support measures*". Under pressure from local authorities, Thien Pao agreed to construct a hospital building, a residence for the sub-prefect and to restore the Abba - Baboua road section. However, two years on, only the construction of the building for the hospital has begun, with the company having already left to settle on the Bozum side (see Chapter III.3. Focus: the Bozum area).

III.3 FOCUS: THE BOZOU M AREA

A. SECURITY SITUATION

The Bozum area is relatively quiet, and security is ensured by a UNAMID deployment that secures the main roads and the airport. Security on the Bozum - Bossangoa axis remained uncertain at the time of the teams' visit due to the presence of 3R elements in the area. However, in Bozum and the surrounding mining sites, this presence is not experienced as imposing because the group seems mainly interested in pursuing transhumant herders in the region. Few acts of violence have been reported in recent months, and 3R taxes transhumant herders under the pretext of "zaka"¹⁵¹. This impacts the town's economy by slowing down processing at the local slaughterhouse due to transhumant taking refuge far from busy roads in a bid to avoid 3R.

B. ARTISANAL GOLD MINING

The Bozum region is characterized by artisanal mining (mainly gold) traditionally rooted in the social and community landscape along the Ouham River. Mining activities are carried out in parallel with agricultural activities and many villages have opened riverside worksites along their river access openings. Some villages also operate pits remote from the river, during the rainy season. This includes the Gbonkolo site, which has been active since 2015.

¹⁴⁹ CNC, "Chinese mining in Nana-Mambéré, the inhabitants of the city of Abba plunged into consternation", 26 April 2018, <https://corbeaunews-centrafrique.com/20382-2/> consulted on 11 November 2019.

¹⁵⁰ Jeune Afrique, "Centrafrique : des mines chinoises dans le collimateur des autorités", 21 September 2018, <https://www.jeuneafrique.com/632990/economie/centrafrique-des-mines-chinoises-dans-le-collimateur-des-autorites/> consulted on 11 November 2019.

¹⁵¹ The "zaka" is an obligation of the Muslim faith in Central Africa that stipulates that each believer must pay 10% of his income.

In theory, a *chef de chantier* must pay a receipt of 20,000 CFA to the tax authorities in order to be recognized as a mining artisan and obtain a production booklet. The Bozoum Mining Brigade (part of the *Gendarmerie*) is responsible for monitoring production, signing production schedules and encouraging the sale of gold to purchasing offices. However, no purchasing office is present in Bozoum, and Muslim collectors have left. Currently, gold is therefore sold to traders in Bozoum at around 20,000 CFA per gram. These traders regularly use the Bocaranga road to Mbaiboum (Cameroon) to sell gold and bring back consumer goods.

Photo 39: Entrance of a gallery on the Gbonkolo site.



With regard to miners' earnings, different remuneration arrangements can be negotiated between teams. For example, when weekly production is sold for 100,000 CFA, a site manager will take 55,000 CFA to pay for the advanced costs such as motor pump rental¹⁵² (10,000 CFA), gasoline (20,000 CFA), food (15,000 CFA), and his own remuneration (10,000 CFA)¹⁵³. The remaining 45,000 CFA are divided equally among the miners, i.e. 9,000 CFA (\$15.38 USD) per week per miner for a team of five people, or 45% of the value generated by each worker.¹⁵⁴

The earnings of women performing production support tasks (such as transporting, crushing or washing minerals) is particularly difficult to calculate because they are paid in kind, i.e. with a proportion of the production before washing. This donation varies according to the production to be washed, but can be evaluated at being between half and three or four gold pans/batches, depending on the workload. The

¹⁵² The purchase of a motor pump represents a significant investment, estimated at about 130,000 CFA in Bozoum, not to mention the fuel to run it. This is why pump owners generally rent their services at several sites according to needs and at a fixed rate.

¹⁵³ Other costs may be added if the site manager does not own the mine or in the event of high production (for example 10% for the group leader, equivalent to the head of the commune grouping several villages). These additional costs reduce the proportion reserved for miners.

¹⁵⁴ A team of 5 people producing 100,000 CFA per week, the 9,000 CFA of income represents 45% of the value generated by each worker (20,000 CFA).

actual gain to be achieved depends on the mineral content of the gravel¹⁵⁵. The women who wash the waste are considered autonomous, offering their services to different teams of miners depending on the day. Gold mining represents a low but steady cash income for these rural communities.

C. INSTALLATION OF CHINESE COMPANIES

The activity of Chinese companies in Bozoum began in January 2019. These companies arrived escorted by about thirty soldiers of the Central African Armed Forces (FACA) from Bouar who protect their installations day and night for a salary of 10,000 CFA per day per soldier¹⁵⁶. Four mining companies¹⁵⁷ have reportedly purchased about 20 “semi-mechanized artisanal mining permits” in the riverbed along the Ouham River. One company can only obtain up to five permits of one square kilometer each. In reality, these four companies all appear to belong to the same beneficial owner, a Mrs. Zhao¹⁵⁸.

Chinese companies in the Bozoum region seem to use two main operating techniques. On the one hand, they set up channels to divert the river so that they can explore the riverbed with bulldozers and mechanical shovels. Alternatively, they build basins about 10 meters wide and 6 meters deep, on the banks, perpendicular to the river, though the exact function of these basins could not be fully ascertained.

The environmental and social consequences of these activities have been catastrophic, both on site and downstream. The Ouham River, which previously supported notable populations in the sub-prefecture, has become a brown quagmire and the water is murky as far as Chad. The felling of trees along the banks and the diversion of the riverbed in some areas pose a significant risk of flooding for fields and villages downstream of the site.

When these companies were originally established, Mrs. Zhao promised the provision of about 50 local jobs and the construction of schools and dispensaries. In reality, only six people were reportedly recruited as security guards, whilst the rest of the workforce has been recruited from Cameroon or the Democratic Republic of Congo under the management of Chinese employees. About 30 machines appear to be running night and day according to in situ testimonies.

¹⁵⁵ According to data collected by IPIS at the Gbonkolo site near Bozoum in June 2019, an 80 kg bag can be processed in about six batches. We can therefore estimate that one batch represents a little more than 13 kg. The potential gain per batch is highly variable because it depends of the mineralization ratio of the gravel. In a case of good production, it is possible to obtain one or two gold buchettes (one buchette is equivalent to 0.1 gram) sold locally for 1,500 CFA.

¹⁵⁶ Interview with civil society in Bozoum, 10 June 2019.

¹⁵⁷ “Tian Xiang”, “Tian Run” “Meng” and “Mao”. See in particular the list of mining permits published on the website of the Ministry of Finance and Budget and in particular Orders Nos. 048, 104, 114, 114, 139 and 140 of 2018. <http://finances-budget.cf/documents/permis-d-exploitation/permis-miniers> consulted on 11 November 2019.

¹⁵⁸ Lemonde.fr, “Le combat du prêtre Aurelio Gazzera contre les mines d’or chinoises en Centrafrique”, 25 September 2019, https://www.lemonde.fr/afrique/article/2019/09/25/en-centrafrique-le-combat-d-un-pretre-italien-contre-les-mines-d-or-chinoises_6013048_3212.html consulted on 11 November 2019.

Photo 40: Call for applications for the construction of a health post and a classroom, financed by the mining company "China Chang Run."

REPUBLIQUE CENTRAFRICAINE
Unité - Dignité - Travail

PREFECTURE DE L'OUHAM-PENDE



AVIS D'OFFRE N°001/PUP/SG DU 21 MAI 2019

APPEL A CANDIDATURE

Dans le cadre de la construction de certaines infrastructures à réaliser par la Société Minière « **CHINE TCHANG RUN** ». IL est lancé un avis d'offre aux Entrepreneurs s'y connaissant dans le domaine ci-dessous énuméré à soumissionner.

Il s'agit de :

- Construction d'un Centre de Santé + Maternité à **BOELE** (voir plan)
- Construction d'un Poste de Santé au Village **GBAGO** (voir plan).
- Construction d'une Tribune, Place de Fête ;
- Construction d'un bâtiment comportant trois (03) Salles de Classe à **BOELE** (voir plan) ;

Cet avis d'offre est à adresser au Comité de Gestion sous couvert de Monsieur le Préfet de l'Ouham-pendé.

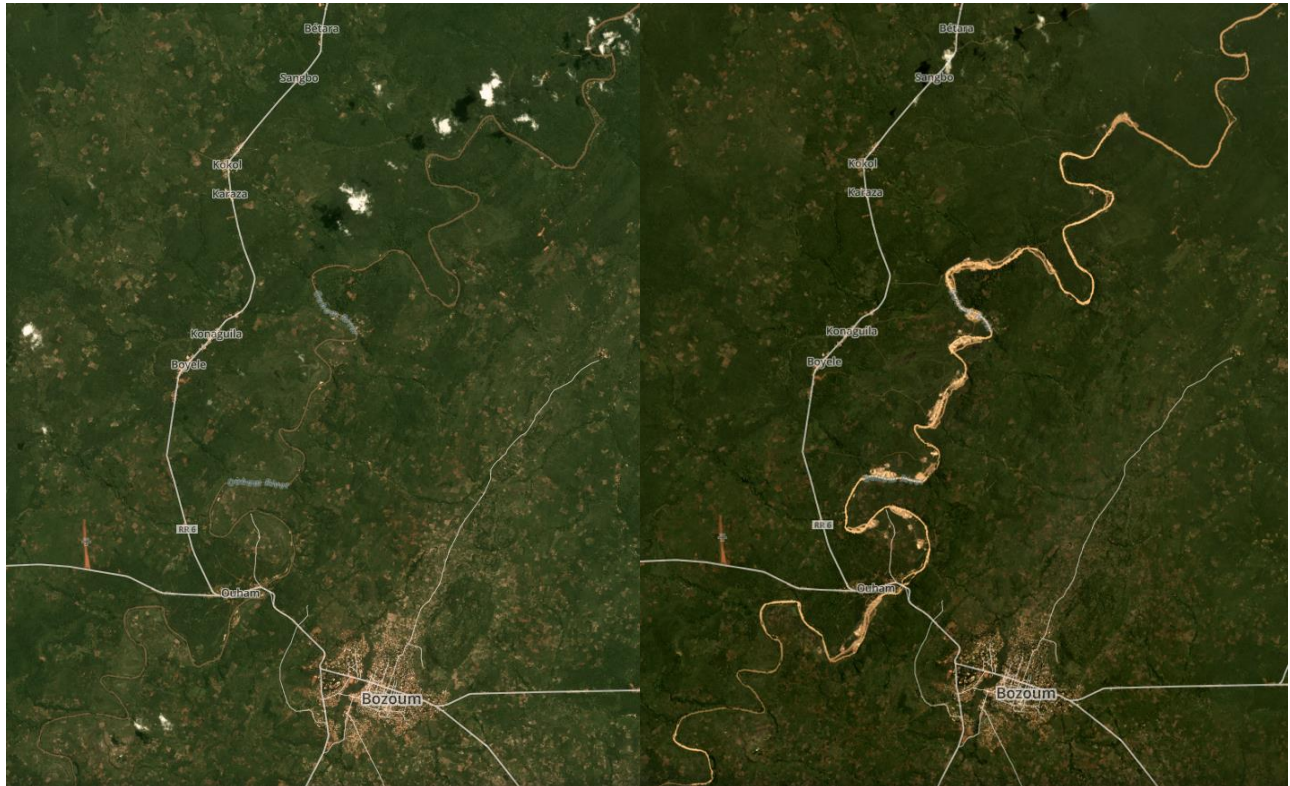
Un délai de deux (02) semaines est imparti pour le dépouillement des différentes soumissions au plus offrant.

NB : les renseignements sont à recueillir auprès du Comité de Gestion, présidé par le Préfet pour avoir une idée de l'enveloppe octroyée pour la réalisation des travaux.



Le Préfet

Photos 41 and 42: Satellite images of Bozoum taken in June 2018 and June 2019.



The two satellite images are showing the same area around Bozoum over a one-year interval. We can clearly see on the right image the consequences of mining activities alongside the river Ouham. The riverbanks are strongly visible due to recent and important activities, most likely made possible using heavy tools such as bulldozers or excavators.¹⁵⁹

¹⁵⁹ Images available through www.planet.com (the following link requires you to create an account):
https://www.planet.com/explorer/#/mosaic/global_monthly_2019_06_mosaic/center/16.358,6.344/zoom/13

Photos 43 and 44: Satellite images of Bozoum (close-up) taken in June 2018 and June 2019.



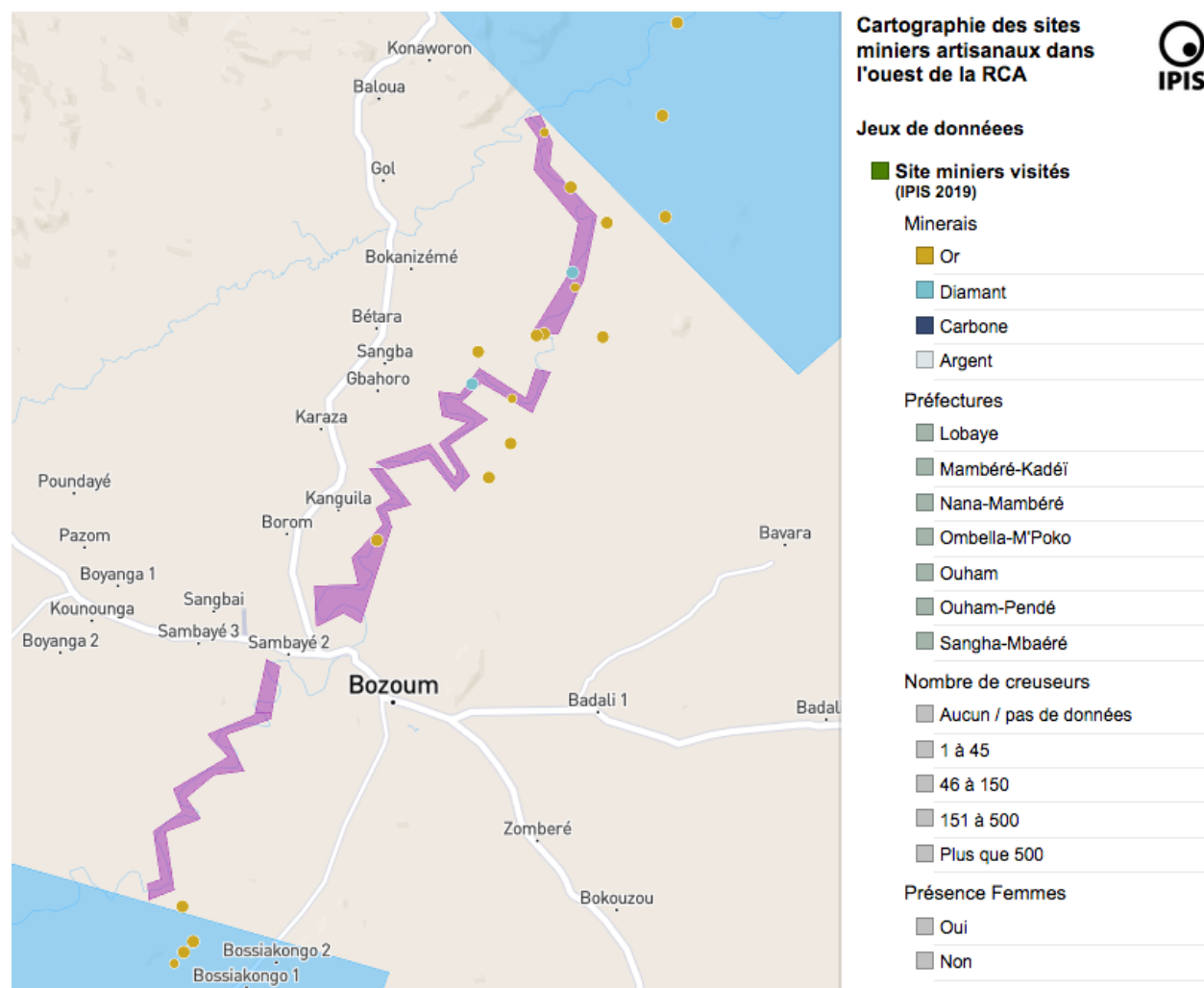
In these images, the river diversion channels and settling pools are clearly visible.

Following growing concern among local populations and initial press reports, the Minister of Mines ordered the suspension of mining activities on 25 March 2019.¹⁶⁰ However, the activities are documented to have continued after only a few days of downtime.¹⁶¹

¹⁶⁰ See “Decision No. 004/19/MMG/DRICAB/DGM suspending the operating activities of the companies Tian Xiang, Tian Run, Meng and Mao”, Appendix 2. Suspension of mining activities near Bozoum.

¹⁶¹ Observers from France24, 25 April 2019, see the video available online: <https://www.youtube.com/watch?v=66h5yBFBaY4> A more detailed analysis was published by France24 on 11 April 2019 in English: <https://observers.france24.com/en/20190411-central-african-republic-river-chinese-mining-companies> accessed on 11 November 2019.

Map 10: Mining concessions (PEASM) and artisanal mining sites in the Bozoum region



"On 31 July 2019, a report from the Lavoisier Laboratory in Bangui confirmed the presence of mercury in the waters of the Ouham Riverr.¹⁶² The experts noted a mercury concentration 4 to 26 times higher than the accepted values and specified that, "the presence of mercury is not detected upstream of the mining site". The authors of the analysis report noted that mercury is particularly toxic and "accumulates in the food chain, particularly in fish and herbivorous species, increasing the risk of contamination in humans living more or less far from the pollution site", and posing a particular threat to children and unborn infants in the vicinity.

The presence of these Chinese companies has also created a small gold rush in some locales. Some villages, which were already exploiting riverbanks before the arrival of Chinese companies, literally moved in order to follow company bulldozers and work the turned land to extract the last flakes. This includes between 200 and 400 villagers temporarily settled along the river, mainly from the villages of Boyélé, Borom, Konékéré, Kanguila, Karaza and Kokol.

¹⁶² CNC with AFP, "Centrafrique : Chinese mine in Bozoum, mercury pollution confirmed", 31 July 2019, <https://corbeaunews-centrafrique.com/centrafrique-mine-chinoise-a-bozoum-la-pollution-au-mercure-confirme/> consulted on 11 November 2019.

Photo 45: Opportunistic artisanal mining on the banks of the canal dug by Chinese mining companies to divert the Ouham River and exploit its dry bed near Bozoum.



Whilst it is difficult to assess the actual production of these four companies, it is however possible to approximately estimate a portion of their operating costs. The gasoline required to run about 30 machines requires about three tanker truck deliveries a week from Cameroon, according to some witnesses. As these trucks can transport up to 36,000 liters and diesel prices in Cameroon are stable at around USD 1 per liter¹⁶³. Gasoline costs alone can therefore be estimated at around USD 108,000 per week, not to mention the cost of purchasing or transporting the machines.

¹⁶³ https://fr.globalpetrolprices.com/Cameroon/gasoline_prices/ consulted on 11 November 2019.

Photos 46 and 47: Impact of semi-artisanal mining on the Ouham River (aerial view).



In these images, one can clearly see the canal alongside the riverbanks that was dug to reduce the flow of water and facilitate exploitation of the riverbed using machines.

Taking the price for a gram of gold as USD 41.54 on the international market¹⁶⁴, these companies would have to produce a minimum of 2,600 grams per week to remain profitable (conservative estimate).¹⁶⁵ However, according to the aforementioned parliamentary report, the miner's books show a much lower output of between 400 grams to one kilogram per month¹⁶⁶. According to the parliamentary inquiry, this gold is shipped every Saturday to Garoua-Boulai in Cameroon via Bouar.

¹⁶⁴ During the parliamentary inquiry, the 50-day moving average price per ounce of gold was estimated at USD 1,292.13 (value as at 14 May 2019), or USD 41.54 per gram. Source: <https://or.fr/cours/or/usd> consulted on 11 November 2019.

¹⁶⁵ Minimum investment of USD 108,000 per week / USD 41.54 per gram = 2,599.90 grams.

¹⁶⁶ Lemonde.fr, "Le combat du prêtre Aurelio Gazzera contre les mines d'or chinoises en Centrafrique", 25 September 2019, https://www.lemonde.fr/afrique/article/2019/09/25/en-centrafrique-le-combat-d-un-pretre-italien-contre-les-mines-d-or-chinoises_6013048_3212.html consulted on 11 November 2019.

IV. CONCLUSION

From April to July 2019, the *International Peace Information Service* (IPIS), in partnership with the Central African mining authorities, conducted **a mapping of artisanal mining sites in western Central African Republic**. This exercise sought to better understand local socio-economic dynamics (including potential conflicts and obstacles to the legal export chain), mainly in the gold sector. To carry out this study, five joint teams composed of five representatives from the CAR's Ministry of Mines and Geology (MMG)¹⁶⁷ and five members of Central African civil society travelled to the seven western prefectures of Lobaye, Mambéré-Kadéï, Nana-Mambéré, Ombella-M'Poko, Ouham, Ouham-Pendé and Sangha-Mbaéré.

In total, the **teams visited 322 mining sites** where interviews with various stakeholders allowed them to complete a questionnaire on understanding data related to the production, processing and sale of minerals. Of the sites visited, 201 are exclusively gold mining, 61 are exclusively diamonds and 60 are both gold and diamond mining.

The number of mining sector workers at the sites visited (i.e. all persons actively involved in the production and processing of minerals) is estimated at 62,042 individuals, 28% of whom were women. On average (mean) there are 193 workers per site but most sites have about 77 people (median). Children – that is, those under 15 years of age – who actively participate in production represent 11% of workers. They work mainly on support tasks (washing ores, transporting or processing them). However, at 51% of the 249 sites at which they were found to have a presence, children were seen engaged not just in processing but extraction. We can conservatively estimate **the total number of workers on mine sites to be around 150,000 to 200,000 individuals**.

The main types of mineral exploitation observed were shaft mining (62%) or open pit (61%), riverbank operations (53%) or activity directly in the riverbed using dams or divers (35%). A single site can encompass several different types of operation. The mining sites visited were located in the rural territory of the CAR. They are often difficult to access (35% required at least an hour's walk) and do not have telephone network coverage (78%).

The mining industry is characterized by a high demand for labor and a low level of mechanization. Personal protective equipment is completely absent. However, **artisanal mining is a particularly dangerous activity**. In order to reach the mineralized gravel, workers can dig shafts as deep as 10 to 15 meters. Once the gravel layer is reached, the miners cut horizontal galleries, starting from the bottom of the shaft and following the slope of the gravel layer. In the 12 months prior to the visit of IPIS teams, it was reported that 87 people had been killed at 42 sites, mainly due to cave-ins in the tunnels. In addition, 1,154 people had reportedly been injured at 116 sites during the same period.

With respect to security, one-third of the 322 sites visited (33%) had experienced conflict in the last 12 months prior to the visit. In 80% of these 105 cases, that conflict related directly to mining (site boundary conflicts, mineral theft, and conflicts between miners, owners or insurers, etc.).

A. ESTIMATED GOLD PRODUCTION

Of the 261 gold sites visited by IPIS teams (including mixed gold and diamond sites), 90% recorded production the week before the visit. The total weekly production of these sites was more than 35,700 grams, an average (mean) of almost 142 grams per site. However, the majority of sites recorded a

¹⁶⁷ More specifically, they were focal points of the Permanent Secretariat for the Kimberley Process in the CAR (SPPK-RCA), attached to the Ministry of Mines and Geology. In the future, IPIS hopes to expand the number of people from civil society and MMG participating in training and site visits in the field.

production of only 28 grams (median). Looking at the whole territory, if one were to use the results of the current study as indicative, one might estimate production during the week preceding the visits at about 110 kilos of gold. **On this basis, artisanal gold production over one year might be estimated at about 5,720 kilograms of gold.** This estimate does not take into account any volume losses prior to export due to artisanal gold purification mechanisms in artisanal foundries. Officially recorded gold production for 2018 amounted to just under 142 kg. Although this represents a significant increase over previous years, the estimates in this study suggest that this would only represent 2.5% of the country's potential production.

The median price charged at 259 sites in our sample for one gram of gold is USD 25.64 (15,000 CFA). Each week, gold producing sites generate on average (mean) just over USD 4,000 (although most sites produce only USD 641 per week according to the median). This means that on average (mean) one worker produces USD 18.6 of gold per week (median USD 8.7). Notably, workers retain only a fraction of the value generated by their production and their real income often depends on pre-financing arrangements, which can vary from one site to another.

B. ESTIMATED DIAMOND PRODUCTION

In the week prior to team visits IPIS estimates diamond production at the 121 diamond producing sites visited as part of this survey to have been 195.8 carats. **Annual diamond production at these sites is estimated to be around 10,400 carats.** Projected across the country, this suggests a **total annual diamond production estimate for the CAR of about 187,000 carats.** In 2018, the Central African Republic officially recorded an export volume of 13,671.7 carats. In accordance with estimates in the current study, this suggests that 7.3% of CAR's diamond production is officially exported.

The value generated by the diamond sites visited (calculated by multiplying the estimated production by the mean price at each site) is estimated to be approximately USD 3,079,000. When related to the number of workers at these sites, this means that on average (mean) one worker generates about USD 19 per week, though the majority of workers only generate USD 2.3 per week (median). A worker's real income however, constitutes only a portion of this value, and is also dependent on pre-financing arrangements, which vary from one site to another.

C. ESTIMATING THE INCOME OF MINERS

At both gold and diamond sites, a **worker's minimum income was estimated to be between USD 9.45 (median) and USD 11.77 (mean) for a 5.5-day work week.** As such, beyond the value generated by the production itself, pre-financing plays a crucial role in ensuring a minimum income for a large part of the artisanal mining population. However, pre-financing relations have been particularly disrupted by the 2013/14 crisis and the collapse of the formal sector, particularly in diamond mining. As gold sites offer better predictability, recent years have seen an increase in both production and the number of miners working in the gold sector.

D. SIGNIFICANCE OF INFORMALITY AND FRAUD

The exploitation of Central African minerals remains marked by informality and export fraud. Western CAR's main first tier gold destinations are Bangui (cited at 67 sites), Yaloké, Abba, Bozoum, Berberati, Carnot and Bossangoa. However, over a third of gold sites (116, N = 322) mentioned Cameroon as the principle destination for production. The quantity of gold produced and exported is all the more difficult to monitor as production is only recorded at 32% of the sites (either formally or informally).

However, a return of government services seems to be starting in the west of the country. **Almost half of all 322 sites surveyed (48.5%) are visited by at least one government department.** USAF was cited at 92 sites, and the local authorities and mining administration on 56 and 54 sites, respectively. However, the frequency of visits is often random, annual or quarterly.

Many interviewees complained about the absence of State services to supervise artisanal mining activity despite improved local security. This on-site absence also makes it difficult to control and tax production. **The absence of representatives from the mining administration and purchasing offices nearby was cited as the main reason for minerals exports to Cameroon** without Central African communities being able to benefit from the value generated by their mineral wealth.

The presence of armed individuals was observed at over a quarter (27.33%) of the 322 sites visited. These are mainly self-defense groups¹⁶⁸ (10.87% of all sites) or representatives of state security forces (Gendarmerie, FACA, MINUSCA, USAF, etc., present at 6.83% of 322 sites). Non-state armed groups were found to have a presence at 35 of 322 sites (10.87%), mainly near Bocaranga, Baboua and Abba.¹⁶⁹

The armed group referred to as 3R controls almost all surveyed sites with a non-state armed group presence (33 out of 35). This reflects this group's zone of operations in the regions visited by our teams. Where 3R levies a tax on production, which it does on 13 of the 33 sites at which they have a presence, a total of USD 1,850 is collected weekly, representing about USD 142 per site. This is estimated to reflect around 7.5% of the average weekly production of each of these sites.

E. ENVIRONMENTAL IMPACTS

The environmental impact of mining is clearly visible throughout western CAR. On 78% of the 322 sites, “the color or smell of the water has changed because of the exploitation of the site”, and on 98% of all sites deforestation is extensively practiced for the purpose of extending, heating or supporting the galleries. The presence of mercury has only been observed at three artisanal sites and seems to have been introduced by foreign actors (Chadian collectors, Chinese companies) seeking to improve efficiency during the mineral processing phase. During a visit to Bozoum in June 2019, many members of the community expressed strong concern about the use of mercury by Chinese companies operating on the banks of the Ouham River.

¹⁶⁸ In most cases, armed individuals claiming to belong to self-defense groups at mining sites in the western CAR belong to the anti-balaka movement.

¹⁶⁹ Insecurity, particularly due to the presence of armed groups, has sometimes prevented investigators from visiting certain regions and sites. As a result, this figure cannot be interpreted as the percentage of mining sites controlled by armed groups in the western CAR as sites with such a presence can often be excluded from the survey sample due to security concerns surrounding visits to these sites.

V. RECOMMENDATIONS

The recommendations in this section draw upon both IPIS' in-house expertise and discussions with a variety of stakeholders during a restitution workshop held from 14 to 16 January in Bangui as part of the Artisanal Mining and Property Rights (AMPR) project, and funded by the United States Agency for International Development (USAID).¹⁷⁰ The content and wording of this chapter are nevertheless the sole responsibility of the authors.

The following recommendations are structured around five main themes: Central African legislation on artisanal mining; the fight against illicit minerals trafficking to neighboring countries; support for the formalization of actors in the artisanal sector, particularly women; environmental protection; and the role of civil society and international partners.

A. IMPROVING CENTRAL AFRICAN LEGISLATION ON ARTISANAL MINING AND THE IMPLEMENTATION OF RESPONSIBILITY SUPPLY AND MARKETING CHAINS FOR MINERALS

IPIS recommends that the Central African authorities harmonize the country's legislation with new international standards for certification and traceability. The mining code currently in force in the Central African Republic dates from 2004 and is no longer up to date with international texts, such as the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas,¹⁷¹ the Regional Certification Mechanism from the International Conference on the Great Lakes Region (ICGLR)¹⁷² and the Minamata Convention on the Elimination of the Use of Mercury, supported by the United Nations Environment Programme.¹⁷³

Observations from the present survey also lead IPIS to recommend that the texts governing the gold sector, notably the Central African Mining Code and the OECD Guidance, be disseminated to local communities and mine workers in an accessible format and language.

B. COMBATING ILLICIT FLOWS OF CENTRAL AFRICAN GOLD AND DIAMONDS TO NEIGHBOURING COUNTRIES

Stakeholders at various levels recommend strengthening control mechanisms in the supply chain. This should be done by increasing the capacity of those actors seeking to fight against fraud, in particular by recruiting more staff to increase their presence on the ground, and by providing them with equipment, like motorcycles.

Securing borders is also a key issue in combatting illicit minerals flows. Indeed, significant volumes of gold and diamonds are smuggled into Cameroon illegally and undeclared. To counter this, the USAF should strengthen its presence in mining areas and coordinate its efforts more closely with other State

¹⁷⁰ CNC, « Les artisans miniers outillés sur les bonnes pratiques en matière de l'or en RCA », 26 January 2020, <https://corbeaunews-centrafrique.com/centrafrique-les-artisans-miniers-outilles-sur-les-bonnes-pratiques-en-matiere-de-lor-en-rca/> accessed on 28 January 2020.

¹⁷¹ Available at <http://www.oecd.org/fr/daf/inv/mne/Guide-OCDE-Devoir-Diligence-Minerais-%20Edition3.pdf> accessed 26 November 2019.

¹⁷² Available at <http://www.oecd.org/fr/daf/inv/responsabilitedesentreprises/49111399.pdf> accessed on 10 February 2020.

¹⁷³ See in particular, Programme des Nations unies pour l'Environnement, Convention de Minamata sur le mercure, September 2019 available at <http://mercuryconvention.org/Convention/texte/tabid/5577/language/fr-CH/Default.aspx> accessed on 28 January 2020.

armed forces (Gendarmerie, FACA and Customs) in border areas. Coordination and exchange with the authorities of neighboring countries should be encouraged, particularly in combatting criminal networks.

IPIS recommends opening legal buying offices in the provinces and facilitating mineral export formalities at key border crossing points, in compliance with national and international law. The fight against corruption and impunity will have to be ramped up at both borders and national and international airports, if it is to be effective.

C. STRENGTHENING FORMALIZATION OF ARTISANAL MINERS AND MINE WORKERS, AS WELL AS THE ROLE OF WOMEN, IN THE MINERAL SUPPLY CHAIN

The CAR's national authorities, as well as its technical and financial partners, have long been advised to address the issue of artisanal mining with a view to formalizing and supervising it, whilst supporting initiatives aimed at strengthening the role of women as key actors in artisanal mining.

Enabling the many Central African families who live from the minerals exploitation to meet their needs in a dignified and secure manner, whilst supporting the State to recover taxes and export duties is key to supporting the development of the country's economy. To this end, an assessment of the effects of the recent reduction in taxes and duties should be considered in 2020.

In addition, continuing efforts to formalize mining activities at the level of site manager or site foreman (including women) as well as the various capacity building projects run by the different ministries and other key actors in the sector should be encouraged.

A real effort is also needed to augment the recording of production at mining site level. Initiatives for local redistribution of mining funds based on locally recorded production could provide incentives for site managers to honestly declare their production and could be tested via a pilot projects. Such initiatives could also encourage and facilitate formal and transparent pre-financing mechanisms.

For example, the establishment of financing and equipment banks in mining areas would support key actors in the production chain, including women who are particularly present and active in the gold sector. Indeed, in many places, lack of equipment and pre-financing hampers the development of production and leads to a deterioration of working conditions and an increase in the risks associated with artisanal mining.

IPIS also recommends the implementation of the Code for Risk Mitigation in Artisanal and Small-scale Mining, Engaging in Formal and Transparent Trade (CRAFT). The implementation of CRAFT would accelerate the compliance of Central African artisanal minerals with international standards in terms of the due diligence expected by downstream actors in the supply chain.

Among the first steps to be taken within the framework of CRAFT implementation, IPIS suggests sensitizing actors in the sector to the advantages of CRAFT and their duty of care under that code. It also recommends putting in place a national strategy aimed at reducing and eliminating the worst forms of child labor at mining sites, and implementing a national policy to promote women's involvement in the management of mining sites, notably by appointing them as site managers.

The elaboration of a national action plan between the Central African State and partners in the gold sector promoting the development of artisanal mining would facilitate further support from technical and financial partners. Other approaches to be considered in promoting legal minerals flows from the artisanal mining and trading community include allowing the Central African Government to purchase a certain proportion of artisanal gold production, relaunching the national comptoir project known as COMIGEM (*Comptoir des Minéraux et Gemmes*) or promoting the opening of decentralized purchasing offices based in sub-prefectoral towns.

D. STRENGTHENING ENVIRONMENTAL PROTECTION AGAINST THE HARMFUL EFFECTS OF MINING ACTIVITY

Greater coordination between the Environment Department of the Ministry of Mines and Geology and the Ministry of Environment to reinforce implementation of the specifications imposed on semi-artisanal mining companies is encouraged. The use of available sequestration funds for the rehabilitation of abandoned mining sites should also be encouraged and systematized, as should implementation of a law on the polluter-pays principle.

Good environmental practices should also be promoted, in particular the permanent abandonment of gold amalgamation techniques using mercury. Whilst still rare on artisanal mining sites in western CAR, mercury has nevertheless been observed on several occasions in the context of semi-mechanized mining in this region.

There is an urgent need for awareness raising campaigns against the use of mercury in artisanal mining, including through promotion of the practical guide published by the United Nations, which includes solutions to enhance the quality and concentration of artisanal gold production without using mercury.¹⁷⁴

Finally, transparency with regard to conditions for obtaining permits and effective monitoring of the activities and production of semi-artisanal mining companies and mining cooperatives should be encouraged.

E. PRIORITIES FOR CIVIL SOCIETY AND INTERNATIONAL PARTNERS FOR RESPONSIBLE MINING DEVELOPMENT

Strengthening the Central African State's control over its minerals supply chain requires continuing efforts to understand the artisanal mining sector, including via repeat and more geographically expansive field visits to map the landscape of artisanal mining sites nationwide. When conducted in partnership with the Ministry of Mines and Geology together with members of Central African civil society, such visits help to build the capacity of numerous actors whilst offering a shared understanding of the sector's challenges.

IPIS also suggests promoting the involvement of civil society and journalists for constructive advocacy around the implementation of the duty of care and the CRAFT, notably through the organization of inclusive and participatory workshops during the elaboration of the national action plan for the formalization of the gold sector.

Technical and financial partners are encouraged to respond to existing training and capacity-building needs in respect of CRAFT implementation, best practices in strengthening artisanal gold production without the use of mercury, popularization of legal texts, access to finance, strengthening formalization (particularly for women who play a key role in the gold supply chain) and the fight against crime or the worst forms of child labor on mine sites.

¹⁷⁴ See in particular *Chapitre 2.6 Procédés sans mercure* (p. 48 and so on) from the United Nations guide entitled *Réduire l'utilisation du mercure dans le secteur de l'orpaillage et de l'exploitation minière artisanale*, 2012, UNEP available at: https://wedocs.unep.org/bitstream/handle/20.500.11822/11478/GuidePratiqueReduireL%27UtilisationdeMercure_FR.pdf?sequence=1&isAllowed=y accessed on 28 January 2020.

VI. APPENDICES

A. I: DECREE OF 23 JULY 2019 ON EXPORT DUTIES

LOI DE FINANCES RECTIFICATIVE 2019

PREMIERE PARTIE

CONDITIONS GENERALES DE L'EQUILIBRE FINANCIER

TITRE I

DISPOSITIONS RELATIVES AUX RESSOURCES

I. DISPOSITIONS DOUANIÈRES

DES DROITS A L'EXPORTATION DU DIAMANT

Article 11 : Les dispositions de l'article 12 de la Loi de finances rectificative pour l'année 2018, relatives aux droits à l'exportation du diamant sont modifiées ainsi qu'il suit :

AU LIEU DE : Art.26

Tarif	Libellé simplifié	Taux
71 02	Diamant brut	5,75% de la Valeur d'expertise BECDOR
71 08	Diamant travaillé	2,75% de la Valeur Transactionnelle
71 08	Or brut	2,25% de la Valeur BECDOR
	Or travaillé	1,75% de la Valeur Transactionnelle

L'exportation du diamant brut et de l'or est assujettie au paiement des droits et taxes dont les taux cumulés sont fixés à 5,75% pour le diamant et 2,25% pour l'or et se décomposent comme suit :

a/ Pour le Diamant

Droit de Sortie (DS)	4%
Taxe de Promotion Minière (TPM)	0,75%
Frais de Certification / Bureau Permanent du Processus de Kimberley	0,50%
Redevance Equipement Informatique	0,50%

LIRE : Art.26

Tarif	Libellé simplifié	Taux
71 02	Diamant brut	4% de la Valeur d'expertise BECDOR
71 08	Diamant travaillé	2,75% de la Valeur Transactionnelle
71 08	Or brut	2,25% de la Valeur BECDOR
	Or travaillé	1,75% de la Valeur Transactionnelle

L'exportation du diamant brut est assujettie au paiement des droits et taxes dont le taux cumulé est fixé à 4% et se décompose comme suit :

a/ Pour le Diamant

Droit de Sortie (DS)	2,25%
Taxe de Promotion Minière (TPM)	0,75%
Frais de Certification / Bureau Permanent du Processus de Kimberley	0,50%
Redevance Equipement Informatique	0,50%

Le reste sans changement.

DEUXIEME PARTIE
MOYENS DE SERVICES
ET DISPOSITIONS DIVERSES

TITRE I

MOYENS DE SERVICES

BUDGET GENERAL

Article 17 : Les crédits ouverts au titre du collectif budgétaire de l'Etat pour l'exercice 2019 sont arrêtés à 262 494 593 000 F CFA, et se décompose comme suit :

- Dépenses de Personnel :	63 473 193 000 F CFA;
- Dépenses de biens et services :	42 268 265 000 F CFA;
- Dépenses en Frais financiers :	6 403 700 000 F CFA;
- Dépenses d'Intervention :	38 702 623 000 F CFA;
- Dépenses d'Investissement :	93 079 542 000 F CFA;
- Dépenses de Remboursement de la Dette :	18 567 270 000 F CFA.

- TITRE II

DISPOSITIONS DIVERSES

Article 18 : La date limite des engagements des crédits du budget de l'Etat pour l'exercice 2019 est fixée au 15 novembre 2019.

Article 19 : La date limite des ordonnancements pour l'exercice 2019 est fixée au 15 décembre 2019.

Article 20 : La période complémentaire court du 1^{er} au 31 janvier 2020.

Article 21 : Les dispositions des Lois de Finances antérieures non expressément abrogées restent en vigueur.

Article 22 : La présente Loi, qui prend effet à compter de la date de sa signature, sera enregistrée et publiée au Journal Officiel de la République Centrafricaine et ~~3~~ communiquée partout où besoin sera./-

Fait à Bangui, le 23 JUL. 2019



Professeur Faustin Archange TOUDERA

B. 2: SUSPENSION OF MINING ACTIVITIES NEAR BOZOUUM

MINISTRE DES MINES ET DE LA
GEOLOGIE

DIRECTION DU CABINET

DIRECTION GENERALE DES MINES



REPUBLIQUE CENTRAFRICAINE

Unité - Dignité - Travail

DECISION N° 004/19/MMG/DIRCAB/DGM. PORTANT SUSPENSION DES ACTIVITES D'EXPLOITATION DES SOCIETES TIAN XIANG, TIAN RUN, MENG ET MAO

LE MINISTRE DES MINES ET DE LA GEOLOGIE

- Vu** la Constitution de la République Centrafricaine du 30 mars 2016;
- Vu** la Loi n° 09.005 du 29 avril 2009, portant Code Minier de la République Centrafricaine ;
- Vu** le Décret n° 16.0218 du 30 mars 2016, portant promulgation de la constitution de la République Centrafricaine;
- Vu** le Décret n° 09.126 du 30 avril 2009, fixant les conditions d'application de la Loi n° 09.005 du 29 avril 2009, portant Code Minier de la République Centrafricaine ;
- Vu** le Décret n° 19.056 du 25 février 2019, portant nomination du Premier Ministre, Chef du Gouvernement ;
- Vu** le Décret n° 19.072 du 22 mars 2019, portant nomination des Membres du Gouvernement et ses modificatifs subséquents ;
- Vu** le Décret n° 16.301 du 28 Juillet 2016, portant adoption du Cadre Organique de l'Administration Centrafricaine ;
- Vu** le Décret n° 15.102, du 23 mars 2015, portant organisation et fonctionnement du Ministère des Mines, de l'Energie et de l'Hydraulique et fixant les attributions du Ministre ;

SUR RAPPORT DU DIRECTEUR GENERAL DES MINES

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Website : www.mines.gouv.cf

DECIDE

Article 1^{er} : Les activités d'exploitation des Sociétés Minières TIAN XIANG, TIAN RUN, MENG et MAO basées à BOZOUUM sont suspendues jusqu'à nouvel ordre.

Motif : Non respect des textes qui régissent les activités minières en République Centrafricaine, notamment le manquement aux obligations relatives à la protection de l'environnement.

Article 2 : Les sociétés TIAN XIANG, TIAN RUN, MENG et MAO ne reprendront leurs activités qu'après avoir rempli toutes les conditions exigées par la Loi et règlement en vigueur.

Article 3 : Le Directeur Général des Mines et le Commandant la Compagnie de l'Unité Spéciale Anti-Fraude sont chargés, chacun en ce qui le concerne de la stricte application des dispositions de la présente Décision.

Article 4 : La présente Décision prend effet à compter de la date de sa signature et sera notifiée aux intéressées.

Fait à Bangui, le 25 MARS 2019



Leopold MBOU-FATRAN
Ministre des Mines et de la Géologie

Ampliations :
SEM PR/CE.....ATCR
SEM PM/CG.....ATCR

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