

# **Artisanal Gold Monitoring Pilot**

## **Monitoring report**

# **Artisanal Gold Monitoring Pilot in Mambasa, Ituri**



*Project funded by the Public-Private Alliance for Responsible Minerals Trade (PPA)*

# EDITORIAL

## Artisanal Gold Monitoring Pilot in Mambasa, Ituri

Antwerp, September 2017

**Cover picture:** Mining in Mambasa (Photo: IPIS)

**International Peace Information Service** (IPIS) is an independent research institute, providing governmental and non-governmental actors with information and analysis to build sustainable peace and development in Sub-Saharan Africa. Research is centred around four programmes: Natural Resources, Business & Human Rights, Arms Trade & Security, and Conflict Mapping.

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# EXECUTIVE SUMMARY

Following the adoption, in 2010, of the US Dodd-Frank Act, with its section 1502 on conflict minerals, various initiatives to monitor DRC's artisanally mined resources arose. These initiatives are mainly aimed at the so-called 3Ts (tin, tungsten and tantalum) and only few address gold mining. Yet, most of the artisanal mines in DRC are auriferous. Based on data collected between 2013 and 2015 on 1615 mines in Eastern DRC, IPIS estimates that around 80% of artisanal miners work in gold mines.<sup>1</sup>

In April 2016, the Public Private Alliance for Responsible Minerals Trade (PPA) granted IPIS funds to implement a pilot monitoring system for gold production and trade in eastern DRC. The objectives were, firstly, to enhance local capacities to monitor gold supply chains using a system that balances data accuracy with safety, security, and cost; and secondly to facilitate access to useful data for a variety of stakeholders supporting sector transparency, good governance and responsible sourcing. This monitoring pilot project is IPIS' contribution to the gradually rising efforts to improve the transparency and traceability of Congolese artisanal gold.

Following the development of the monitoring methodology, outreach to local and regional stakeholders and capacity-enhancement of the monitoring partners, the pilot was executed during six months in Mambasa (Ituri province) between January and June 2017.<sup>2</sup> Each month three teams of trained surveyors visited around 10 sites each during 8 to 10 day-monitoring missions. After three months all sites were revisited to verify data and identify trends and evolutions. In total, 92 sites around the Mambasa artisanal gold trading hub were visited twice by the monitoring teams; a first time during the dry season and a second time in the rainy season. The IPIS project team supervised this data collection (through a project Focal Point in Bunia and from Antwerp, Belgium), verified accuracy and viability, and undertook in-depth analysis. The most important findings are highlighted and explained in this report and visualised on an interactive webmap.<sup>3</sup>

## Key findings in the light of the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas

Based on the monitoring data, IPIS assesses the pilot's focal zone in Mambasa territory as an area with great potential for responsible sourcing, with a number of outstanding challenges that remain to be overcome. Annex II of the OECD Guidance identifies six types of risks that are intolerable, meaning that they are a reason for immediately suspending or discontinuing engagement with upstream suppliers:

1 IPIS, *Analysis of the interactive map of artisanal mining areas in eastern DR Congo, 2015 update*, Antwerp, October 2016, p.4 ([http://ipisresearch.be/wp-content/uploads/2016/10/Mapping-minerals-in-eastern-DR-Congo\\_v005.pdf](http://ipisresearch.be/wp-content/uploads/2016/10/Mapping-minerals-in-eastern-DR-Congo_v005.pdf)).

2 The progress report of Phase I, II and III are available on:  
<http://www.resolv.org/site-ppa/ipis-data-collection-at-artisanal-gold-trading-hubs/>.

3 This map can be found through this link: [http://ipisresearch.be/mapping/webmapping/webmap\\_ppa/index.html](http://ipisresearch.be/mapping/webmapping/webmap_ppa/index.html).

- Any forms of torture, cruel, inhuman and degrading treatment;
- Any forms of forced or compulsory labor;
- The worst forms of child labor;
- Other gross human rights violations and abuses such as widespread sexual violence;
- War crimes or other serious violations of international humanitarian law, crimes against humanity or genocide;
- Direct or indirect support to non-state armed groups.

On the 92 monitored mines in Mambasa one case of torture by an armed actor was reported, while no forms of forced or compulsory labour were identified. On 11 sites, surveyors registered children under the age of 15 involved in the production process. This did however not constitute worst forms of child labor as they performed generally non-hazardous tasks such as washing, panning and sieving. Sexual abuse of women was reported on 7 sites, in one instance by undisciplined military elements and in 6 cases by miners or unidentified men. Finally, no war crimes were observed and none of the 92 monitored sites was assessed by the monitoring teams as directly or indirectly supporting non-state armed groups. This stands in stark contrast to many other mining areas in Eastern DRC, where IPIS overall observed a regular or irregular presence by at least one non-state armed group on 25% of the 1 615 mines, visited between 2013 and 2015.<sup>4</sup>

Besides these ‘red flags’ there are four other categories of Annex II risks that actors subscribing to the OECD Guidance agree to eliminate.

- Direct or indirect support to public or private security forces;
- Bribery and fraudulent misrepresentation of the origin of minerals;
- Money laundering;
- Non-payment of taxes, fees and royalties to governments.

In the rainy season monitoring visits, between January and March 2017, surveyors observed an FARDC presence (typically weekly) in 17 sites out of 92.. In 9 of them, FARDC was levying a tax of 500 FC (around 0,33 USD) per week per miner. In the rainy season, the FARDC presence dropped to 8 sites and tax collection was reported on 4 of them. Over the entire monitoring period agents from the national police force (PNC) were reported on 10 sites, yet always in the framework of law enforcement and there were no reports of illegal taxation. These remain however issues that are difficult to unravel and would therefore benefit from a continued monitoring system or incident reporting mechanism. In the light of the informality of the sector acts of bribery, money laundering and non-payment of taxes are difficult to monitor. There is a need for comprehensive transparency or traceability initiatives that allow detecting and ruling out such issues determinatively.

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<sup>4</sup> IPIS, *Analysis of the interactive map of artisanal mining areas in eastern DR Congo, 2015 update*, Antwerp, October 2016, p. 19.

# LIST OF ACRONYMS

<b>3T</b>	Tin, Tantalum and Tungsten
<b>AFM</b>	Administrateur de Foyer Minier
<b>ANR</b>	Agence Nationale des Renseignements
<b>CAMI</b>	Cadastre Minier
<b>CB</b>	Commandant de Brigade
<b>CBRMT</b>	Capacity Building for Responsible Minerals Trade
<b>CEEC</b>	Centre d'Evaluation, d'Expertise et de Certification des substances minérales précieuses et semi précieuses
<b>CODEMA</b>	Coopérative de Développement des Exploitants Miniers Artisanaux
<b>CONORI</b>	Coopérative des négociants d'or de l'Ituri
<b>DG</b>	Directeur Général
<b>DGI</b>	Direction Générale des Impôts
<b>DGM</b>	Direction Générale de Migration
<b>DGRPI</b>	Direction Générale des Recettes de la Province de l'Ituri
<b>DIVMIN</b>	Division des Mines
<b>DRC</b>	Democratic Republic of Congo
<b>FARDC</b>	Forces Armées de la République Démocratique du Congo
<b>FC</b>	Franc Congolais
<b>FFN</b>	Fonds Forestier National
<b>Energy</b>	Service de l'Energie
<b>Environment</b>	Service de l'Environnement
<b>ICGLR</b>	International Conference of the Great Lakes Region
<b>IDP</b>	Internally Displaced Person
<b>ILO</b>	International Labour Organisation
<b>IPIS</b>	International Peace Information Service
<b>ITOA</b>	Initiative de Traçabilité de l'Or de l'Exploitation Artisanale
<b>MONUC</b>	Mission de l'Organisation des Nations unies en République démocratique du Congo
<b>OECD</b>	Organisation for Economic Cooperation and Development
<b>PAC</b>	Partnership Africa Canada
<b>PDG</b>	Président Directeur Général
<b>PNC</b>	Police Nationale Congolaise
<b>PPA</b>	Public Private Partnership for Responsible Minerals Trade
<b>SAESSCAM</b>	Service d'Assistance et d'Encadrement du Small-Scale Mining
<b>SG</b>	Secrétaire Général
<b>USD</b>	US Dollar
<b>ZEA</b>	Zone d'Exploitation Artisanale

# 1. INTRODUCTION

One of the key complexities of artisanal mining in Eastern DRC lies in the field of tension between its importance as livelihood for millions of Congolese and its central role in conflict financing. The last decade has seen burgeoning interest in addressing this complexity and supporting responsible sourcing from the DRC, particularly for the so-called 3Ts (tin, tantalum and tungsten).

Artisanal gold is lagging far behind in these endeavours.<sup>5</sup> A number of its specific features – such as fungibility, its use as currency, and high value-to-volume ratio – render artisanal gold particularly hard to capture or trace. Moreover, low margins in the gold supply chain pose economic challenges to securing both the financial feasibility of responsible sourcing and incentives to engage in licit gold trade. Another DRC-specific obstacle is the low number of gold mines that have been qualified ‘green’ by the joint mine site validation missions that check conformance with the Regional Certification Mechanism of the International Conference of the Great Lakes (ICGLR). Since 2011, 20 such missions have been undertaken and visited 53 gold mines (compared to 355 3T-sites), of which 42 were categorised as ‘green’.<sup>6</sup> The thousands of other gold mines in Eastern DRC tend to be considered guilty until proven innocent.

All these elements taken together make it nearly impossible for downstream actors seeking to source artisanal gold from the region, to know with reasonable certainty that they are not contributing to conflict financing or serious human rights violations. A number of actors are making important strides to catch up with this backlog by testing and trying dedicated traceability and/or certification schemes for artisanal gold. These include Partnership Africa Canada (PAC) with its Just Gold pilot in Mambasa,<sup>7</sup> Tetra Tech’s Capacity Building for a Responsible Minerals Trade (CBRMT) project, BGR’s (Federal Institute for Geosciences and Natural Resources) gold pilot in Kampene, and the ITOA scheme (Initiative de Traçabilité de l’Or de l’Exploitation Artisanale) of the Congolese Centre d’Evaluation, d’Expertise et de Certification des substances minérales précieuses et semi précieuses (CEEC).

IPIS wants to deliver its contribution to these rising efforts by improving local capacities to monitor due diligence criteria on artisanal gold mine sites and by facilitating access to relevant and reliable data. Enhancing transparency and data provision regarding artisanal gold production and flows, working conditions, socio-economic impact, (illicit) taxation as well as security, are essential to supporting credible and effective responsible gold supply chains. For these reasons, IPIS designed a straightforward and low-cost methodology that combines capacity-enhancement of local civil society and mining agents on the one hand, with an accurate monitoring system on the other. This ensures a continuous data flow that captures the dynamic nature of activity at the level of an important artisanal gold trading hub and the mine sites feeding into it.

Following a short introduction into IPIS’ Artisanal Gold Monitoring Pilot and its methodology in section two (more detailed information can be found in the three pilot progress reports),<sup>8</sup> a third section of this monitoring report gives some relevant background to the security context in Mambasa. The fourth and main section sets out the key findings from piloting this monitoring system during six months (between January and June 2017) in Mambasa, Ituri. The results, which cover both the dry and rainy season, are subdivided into six parts.

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5 This is exemplified by the finding of IPIS 2013-2015 survey of artisanal mining areas in eastern DRC that about 21 % of artisanal 3T miners work under the influence of armed actors, compared to 64 % in the gold sector, in IPIS, *Analysis of the interactive map of artisanal mining areas in eastern DR Congo, 2015 update*, Antwerp, October 2016, p.4.

6 Ministry of Mines and GIZ, *A summary of the mine site validation/inspection mission in the DRC from 06-2011 to 01-2017*, May 2017. See also IPIS interactive webmap on artisanal mining in Eastern DRC which includes the latest update of validated sites: <http://www.ipisresearch.be/mapping/webmapping/drcongo/v4/>.

7 In May 2017, PAC announced that its “Just Gold” project succeeded, as the first actor in DRC, to trace conflict-free artisanal gold from mine site to export in adherence to regional and international standards. See <http://pacweb.org/en/pac-media/press-releases/279-first-responsible-and-conflict-free-artisanal-gold-supply-chain-operational-in-eastern-congo>.

8 See: <http://www.resolv.org/site-ppa/ipis-data-collection-at-artisanal-gold-trading-hubs/>.

A first subsection (4.1.) sheds light on the geography of the mines in the focal area. It includes baseline data on the number of sites visited, their location, the type of exploitation, the accessibility of mines, and their legal status.

This is followed by an account of the mining activities on the sites feeding into the Mambasa trading hub (section 4.2.). This covers the ins and outs of managing the mines, organising the work, the production process and issues of health and safety.

An analysis of the broader socio-economic context of mining in the focal area is given in section 4.3. Observations and trends are elucidated regarding migration of workers, the organisation of life on the mines, the distribution of wealth, the role and position of women, the presence of children and social tensions.

Section 4.4 focuses on gold trade on mine sites and to trade centres in and around Mambasa. It describes the use of gold as currency, modus operandi of traders, origin and destination of flows, and prices.

The presence of state services and issues of taxation are discussed in section 4.5. This clarifies which agencies frequent mine sites, which levy taxes, how much and in what manner.

Section 4.6 covers the issue of security and armed groups. It analyses the stability in the region, presence of state and non-state armed groups on mine sites and whether and how they interfere with production and trade.

Finally, the conclusion summarises the main findings of this report.

## 2. METHODOLOGY

IPIS' Artisanal Gold Monitoring Pilot has two **overall objectives**. Firstly, it aims to enhance local capacities for monitoring gold supply chains according to a system that balances data accuracy with safety/security, and cost. Secondly, IPIS hereby strives to facilitate access to useful data for a variety of stakeholders in support of sector transparency, good governance and responsible sourcing. In light of these objectives, the pilot's life cycle consisted of three distinct phases.

A **first phase** was dedicated to the development of the monitoring methodology as well as the selection of a pilot hub following robust situational awareness. The latter was based on a number of indicators, including security, accessibility, trade and production volumes, number of mine sites feeding into the hub, their legal status, number of workers, the general absence of Annex II risks as per the OECD Due Diligence Guidance<sup>9</sup>, and the presence and capacity of civil society and state mining agents (such as SAESSCAM<sup>10</sup> or Division des Mines). Based on IPIS' database of over 2000 mine sites in Eastern DRC, desk-research, various consultations with partners and stakeholders, and prospection missions, the number of hubs for potential selection was first narrowed down to four, and eventually led to the selection of Mambasa in Ituri as pilot site.<sup>11</sup>

In the **second phase** IPIS prepared the ground for the pilot's implementation through local outreach and capacity enhancement. This simultaneously served to gain trust and buy-in from local stakeholders, sensitise them on the nature, scope and meaning of responsible sourcing, and build the capacity of civil society and state agent surveyors. The centrepiece of this phase was a five-day training on responsible sourcing and mine site monitoring in Mambasa, Ituri, in December 2016. The latter formed the basis for continuous capacity-enhancement of ten surveyors throughout the third phase, by the IPIS Focal Point in Bunia, an experienced IPIS surveyor, and the project team in Belgium.<sup>12</sup> IPIS specifically opted to work with organisations and people that work and live in the mining areas of Mambasa. In our experience, this is where the monitoring capacities and awareness on due diligence criteria are most missing and needed, with an eye to both sustainable monitoring and genuine adherence to responsible sourcing.

The actual implementation of the Artisanal Gold Monitoring Pilot formed the focus of **phase three**. Between January and June 2017, five joint monitoring teams monitored over 100 sites around the trade hub of Mambasa. Each team was composed of one civil society and one SAESSCAM representative. This composition is based on IPIS' long-standing experience with mapping mine sites in Eastern DRC. It exploits the complementarity between the authority offered by SAESSCAM agents and the societal watchdog role of civil society.

Both members of the **monitoring teams** have joint and individual responsibilities. Together they make the necessary observations and conduct interviews to gather the baseline data of each mine site and selling point/trading house. Thereupon, they separate on each mine site, with the SAESSCAM representative gathering more information on the operational aspects of artisanal gold mining, and the civil society member digging deeper into due diligence criteria. This division of roles best matches their respective mandates and areas of expertise. Each surveyor is equipped with a mobile phone to capture coordinates of mines and to register the monitoring data after their visit. In this manner, all mining site were visited twice during the monitoring period, once in the dry season and a second time in the rainy season. This allowed verifying the viability of data points, detecting tendencies and evolutions as well as making comparisons between mining activity in different sites and at different time periods.<sup>13</sup>

9 Annex II risks under the OECD Due Diligence Guidance for Responsible Chains of Minerals from Conflict-Affected and High-Risk Areas include torture, forced labour, sexual violence, direct or indirect support to non-state armed groups,

10 *Service d'Assistance et d'Encadrement du Small-Scale Mining*.

11 For a more complete report of this hub selection process, please see the Phase I Progress Report:  
<http://www.resolv.org/site-ppa/ipis-data-collection-at-artisanal-gold-trading-hubs/>.

12 See the Phase II Progress Report for more details on this outreach and capacity enhancement:  
<http://www.resolv.org/site-ppa/ipis-data-collection-at-artisanal-gold-trading-hubs/>.

13 For more on the implementation of this monitoring pilot, please see the Phase III Progress report:  
<http://www.resolv.org/site-ppa/ipis-data-collection-at-artisanal-gold-trading-hubs/>.

### **3. SECURITY CONTEXT OF MAMBASA**

Mambasa is the biggest of five territories that make up the province of Ituri. Ituri belongs to the former Orientale Province and lies in the Northeast of DRC. It shares two international borders, both porous, a long one with Uganda and a short one with South Sudan. Mambasa's vast surface (36 783 km<sup>2</sup>) is larger than both Rwanda and Burundi, and is roughly the size of Belgium or the US state of Indiana. It borders North Kivu to the South, Tshopo to the West and Haut-Uélé in the North. The territorial capital is also named Mambasa and lies at 160 km southwest from Bunia, the provincial capital. Mambasa town lies at the crossroad of the RN4 and RP430, two roads that connect Mambasa with Kisangani, Beni and Bunia. To the west of Mambasa territory lies the Okapi Wildlife Reserve, a World Heritage Site that covers over one third of the territory.



If its central position represents an opportunity for the development of the area today, it also dragged Mambasa into a **devastating war that ravaged Ituri between 1999 and 2005** and killed an estimated 50 000 people.<sup>14</sup> The roots of this war are to be found in a tribal conflict for land between Lendu and Hema in the Djugu and Irumu territories of Ituri. Cyclic tensions between these two groups grew to an unprecedented proportion in 1999. Conflict spread rapidly to the whole province, multiplying the number of armed groups involved. Many of these sought ways to exploit Ituri's natural resource wealth. In fall of 2002, widespread atrocities in Mambasa caused the displacement of over 100 000 people.<sup>15</sup> Despite the arrival of UN troops (MONUC)<sup>16</sup> in Bunia, supported by the French contingent of the European Union's operation "Artemis" in mid-2003 and several attempts of disarmaments of armed groups in 2004, the peace-building process did not begin before 2005.

While the war had ended, FARDC presence remained in the area and several **armed groups** kept operating in its auriferous areas. The UN Group of Experts reported in 2010 that officers working for the FARDC General Amisi were involved in Mambasa's artisanal mining sector and allegedly smuggled the gold across the border to Uganda.<sup>17</sup> The Mai-Mai Simba, a notorious armed group formerly led by Paul Sadala, alias "Morgan", were another key actor preying on Mambasa's gold.<sup>18</sup> Using the Okapi Wildlife Reserve as their operating base,<sup>19</sup> this rebel group attacked the town of Mambasa in January 2013, looting goods and money and raping and mutilating some 50 women.<sup>20</sup> In October of the same year, after a violent campaign, Morgan took control of the important gold mining site of Muchacha mine, inside the Okapi wildlife reserve, where at some point over 8,000 people were living and working.<sup>21</sup> In April 2014, Morgan died in obscure conditions while he was surrendering to the FARDC amidst the declining influence of his group.<sup>22</sup> Thereupon, the group has split in two fractions, one led by his brother Mangaribi and another led by one of his lieutenants Manu.<sup>23</sup> In 2015, IPIS' mine visits revealed that Mangaribi's men were still involved in the gold trade at a few dozen mines in Mambasa territory.<sup>24</sup>

However, their influence is declining rapidly. In May 2016, the UN Group of Experts located their activities of looting gold and money from diggers around three main roads: Mambasa-Biakato, Mambasa-Nia Nia and Nia Nia-Isiro.<sup>25</sup> The on-going expansion of FARDC presence and control has been pushing the splinter groups ever further back along these axes. While the Teturi bridge still marked the de facto border of the zones controlled by the rebels and the regular army at the time of IPIS' first progress report (September 2016), FARDC has meanwhile expanded its control up until Biakato and beyond. The situation has also significantly improved on the Mambasa-Nia Nia axis. After several fights, the FARDC offensive has been successful in pushing the Mai-Mai ever further to the West, regaining control over the Muchacha mine.<sup>26</sup>

14 Vircoulon T., "L'Ituri ou la guerre au pluriel", Afrique Contemporaine, n° 2005/3, Paris, 2005, p.129.

15 Le Monde, Actes de cannibalisme au Congo , 26 February 2003; BBC News, DR Congo pygmies appeal to UN, , 23 May 2003, <http://news.bbc.co.uk/2/hi/africa/2933524.stm>; UN Security Council, *Report of the United Nations High Commissioner for Human Rights to the Security Council on the situation of human rights in the Democratic Republic of Congo*, S/2003/216, 13 February 2003, §18-27

16 French acronym of Mission de l'Organisation des Nations Unies du Congo.

17 UN Group of Experts on the DRC, *Final report*, S/2010/596, November 2010, §247

18 The UN Group of Experts reports from 2012 to 2014 give a detail account of the numerous perpetrations of the Mai-Mai led by Morgan. See footnotes below.

19 In 2012 Morgan even took control of the park: UN Group of Experts on the DRC, *Final report*, S/2012/843, November 2012, §128 and also Radio Okapi, *Ituri: des Combattants Mai-Mai contrôlent la réserve de faune à Okapi*, 24 June 2012, <http://www.radiookapi.net/actualite/2012/06/24/ituri-des-combattants-mai-mai-controlement-la-reserve-de-faune-okapi>.

20 UN Group of Experts, on the DRC, *Midterm report*, S/2013/433, July 2013, §73.

21 IPIS, *Analysis of the interactive map of artisanal mining areas in eastern DR Congo: 2015 update*, October 2016, p. 25; E. Stokes « The struggle to save the Congolese unicorn », America Al-Jazeera, 23 February 2015.

22 RFI, *Le chef rebelle Morgan tué lors de son transfert à Bunia*, 14 April 2014,

<http://www.rfi.fr/afrigue/20140414-rdc-congo-chef-rebelle-morgan-paul-sadala-mort-tue-fardc>.

23 UN Group of Experts on the DRC, *Final report*, S/2015/19, January 2015, § 116.

24 IPIS, *Analysis of the interactive map of artisanal mining areas in eastern DR Congo: 2015 update*, October 2016, p. 25.

25 UN Group of Experts on the DRC, *Final report*, S/2016/466, May 2016, § 128.

26 Radio Okapi, *Les FARDC récupèrent le foyer de Muchacha*, 4 September 2016

<http://www.radiookapi.net/2016/09/04/actualite/en-bref/ituri-les-fardc-recuperent-le-foyer-minier-de-muchacha>

Our monitoring teams identified 18 FARDC camps in strategic locations such as Teturi, Mambasa, Biakato and Mayuano. The average distance between the 92 mines visited by our surveyors and one of these FARDC camps is 13,9 km. This scaled up presence is explained by several local experts and key stakeholders as one of the main reasons for the significantly improved security situation in the area.

## 4. MONITORING DATA

### 4.1. Mine sites baseline

This section outlines the baseline data on the artisanal gold mines in the focal area. It first introduces their geography to help understand the accessibility of the mine sites. This is followed by an overview of the exploitation types and finally an analysis of their legal status.

#### *Site geography and access*

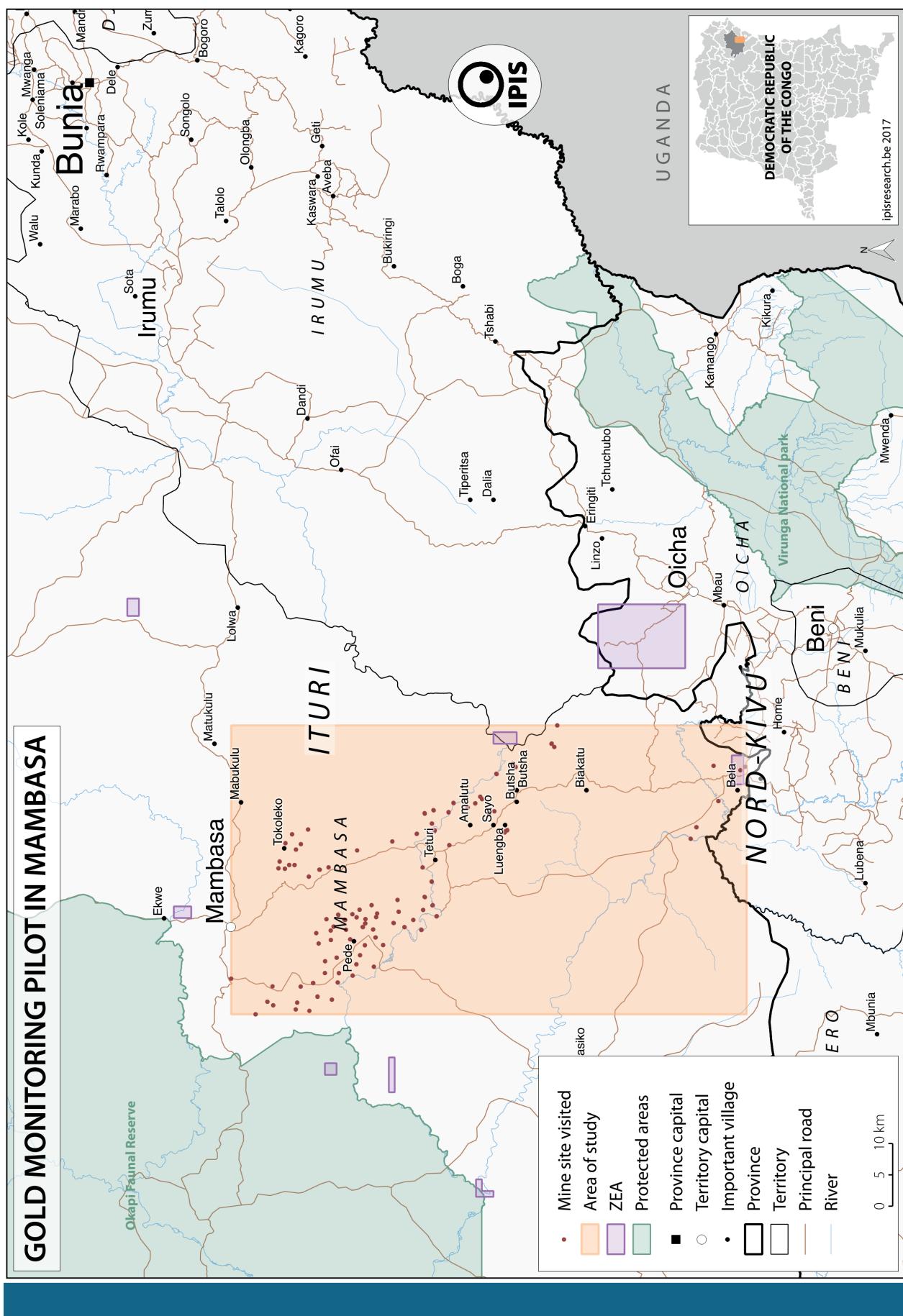
Between January and March 2017 (dry season), the joint monitoring teams visited and monitored 117 mine sites, of which 10 were abandoned.<sup>27</sup> The second set of visits took place in the rainy season, between April and June 2017, during which data was collected from 115 mines, of which 8 were abandoned. Surveyors were instructed to visit the same mine sites in order to observe trends and evolutions. However, it was not always possible to collect follow-up data because miners had abandoned some sites, or mining activity emerged or was identified in new areas during the second monitoring period. Furthermore, in some cases the data from the first and second visits could not be compared because the first team collected data for the whole site, while the second team only took into account one chantier, a smaller entity of the site (see below). In total of all sites visited, **92 mine sites** were monitored in both the dry and rainy season and had at least one mine worker present and active on the site. These 92 sites form the focus of analysis in this report.

Some of the large mines are subdivided in smaller compartments, called '**chantiers**'. In total, surveyors identified 15 such *chantiers*.<sup>28</sup> Given that the various chantiers of a single mine can show very different forms and scopes of activity, we have always used the lowest available level of data in our analyses. In other words, for sites subdivided in *chantiers*, the calculations are done on the level of the latter. This distinction is mainly a cartographic issue. For the sake of clarity we do not make this division in the analysis of this report, meaning that the 92 monitored sites include both mines and *chantiers*.

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27 One site ('Motumo') was initially included in the planning, but had to be excluded later for reasons of insecurity due to the present of Mai-Mai Simba on that mine.

28 13 of them constituted the only area where activity was observed on that respective mine site, the 2 others belonged to the same site (called 'Autochtone').



All mines lie in a sparsely populated area (Mambasa territory has an average of 6 inhabitants per square kilometre),<sup>29</sup> mostly covered by tropical forest. Mambasa is the only major town in the focal area, and the vast majority of the population is spread over small villages. Except for the two main axes that connect Mambasa with Kisangani, Beni and Bunia, roads are nearly non-existent.

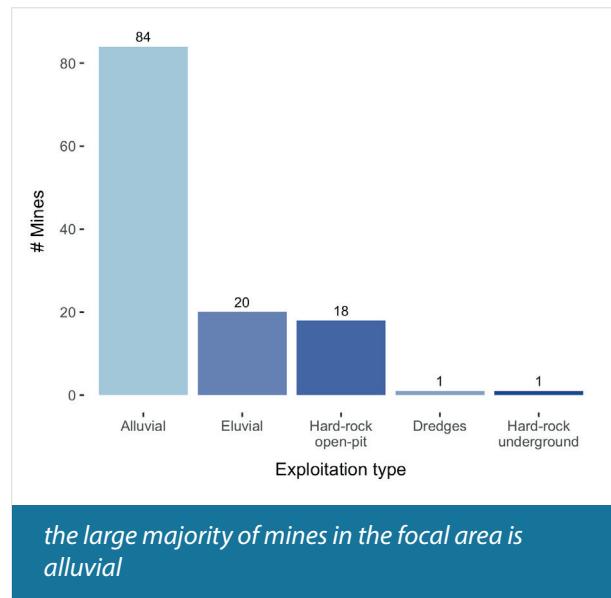
42% of the mines are within a 5 km radius from a village, while 25% are located more than 10 km away from a settlement. The average distance between a mine site and the closest village is 7,34 km. Given that many of the - often narrow - paths leading up to the mine sites meander across hills, forests and waterways, the average travel time can take a bit less than 2 hours (one-way). This **difficult access** is one of the reasons why many miners build their own camps on or close to the sites (see further section 4.3.).

The difficult accessibility is further exacerbated during the rainy season,<sup>30</sup> when access roads are slippery at best or entirely flooded at worst, or simply when the tropical rains makes the walking impossible.

### *Exploitation types*

For this Artisanal Gold Monitoring Pilot IPIS has categorised the type of gold exploitation in four main groups: alluvial, eluvial, hard-rock open-pit mining and hard-rock underground mining. Regularly more than one type is identified on a single site (explaining why the sum of their occurrences set out below is higher than 100%).

A first category is that of **alluvial mining**, where miners dig earth and sand in or along the bed of a river or creek, and process it to extract gold dust or nuggets/flakes. These placer deposits - as they are also called - eroded from their primary ore source and deposited through hydrological systems in riverbeds.<sup>31</sup> Alluvial mining is identified on 91% of the visited mine sites. Its omnipresence is linked to the geography of the area, which is dominated by the Ituri river and its affluents. This type of exploitation is relatively safe, despite existing risks of flooding in mines nearby big rivers. It requests minor efforts and investments in comparison with other exploitation types. Typically the gold is more concentrated than the gold extracted in hard rock mining (see below).<sup>32</sup>



29 IVK Pax Christi and Haki Na Amani, *Un avenir en or en Ituri?*, August 2012, p.9.

30 While the rainy season has been shifting slightly in recent years – reportedly as a consequence of the changing climate – surveyors and Mambasa contacts indicate that it normally runs from April till June, and then again from September to November.

31 Estelle Levin Ltd and WWF, *Methodological Toolkit for Baseline Assessment and Response Strategies to Artisanal and Small-Scale Mining in Protected Areas and Critical Ecosystem*, London, June 2012, p.3.

32 On one big site (Lukusa) in the zone of coverage the riverbed is also scooped by a number of dredges.



Alluvial gold mining in Mambasa (IPIS, 2017)

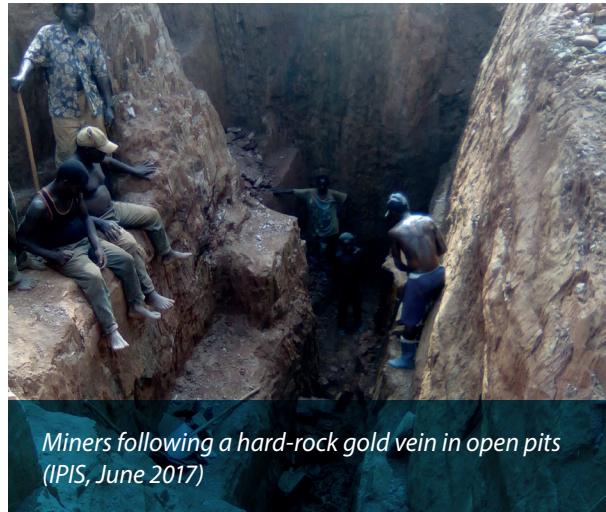
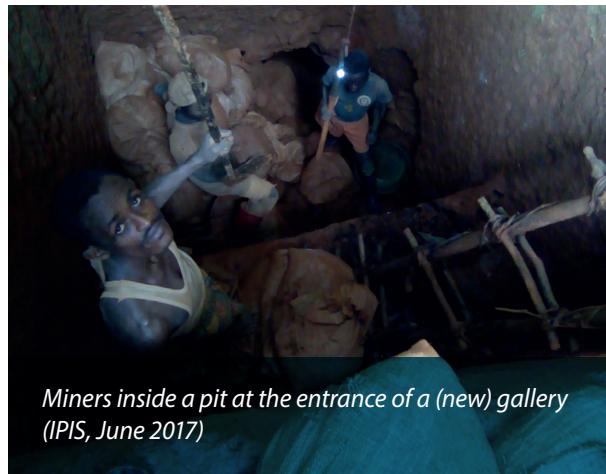
A second category of exploitation is **eluvial mining**. Similarly to alluvial mining, this targets secondary placer deposits that have their origin in the weathering of primary ore.<sup>33</sup> Rainfall and erosion have deposited these reserves on hillsides or flat-lying areas.<sup>34</sup> Here miners sweep the earth and dig shallow pits in search of gold particles. A metal detector is often a useful tool in such endeavours and can facilitate the work considerably. This type of exploitation is done on 22% of the 92 active sites around Mambasa.



Eluvial gold mining in Mambasa (IPIS, June 2017)

33 US Geological Survey, *Methodology Toolkit for Field Assessment of Artisanally Mined Alluvial Diamonds Deposits*, Virginia, 2014, p.3

34 Sometimes, unconsolidated sediments deposited at the base of hill slopes through erosion are referred to as colluvial placer deposits.



Besides these two types of mining for secondary placer deposits, IPIS distinguishes two types of exploitation in primary ore deposits. Such deposits are contained in underground hard rock gold veins. Once identified, miners seek to follow and uncover such veins either by digging several **open pits** along the vein or via **underground galleries**. This requires more equipment to excavate pieces of stone from the rock wall, as well as to crush and pound the debris. The techniques are also more sophisticated. Open pits need to be carefully terraced to avoid landslides or collapses, while galleries or shafts need to be well-supported and equipped with ventilation and dewatering systems. Galleries were identified on only two sites. Hard rock mining in open pits, on the other hand, occurs on 20% of the visited sites.



*Miners following a hard-rock gold vein in open pits  
(IPIS, June 2017)*

## *Legal status of artisanal mines*

The Congolese mining code<sup>35</sup> the *Règlement minier*<sup>36</sup> and some ministerial decrees<sup>37</sup> determine where artisanal exploitation is allowed and for whom. According to the law, artisanal miners need to hold a license, have to be organised into a cooperative that is duly registered by the Ministry of Mines, and work on an **Artisanal Exploitation Zone** (ZEA) designated by the Congolese Mining Cadastral (*Cadastre Minier* or CAMI).

**Cooperatives** can introduce a request for determining an area as ZEA to *Division des Mines*<sup>38</sup> If there is no other concession or title, the Division issues a positive evaluation, registers the coordinates and transfers the file to the provincial governor. If the governor approves the demand, he sends the dossier to the *Cadastre Minier* in Kinshasa. Then, two experts of the CAMI visit the surface, verify the GPS coordinates, and give their conclusion to the Mine Direction (department of the Mine Ministry in Kinshasa).<sup>39</sup> If their opinion is favourable, the National Minister normally approves it and registers the ZEA through a ministerial decree. This process is complex and expensive because it involves many high-level authorities.

This is one of the reasons why there are only 7 (small) artisanal mining zones in the entire territory of **Mambasa**.<sup>40</sup> Furthermore, there exists considerable confusion regarding their actual location. Few mine site managers appear to know whether their mines lie on a ZEA or not, and also the SAESSCAM antennae does not dispose over the necessary information to provide a decisive answer. Another explanation for the limited number of ZEAs and the confusion around their exact location in Mambasa, is the absence of mining cooperatives in the area. In fact, IPIS identified only one cooperative, CODEMA (*Coopérative de Développement des Exploitants Miniers Artisanaux*), uniting various mine site owners (called AFMs or *Administrateur de Foyer Miniers*, see further section 4.2.).

In the absence of more formally registered cooperatives and ZEAs, exploration and exploitation rights are delivered by the Bureau of *Division des Mines* in Mambasa. Such an *Agrément Minier* (Mining Title) costs 450 USD and has to be renewed annually. Another proof of mining rights often shown by mine site owners is the *cahier de charge*. This is an agreement with the local community that authorises their activities (see further 4.2.).

## **4.2. Mining activities**

Based on the data collected by the monitoring teams, this section expands on four different aspects of the mining activities in the focal area: the mine site management, the organisation of work, the production process and the health and safety on the monitored mines.

### *Mine site management*

The mine site management in Mambasa is strongly hierarchical and patriarchal. Even though all sites are different, there are some common characteristics that have strong historical roots and are resistant to change or modernisation.

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35 Journal Officiel de la République démocratique du Congo, *Loi n°007/2002 portant Code Minier*, art 97-114, 15 July 2002, pp 66-71.

36 Décret n°038/2003 du 26 mars 2003 portant Réglement Minier, Kinshasa, 26 March 2003.

37 E.g. Ministère des Mines, *Arrêté ministériel n°0706/CAB.MIN/MINES/01/2010 du 20 septembre 2010 portant mesures urgentes d'encadrement de la décision de suspension des activités minières dans les provinces du Maniema, Nord-Kivu et Sud-Kivu*.

38 Journal Officiel de la République démocratique du Congo, *Loi n°038/2003 portant Règlement Minier*, art 10, 26 March 2003, p. 12.

39 Journal Officiel de la République démocratique du Congo, *Loi n°007/2002 portant Code Minier*, art 109, 15 July 2002, p. 70

40 Ministère des Mines, *Arrêtés Ministériels n°0949-0950-09501-0952-0953-0954-0955 pour les ZEA-490/-489/-484/-481/-480/-479/*, portant institution d'une zone exploitation artisanale dans la province de l'Ituri, Kinshasa, 11 December 2015. The scarcity of ZEAs is a general problem in the DRC. In its 2015 update of the interactive webmap on artisanal mining in Eastern DRC, IPIS identified a mere 15 sites that were located on a ZEA:

<http://www.ipisresearch.be/mapping/webmapping/drcongo/v4/>.

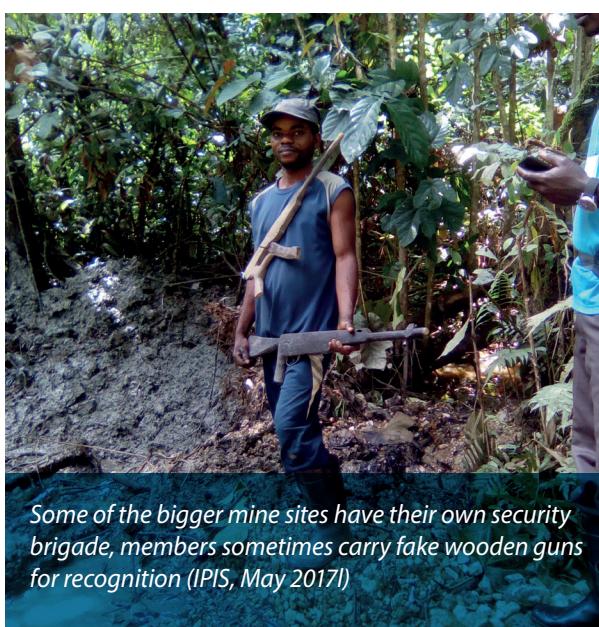
On top of the hierarchy is the **Administrateur du Foyer Minier (AFM)** or claim holder. He (or occasionally she) is the main person in charge of the mine site and manages relations with external actors such as investors, local (customary) authorities and mining agents of SAESSCAM or *Division des Mines*. In the area of focus, 13 AFMs are permanently based on their mine sites, while most (nearly 55%) visit at least once a month. 16 AFMs visit between 1 and 4 times per year, 4 irregularly (for instance only when there is sufficient production) and 9 AFMs never visit their site (typically because they are represented by a family member).

AFMs in Mambasa have organised themselves into the *Coopérative de Développement des Exploitants Miniers Artisanaux (CODEMA)*. This cooperative, which was created and operates under the impulse of SAESSCAM, mainly serves to coordinate and supervise issues of taxation, technical training, health and safety, etc. At present, around 30 AFMs are member of this cooperative. Together with SAESSCAM it is striving to have a more comprehensive membership of AFMs.

AFMs are the ones who submit the request for a prospection title of a certain area to a local chief or council, and if positive, negotiate a right to extract. This right is subsequently recorded in a so-called *cahier des charges* or contract with the local community. The latter stipulates a periodical compensation for the mineral exploitation in the area as well as specific investments in local development projects (such as contributing to the construction of schools, hospitals and roads). Such exploration or exploitation titles have to be formalised by *Division des Mines*, which delimitates the exact perimeter, and are renewed annually.

Another important aspect of the AFM's work is to look for investors in the mining operations on his site. As his income depends on the productivity of the site (see further section 4.3.), the AFM regularly also invests some of his own capital to provide equipment, food and drinks to mine workers. This is especially done in the exploration phase when miners are digging for days/months without much income. In such instances the AFM takes on the role of a *fournisseur* or pre-financer.

Typically, the AFM nominates a **Président Directeur-Général (PDG)** who is the main operational manager of the mine. Regularly, this is a family member or close friend of the AFM. The same goes for the *Directeur-Général (DG)* and *Secrétaire-Général (SG)*, which are functions present on many of the mine sites. Except for representing the AFM and ensuring that he receives his share of the profit, their task descriptions are seldom clear. Generally speaking, they assist the PDG in managing the everyday operational activity on the mine site. Usually, they are pit owners or mine workers with a certain level of authority over their colleagues due to their position on the social ladder. Other positions, such as *Chef de Siège*, *Chef de Camp*, *Commandant de Brigade* (responsible for security on the mine site) or *Chef de Chantier*, are normally not appointed but elected by fellow miners. Together these figures form the mine site management team.



Even though the number and titles of posts might suggest otherwise, work on Mambasa's mine sites is **not particularly organised**. Titles tend to constitute privileges rather than responsibilities, and coordination or planning are random and day-by-day. Most mine site managers do however keep some form of **records**. The big majority (over 90%) registers worker numbers, but only 55% of them also notes down their names (occasionally in the form of a daily attendance record). On about half of the sites production records are kept while sales are only registered on one third. Furthermore, an inventory of tools and machinery is kept by about one in three managers. A number of respondents noted they additionally record the taxes they pay to SAESSCAM (called the '*dîmes*'). Commonly these books are not very structured, confuse units of measurement, or are only updated irregularly. This evidently complicates traceability efforts.

It is one of SAESSCAM's tasks to encourage mine site managers to improve their records. However, the latter often have more to gain from obscurity, especially in their relation with SAESSCAM, which is the entity collecting state taxes on production and controlling that miners hold their licenses ('*cartes de creuseurs*').

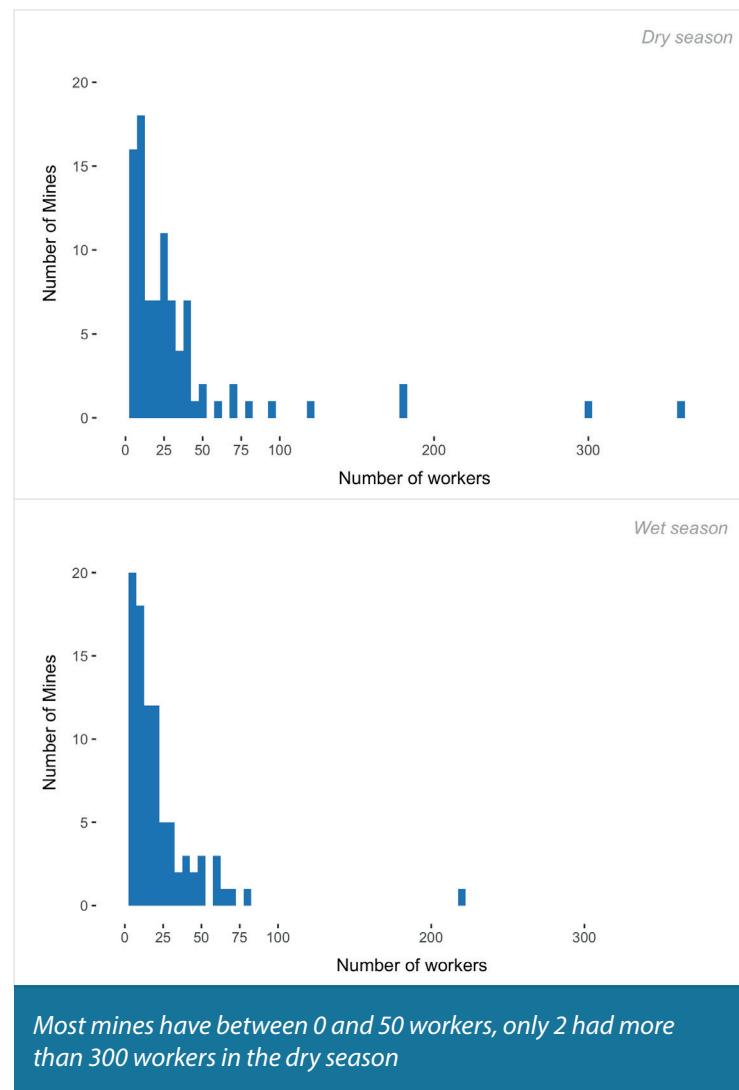
### *Organisation of work*

While there is a great number of mine sites around Mambasa, few are exceptionally large. During the dry season mine sites are on average home to around 33 **miners** working in the different phases of the gold production process. Adding the non-mining workers (such as shop keepers, restaurant holders, butchers, etc.) and dependants of miners, this brings the average working time population to around 45. During the rainy season these figures decreased to respectively 22 and 31. This is mainly due to the heavy rainfall, which makes mining more time-intensive and demanding on a great number of mines sites.

There is **much variety in size** between these sites. Some employ as few as 2 miners, while the biggest mine site was populated by 500 people at the time of the visit, of which 360 were mine workers.

In total, on the 92 sites monitored, our surveyors identified 3 066 workers active in the production process during the dry season (with a total working time population of 4 097), and 2009 during the rainy season (with a population of 2 821).

At a few places some of these workers were digging individually, but mostly mine workers are **organised in teams** (*écuries*) guided by a team leader or a *Chef de Trou* (pit boss). In the focal area there is hardly any division of labour or specialisation between teams. Each team takes care of all the different phases of the gold production process, from prospecting, over digging and crushing to processing. Only the transport of water and rocks is sometimes delegated to others, often to women and children (see below) or people



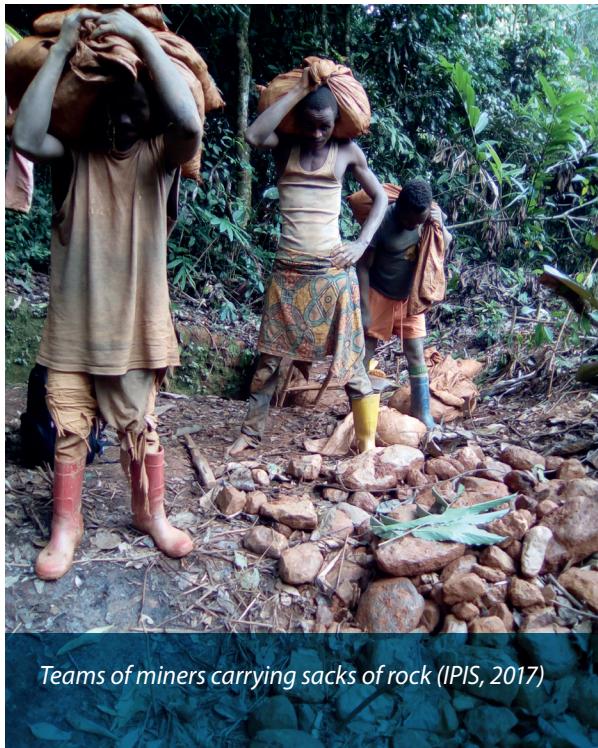
of the pygmy ethnic group. On several sites also the crushing of stones, and the washing and sieving of gold dust is outsourced to others.



*Team of miners showing their equipment (IPIS, January 2017)*



*Team of miners processing gold (IPIS, May 2017)*



*Teams of miners carrying sacks of rock (IPIS, 2017)*



**Team formation** in Mambasa is more a bottom-up than a top-down process. Often, workers are not assigned to a team but join a group through friendship or family ties. Sometimes teams are assembled by a *fournisseur*, supplier or pre-financer. This person (pre-)finances operations by providing food and putting some basic tools, such as pickaxes and shovels, at the disposal of the team. In exchange, the *fournisseur* receives either a certain amount of production or an agreed fee (see 4.3. on distribution of wealth).

Because of how they are formed, the **size of teams varies** between sites, and regularly also within a single site. It also depends on the number of people that show up for work that day, as many mine workers combine different jobs. Some are part-time farmers, others own a small shop or help out in a family business. Typically, between 3 and 6 teams are active on a mine site, each composed of on average 4 to 7 workers. There is a lot of variety between sites. Surveyors for example identified sites that host 50 teams, while some teams are composed of as much as 27 workers. Whereas teamwork provides some structure, the organisation of work generally remains informal and casual. When teams feel they have exhausted a certain area of ore according to their tools and capacities, they move on to another parcel based on hearsay, previous promising discoveries or presentiment.

On average, miners in the zone of focus **work over 6 days per week** in the dry season, and over 4 during the wet season. A similar trend appears for the average working hours per day, which is around 8 hours in the dry and 5 in the rainy season. These differences are mainly explained by the fact that conditions are much less favourable and more dangerous for mining during the rainy season. As this is typically the time of the year that requires more hands in cultivating crops, a considerable number of miners turn to agriculture during these months.

### *Production process*

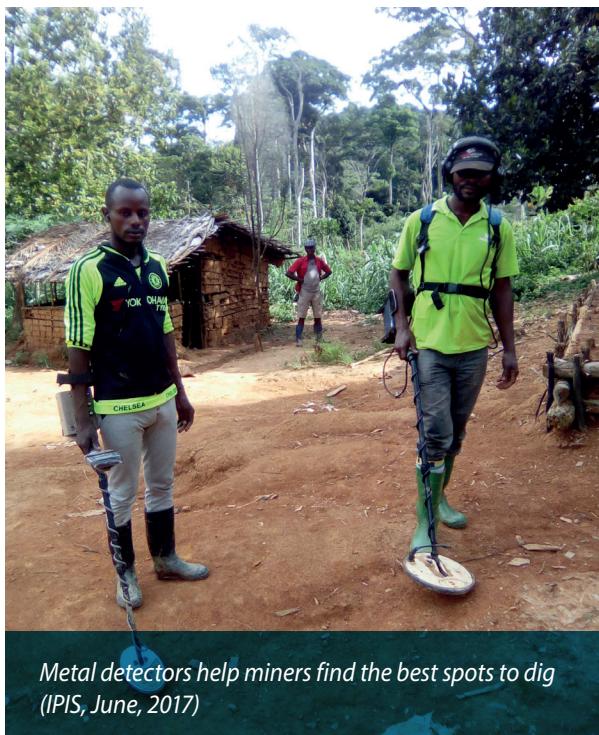
While a lot of the mining around Mambasa is done by scouring the riverbed, miners regularly have to dig deeper to capture the ore. This ranges from small pits to genuine open-pit mining or underground galleries. In total, surveyors counted **271 pits on 41 sites**, with a maximum of 32 on a single mine. During the dry season visit, 24% of these pits were in the process of gold exploration, 46% in the phase of surface stripping, and 29% were actually producing gold. In the rainy season the number of pits declined to 167 (on 34 sites), of which 19% were in the process of exploration, 40% of surface stripping, and 41% were producing gold.

The average time it takes in the area to strip a mine of its top soil layer (including any trees or vegetation growing above it) in order to reach the vein is around 25 days, with outliers that range from a single day up until 6 months. This explains why some mines can go through long periods of very low production, in the hope of making high profits later.



**This heavy process of digging, crushing and grinding is mainly a manual one.** On the large majority of mines (over 80%), workers use the most rudimentary methods of extraction, disposing of nothing more than pickaxes, spades, shovels, hoes, machetes, hammers, and mortars. Over 15% dispose of some more advanced tools such as jackhammers, motor-driven water pumps, and metal detectors. Rock crushing and grinding machinery (called 'concasseur' and 'broyeur') is only identified on a few mines.

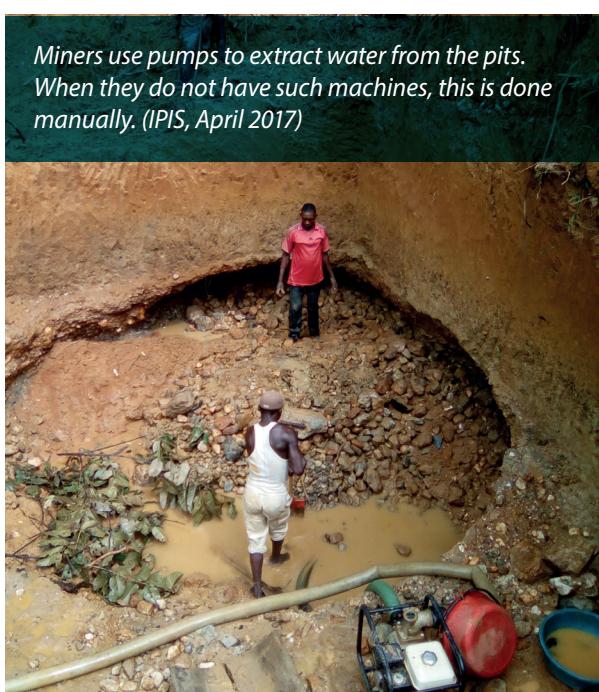
The **poor mechanisation** constitutes a recurrent grievance in the area. Not only does it make the work very demanding and often more risky, it also leads to substandard production levels. Miners often prematurely abandon sites, either because they lack the means to go any further or have no clue on what gold concentration still lies beneath them. Tools most missed by miners in the area are water pumps, jackhammers, metal detectors, and grinding machines.



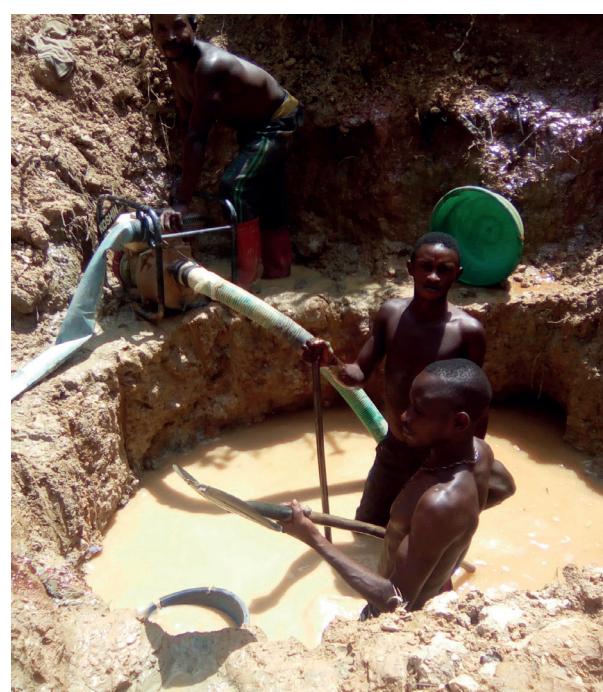
*Metal detectors help miners find the best spots to dig  
(IPIS, June, 2017)*



*Grinding machines break rocks into small stones that teams afterwards pill into powder. Subsequently they process the powder, sometimes with mercury*



*Miners use pumps to extract water from the pits.  
When they do not have such machines, this is done manually. (IPIS, April 2017)*



On the mine sites around Mambasa town it is nearly always the team extracting the gold that will also occupy itself with washing and **processing the ore**. In most cases this is done on or close to the site. The average walking time to the processing area is a bit over 10 minutes. In the big majority of cases (92%) the washing is done in a river or a creek. The main body of water used by artisanal miners in the area is the Ituri river and its affluents. On some sites miners pump up the ground water for processing or dig a large pit, which they subsequently fill with water (also called 'tank').



*Miners washing and panning gold (IPIS, 2017)*

Also in the **processing phase tools** are rather basic and most miners simply use sieves, pans and sluice boxes. Gravity separation is the main method used in artisanal gold mining. It exploits the differences in density between rock/sand and ore particles. Two such methods are most widely used, often in a complementary fashion. The first is the well-known process of panning, the second relies on these so-called sluice-boxes. The latter are long, narrow slides where gold ore is separated or recovered from gravel, sand or soil by mixing it with water and passing it through the slide. The heavy gold sinks and is caught by carpets or riffles at the bottom that obstruct its movement. Nearly 90% of sites in the monitoring zone use some form of sluice (on average 6 per site). These come in many different shapes and qualities. In many instances IPIS surveyors reported ill-designed sluices, causing a poor recovery rate.



*Different kinds of sluices observed in Mambasa territory (IPIS, 2017)*



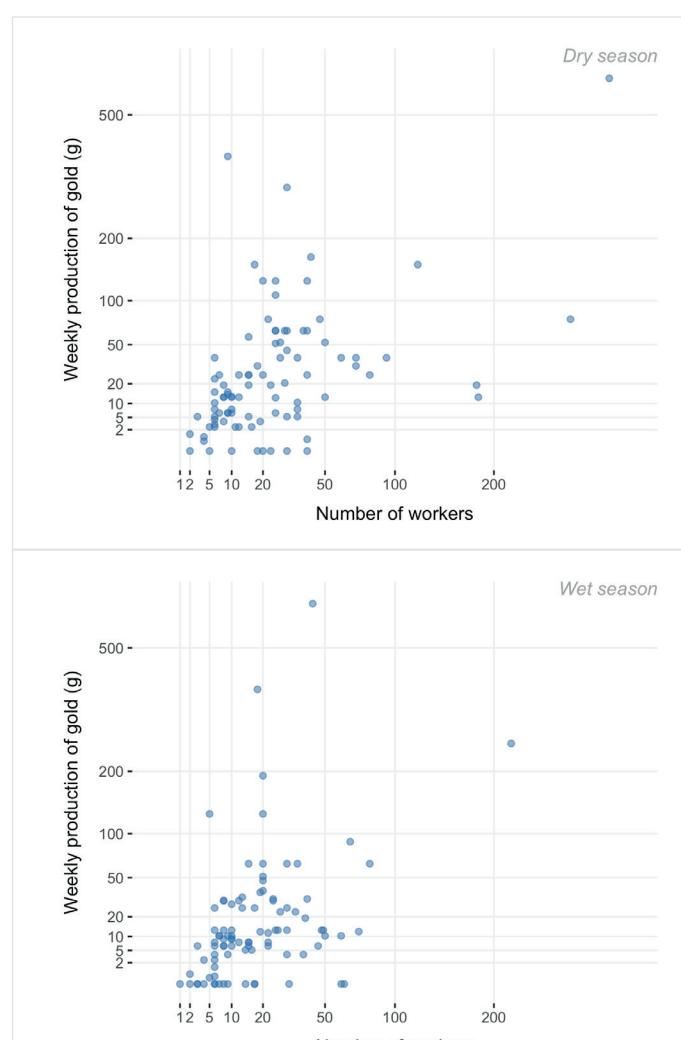
*Different kinds of sluices observed in Mambasa territory (IPIS, 2017)*

Obtaining reliable **production estimates** is difficult for a number of reasons. For one thing, there are large differences in both the quantity and quality of what a single site produces over time. Regularly, miners go through a number of lean weeks or months with limited to no production, before striking a short period of (high) proceeds. This is reflected in the surveys where 58% of miners replied that at the time of the visit production was bad, 34% indicated that it was normal and only 7% stated that it was a good week. Also between sites the differences in production and processing methods, ore concentration, and ease of extraction are so large that extrapolation is difficult. If mine site managers already keep production statistics, gold is so easy to hide that they mostly do not know exactly how much is being produced on their site. Furthermore, significant amounts of gold change hands without ever being recorded. In remote sites and villages, for instance, miners pay restaurant and shop bills directly in gold. Further, fear of taxation, theft, or pillage might lead respondents to underreport production, while entrepreneurial thinking to attract investors might actually incite them to overestimate.

Based on a careful analysis, IPIS estimates the total weekly production of the 92 sites monitored at around 4 kg of gold in the **dry season**. Per month the area is thus estimated to produce around 17,2 kg. This estimate implies that a worker in this area produces approximately 1,31 gram per week during the dry season. During the **wet season** the weekly production in the focal area drops to approximately 3,1 kg (13,2 kg per month). Notably, given that also the total number of workers drops from 3 066 in dry season to 2 009 in the wet season, the production of single miner rises to around 1,53 gram per week. In both seasons the production is considerably higher than the 1,17 gram per digger per week that IPIS has estimated for artisanal gold mining in Eastern DRC as a whole between 2013 and 2015.<sup>41</sup> This highlights the importance and potential of Mambasa as gold mining region in DR Congo.

There are a number of factors that explain the **lower overall production and higher individual production during the rainy season**.

First of all, there are fewer workers because more manpower is required in agriculture and mining conditions become more strenuous when the rains arrive. Pits start flooding (explaining the decrease from a total of 271 to 167), complicating the already demanding work significantly. This also explains why less time is spent on exploration and surface stripping, augmenting the proportion of productive pits from 29 to 41% (see above). This is one reason why fewer workers have a proportionally higher production. Another reason is that the rains (particularly the first ones of the season) drag along ore particles from the hillsides to the creeks and rivers, elevating the productivity of alluvial mining.



*A mine with many workers can have an unproductive week, while a small number of miners can be lucky to strike a productive vein*

<sup>41</sup> IPIS, *Analysis of the interactive map of artisanal mining areas in eastern DR Congo, 2015 update*, Antwerp, October 2016, p. 16.

## Health and safety

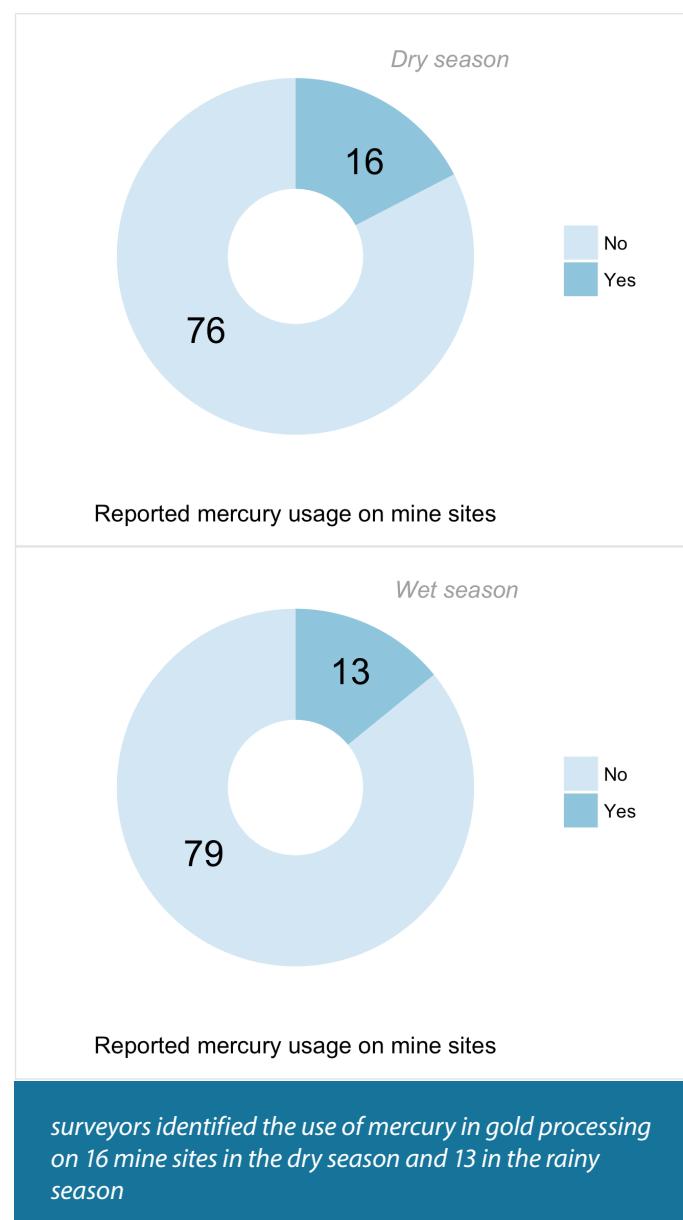
The above-explained gravitational methods of ore separation often take a lot of time to achieve a good purity and involve high risks of loss. These are the main reason why such methods are often complemented with the **use of mercury**. The latter is mixed with gold and forms alloys called amalgams. When these amalgams are subsequently heated or burned the mercury evaporates, leaving the gold behind. This process is easy, cheap, fast, reliable, effective and can be done independently by any producer of buyer of gold at the mine site, in a processing centre or even at home.

This widespread ASM practice has however severe **health and environmental implications**. The substance and its vapor are hazardous as they attack the central nervous system and can lead to serious neurological and development problems, especially for infants and foetuses.<sup>42</sup> Although most miners dealing with mercury know the product is hazardous (some of them having experienced severe headaches) few are sensitized on the grave risks this substance poses to their health, as well as that of surrounding communities, and to the environment. Much of the harm is done by releasing or disposing mercury in the soil or in waterways and lakes, contaminating drinking water, animals and fish. Yet, also its vapour is very harmful and can travel long distances, affecting communities living both close and far away from mining areas.<sup>43</sup>

The surveyors identified the use of mercury in gold processing on 16 mine sites (13 in the rainy season). While most of the miners using it indicate that they recycle and reuse the excess mercury (which did not amalgamate with the ore), surveyors were able to observe in 4 sites how excess mercury was thrown away together with the tailings.

This does however not provide the entire picture of mercury use in gold processing in Mambasa, as surveyors were not able to verify mercury use by miners who take the gold produce home or further along the supply chain. For this purpose a more in-depth qualitative study is needed. Cyanide, another hazardous chemical sometimes used to improve the purity of gold was not observed on any of the visited mine sites.

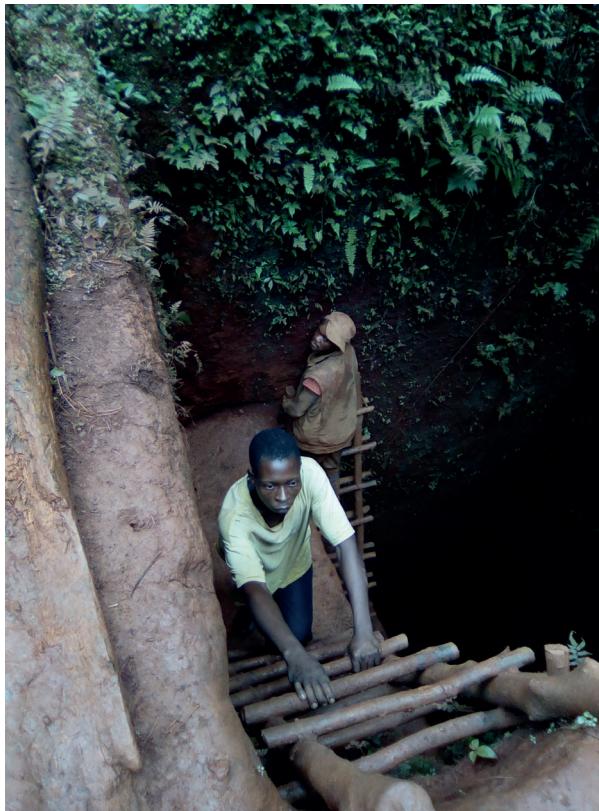
On none of the sites did surveyors detect protective masks and only once were gloves used. Such **protective gear** could protect miners from the immediate hazardous impact of mercury use, as well as other risks and diseases, not the least bruises, infections and respiratory problems due to the omnipresent dust – particularly in underground mining. Rubber boots, worn by most miners on nearly 90% of the mine sites, are the only form of working gear offering some form



42 WHO, *Factsheet: Mercury and Health*, March 2017, <http://www.who.int/mediacentre/factsheets/fs361/en/>.

43 UNEP, *Global Mercury Assessment 2013. Sources, Emissions, Releases and Environmental Transport*, Geneva 2013, pp. 19-22.

of protection. Helmets were only observed on 1 of the 41 (34 in the rainy season) sites where miners are digging in pits and galleries. In light of the limited investment in artisanal gold mining in the area, the scarce resources are more easily used for improving the mechanisation than for improving health and safety. This poses all the more risks in cases of night work, which was identified on 6 sites in the dry season and 9 in the rainy season. The dangerous and illegal use of explosives was only identified in 4 mining operations.



*Miners descending into deep pits or galleries without any protective gear*

While SAESSCAM is making strides to improve technical skills and capacities in the area, most artisanal miners still **lack technical training on health and safety**. Combined with the poor protection of miners, this leads to a **high risk of accidents**. Respondents reported 7 wounded and 6 fatal casualties due to mining-related accidents in the three months prior to the dry season monitoring visit on 6 sites, In the rainy season, 2 fatal accidents and no wounded were reported. While the rainy season can be expected to be more dangerous, the fact that the number of accidents decreased can be explained by the smaller number of workers, especially in hard-rock open-pit and underground mines, where most accidents occur. Moreover, given that these data are based on self-reporting, the actual figures can be expected to be higher. 5 of the reported deaths and 5 wounded were due to pit collapses, one person passed away when a mining shaft broke down, 1 miner engaged in alluvial mining drowned in an unexpected strong current, another one drowned in a flooded pit and 1 carrier got severely hurt when he fell while carrying a heavy weight on a slippery slope.

Other mines of eastern DRC have reported serious accidents killing artisanal miners by dozens.<sup>44</sup> The collapse of a pit or a gallery is the most deadly and common accident on artisanal mine sites. In the area of the focus, the most current exploitation types are alluvial, eluvial and open-pit mining (see section 4.1.), where the risks are considerably lower.

44 Jeune Afrique, RD Congo: *Un éboulement dans une mine d'or fait au moins 20 morts*, 18 December 2016: <http://www.jeuneafrique.com/385065/societe/rd-congo-eboulement-dor-20-morts/>; Le Figaro, RDC: *Un éboulement meurtrier dans une mine*, 8 September 2015 <http://www.lefigaro.fr/flash-actu/2015/09/08/97001-20150908FILWWW00388-rdc-eboulement-meurtrier-dans-une-mine.php>; La Libre Belgique, *Au moins 60 morts dans une mine de l'est du Congo*, 12 August 2012: <http://www.lalibre.be/actu/international/au-moins-60-mort...-dans-une-mine-de-l-est-du-congo-51b8ef83e4b0de6db9c7969b>.

## 4.3. The broader socio-economic context of mining

This section digs deeper into the broader socio-economic context of mining in Mambasa. It unravels what the monitoring exposes about the life on mine sites, the distribution of wealth, the role and position of women, the presence of children and social tensions.

### *Life on a mine site*

Most mine sites have a stable working population of locals who live through highs and lows. Yet, word about mineral discoveries and flourishing production spreads rapidly and others **travel from far** to capture their share of production (called “*les venants*” or “*nomades*”). When production falls, many of these ‘nomads’ move on to other areas to try their luck. It is therefore not surprising that several mine site managers complain that they lack workers in times of hard preparatory work before striking a new gold vein.

As mentioned above, not all mine sites keep systematic records of workers, let alone that they know where they come from. On the (70) sites where surveyors were able to obtain information on **migration**, between 45 and 52% of the workers descended from another province than Ituri. Most migrant workers came from adjacent provinces, with North-Kivu as most important provenance, followed by Tshopo and Haut-Uélé. The latter two formed, until July 2015, together with Ituri and Bas-Uélé, the old Province Orientale. Others travelled from Bas-Uélé, South-Kivu, Equateur, Maniema, Kasai, Haut-Lomani, and Mongala, while some came from as far as Mai-Ndombe, Kinshasa, and Kongo-Central – over 3000 km westward from Mambasa.

The high proportion of migrants from eastern Congolese provinces is partly due to the continuing insecurity linked to armed group movements that have caused massive waves of population displacement. Of the 3.7 million Internally Displaced Persons (IDPs) in DRC at the end of 2016,<sup>45</sup> 348 000 are estimated to live in Ituri, 334 000 and 123 000 respectively in the neighbouring Lubero territory, and Beni/Oicha.<sup>46</sup> Artisanal mining in the auriferous soil of Mambasa represents an important livelihood for this particularly vulnerable group, as it does not require special skills, education or capital, and workforce is always needed.

This mobility of miners, combined with the fact that many of Mambasa’s mines lie deep in the bush, explains why the large majority (around 90%) has a **camp** where miners spend the night and live. Other mine sites are closer to an important village, allowing a daily commute for workers. In the vast majority of camps (more than 90%) miners live with their families. In total, the surveyors counted 3 786 people living in over 80 mining camps (3 062 in the rainy season), which is an average of over 47 per camp (37 in the rainy season). The biggest of these camps is home to 500 and the smallest to 3 people.

These camps range from genuine villages that emerged around mining zones, with permanent buildings, shops and restaurants, to a few tarpaulins spanned over a tree branch. Around half of the camps are made up of some permanent wooden or brick buildings. Only a few of them were found to be in good condition. Most had insufficient and poorly maintained housing or tents, with too many people sleeping on a small surface, poor hygiene and sanitary facilities, and lack of access to clean drinking water.

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45 OCHA, République démocratique du Congo: Personnes déplacées internes et retournées, Mars 2017, p.1

46 Ibidem, p.3



*Different types of permanent and temporary buildings in mine site camps (IPIS, 2017)*



## *Distribution of wealth*

On average, prior to taxation (see section 4.6.) **mine workers** in the monitoring area keep around 74% of the revenue from their gold production. In reality, this figure can be expected to be higher, given that it does not take into account the undeclared ore that leaves the mine site underhand. The miners' share is highest in the case of the more individual alluvial mining (76%), and lower for eluvial and hard-rock (open-pit or shaft mining) where work tends to be more centrally organised (61%) and involves more technical costs.

Miners on average hand in around 15% to their **AFM** for the right to work on the site. A 10/90-repartition key between miners and their AFM was most common (40% of the surveyed sites). The payment is frequently a combination of a percentage paid by each team on their production and a weekly price paid by every individual digger that wants to try his luck on the site. In some cases the latter was found to be 1 'tige' of raw gold per week,<sup>47</sup> in others miners had to work one day per week for benefit of the AFM (nicknamed 'salongo' or "matour" derived from the French "*mon tour*", my turn.).

Members of the management team (see section 4.2.) are mostly free from levies raised by the AFM. If teams are pre-financed by a *fournisseur* or supplied and supported by a pit boss they normally pay him/her a rate of approximately 16% on their production. On a minority of small sites (around 10), with limited hierarchy or organisation, miners keep the full 100% of their production (disregarding taxation, see section 4.6.).

After deduction of these royalty payments most **teams** share the production equitably among themselves. In more technical operations (particularly underground and open pit mining) some experienced or trained team members tend to get a bigger share. Regularly, it will be the team leader taking charge of this distribution. This is done either by distributing the ore itself (this can be in the form of gold nuggets, amalgamated gold, unprocessed sand or crushed rocks), or sharing the revenue after selling the produce to a trader on-site or in a trading house. Usually, teams choose for themselves how they want to arrange this distribution, meaning that different arrangements can occur on a single site.

Just like production data, also income or salaries are difficult to calculate. Based on a conservative calculation it is estimated that a typical mineworker in Mambasa gains between 27 000 and 40 000 FC (ca. 20-30 USD) per week.

## *The role and position of women on mine sites*

The gold production process in Mambasa is strongly **male-dominated**. Many men hold the opinion that women are not suited for this hard work (and particularly not to reap its revenues) and some even believe their presence in shafts or pits brings bad luck. On only 10 sites did surveyors count a small number of women (between 1 and 25% of the workers) that were mainly engaged in washing the ore or manually emptying water from the mining pits (nicknamed *moto-pompistes*). Some women, sometimes called *butufes*, collect and crush waste rocks and process tailings on an individual basis in the hope to find some gold. While it is thus not easy for women to make a living from mining, some nonetheless managed to obtain important positions. On 6 sites women were identified as *fournisseuses* or suppliers of food and tools to mining teams, and at least 2 women are AFM of a total of 3 mines in the focal area. No pregnant women were observed to be performing hard mining work (which is a red flag under the Regional Certification Mechanism of the ICGLR).<sup>48</sup>

In spite of their general absence from mining activities, most artisanal mines would not be able to operate at all without the presence of women. The bulk of the **non-mining activity** is indeed performed by women. Their most important tasks are cooking (on nearly 75% on the mine sites), transporting (a task often also executed by men and women of the pygmy ethnic group) and selling items such as food, snacks, beverages or cigarettes (nearly 50%). Other women operate a small restaurant, cultivate crops, or

47 A tige is a Congolese measurement unit equivalent of 4 wax matchsticks.

48 It is evidently not always possible for surveyors to determine this with the naked eye. Yet, the fact that there were three women among the pilot's surveyors made our teams considerably more sensitive to these issues.

hold chicken or goats. During a mining rush, more women might turn to the site or a nearby village to sell food and other products to miners.



For such activities women are either **remunerated** by a *fournisseur*, a pit boss or individual miners. This can be in the form of waste sand (with little chance of knowing in advance how much ore it contains), (untreated) gold – another reason why it is so difficult to track production – or money. On the whole, these activities are much less lucrative than the mining operations, and women are generally the first to suffer in times of low production.

As mentioned above, men and women live and sleep together in small tents or houses on a considerable number of mining camps. On only about 17% of sites where women were present (either performing mining or non-mining activities) did surveyors identify separate **sanitary facilities**, frequently in poor condition. Combined with the high concentration of young men – in some cases separated from their families – in remote areas with little to do, excessive alcohol consumption and limited presence of state authority, this creates an environment with a **high risk of sexual harassment**. In the light of these difficulties, women on a number of sites elect a *mère-cheffe* to look over their well-being on the site and in the camp, often in cooperation with the mine site security brigade. Respondents



Une latrine sur un site minier à Mambasa  
(IPIS, février 2017)

reported cases of sexual abuse on 7 mine sites over the entire monitoring period. This is likely only the top of the iceberg and more in-depth qualitative research is needed to unravel the full scope of this problem. The same goes for the issue of sex work – and the risks of sexually transmittable diseases this often brings along – on and around mine sites. Surveyors registered **sex workers** on at least 17 sites over both monitoring periods, sometimes 3, sometimes up to 30. In 4 cases, surveyors were convinced that minors were being prostituted.

### *Presence of children on mine sites*

In line with ILO Convention No. 182 on **Worst Forms of Child Labour** (1999) and the OECD Due Diligence Guidance, the basic minimum age for work should not be below the age for finishing compulsory schooling, and in any case not less than 15 years (with a possible exception of 14 years for developing countries). Children between 13 and 15 (12 and 14 as a possible exception for developing countries) may do some light work, as long as it does not involve any risks to their health and safety, or hinders their education. Hazardous work that is likely to harm physical, mental or moral health and safety is ruled out entirely under the age of 18.

In the context of mining such **hazardous work** includes digging in pits and shafts, carrying heavy loads, working with dangerous tools, using toxic chemicals such as mercury, and economic and sexual exploitation. It was already noted above that minors are prostituted on at least two sites. IPIS experience from previous monitoring/mapping assignments is that it is nearly impossible for surveyors to ascertain whether someone is above 18 years old, or between 15 and 18. That is why it was decided in this pilot to focus mainly on those below the age of 15 working on a mine site. Even that can be a challenging task, as it is not always possible to make the distinction between children merely accompanying their parents, and those also performing (some) tasks in gold mining or processing.

Child labour occurs but does not appear to be widespread in Mambasa. Over both monitoring periods, surveyors registered 11 sites with certainty where **children under the age of 15** were involved in the production process.<sup>49</sup> On the whole, these were non-hazardous tasks such as washing,



*Children washing gold in a sluice and carrying stones (IPIS, 2017)*

49 This includes 7 sites in the dry season and 5 in the rainy season, of which one site popped up in both seasons.

panning and sieving. Yet, they are also involved in some more demanding tasks such as crushing or grinding rocks, and transporting water and stones. Also the task of carrying crates of beer or soft drink from the village on difficult tracks up to the often far-away mining sites or camps is regularly bestowed upon children.

### **Social tensions**

As in many unregulated and informal sectors, social tensions occur in different forms and sizes. The **most recurrent source of tension in Mambasa is land**. Either miners or mining teams quarrel among themselves on who can work where (reported on 14 sites), or land disputes arise with a concessionary (11 sites) or landowner (8 sites). Another dispute reported on a number of mines is conflict with farmers over land use and boundaries, or between AFMs over the delimitation of their respective mines and titles. In the light of the prevailing corruption, it is often the survival of the wealthiest that prevails.

**Taxation** (see section 4.5.) is another regular source of tension, particularly in times of high production when a lot of different services come to ask their share. One site is for instance in dispute with two chieftaincies as it spanned the territory of both and therefore had to pay double taxes. Some AFMs refuse to pay taxes to state services such as SAESSCAM as they think they are excessive or unjustified.

On the whole, **social tensions** in the area of focus remain **relatively low** in both quantity and intensity. Many of the well-known eruptions of civil unrest in the eastern Congolese mining sector are linked to the arrival, activities or titles of an industrial miner. In Mambasa no large-scale miner is active, explaining why such problems do not at present occur in this area.

## **4.4. Artisanal gold trade**

The gold produced in Mambasa is either used as a currency or sold to traders of diverse kinds. Both options are currently hard to trace.

Gold that is **used as a currency** and traded for other products can quickly change hands. Miners use it to buy fish, meat, drinks or equipment. In remote mines located in the bush, a miner can for instance buy 4 cups of rice for 1 *tige* (1 *tige* of gold weights 4 wax matches and was typically worth 3000 FC, or 3,3 USD), 1 kg of goat meat for 2 *tiges*, or a monkey for 2,5 to 6 *tiges*. In fact, shopkeepers often prefer to be paid in gold rather than francs, given that its value is more stable.

This means that people who own a butchery, shop or restaurant in mining communities, become *de facto* gold traders that mainly operate under the radar. Shopkeepers and restaurant owners indicated to sell their gold at a trading centre once they collected 10 grams, which can occur within a week in times of high production. In essence a trading centre is a village where different traders are active. As gold is easier to hide than the inflated local currency, people often



*Some gold traders run a shop in trade centres, others do their commerce on mine sites (IPIS, March 2017)*

also save larger amounts over a longer period of time to make big purchases, such as for instance a motorcycle or a metal detector. All of this evidently implies that it is very hard to monitor artisanal gold flows and volumes on mine sites.

Besides shopkeepers, restaurant owners or butcheries who sell gold on the side, state authorities gauge at 186 the number of outright **gold traders** (called '*négociants*') that are active in the area covered by this monitoring pilot. Less than 20% of them are estimated to be licenced. Surveyors interviewed 57 of these local traders between April and June 2017. In general, these operate according to two main *modus operandi*. One category of traders owns a shop or boutique where miners can go and trade their gold, either under the table or in the open. Another category roams mine sites and buys gold directly from miners. On average those traders visit between 2 and 3 sites per week. Productive and accessible sites are visited by as much as 25 traders in a normal week, others by a single one and yet others by none. These two main categories have several ramifications.

There are those that **pre-finance** teams of miners, the so-called *fournisseurs*. They make their profit by either asking a percentage of the production, or by imposing a monopoly on the purchase of gold from that team at a fixed price. Not seldom, these systems incentivise miners to under-declare their production. 21% of the surveyed traders indicate they are at present pre-financing teams of miners, for an average amount of 160 USD per month. Many traders, also buy and sell to other traders depending on the gold price margins. Finally, an important group of traders works mainly as intermediary. This implies that they are commissioned by a bigger trader to buy a certain amount of gold for a given price at one or more mine sites. They get their income from the margin between the rate defined by their commissioner and the price they can get from miners.

This partly explains why miners are offered a better **price** in gold shops or trading houses than on mine sites. The average price per gram offered **at the mines** themselves is between 25 and 29 USD,<sup>50</sup> depending also on the purity. In **trading centres**, traders pay on average between 27 and 32 USD for a gram (compared to a world market price of between 38 and 41 USD per gram between January and June 2017). Despite the difference in price, many miners still sell their gold regularly on the mine site itself. An important aspect in their calculation is the distance to the trading centre. For the 92 monitored sites the average walking distance to the closest trading centre was 2,5 hours one way in the dry season, and up to 3,5 hours in the rainy season. For small quantities it is therefore often not considered worth the trip. Therefore if miners have an immediate need of cash, they will typically sell part of their production and save the rest for a future trip to a trading house. 55% of the surveyed representatives of the mine site management claimed to only sell gold in a trading centre, 11% only on site, and 34% did both. Relations of trust also play an important role in this consideration. Around 64% of these respondents claimed to have a fixed trader to whom they sold, 36% changed regularly.

Either through travelling traders or directly, miners in the monitoring zone trade their gold in a total of at least **18 different trading centres**. The most important one is unsurprisingly Mambasa, receiving gold from 41% of the monitored mine sites. In addition, a lot of the gold traded in the smaller trading centres flows in the second instance to Mambasa. Other important trading centres in the monitoring zone are Some (30% of the sites feeding into it), Mayuano (14%), Lwemba (11%), Bango (8%), Nyabanda-Bela (8%) and Teturi (8%). Given that many miners and teams decide for themselves where they sell their production, one site can have many different trading centres (explaining why the sum of the above is more than 100%).

The average local trader in Mambasa has around 13 suppliers from whom they buy gold directly. There is **no registered trading house in Mambasa**, making it even more difficult than it already is to get a grasp on trade volumes. Most traders indicate to keep some form of **records** on the amounts they buy (91%) and sell (60%), but they are generally not eager to share this, as most of the gold trade remains undeclared. It is consequently very difficult to understand who their buyers are and where they are located. Around 75% of traders and miners interviewed estimate that the gold they sell and buy is eventually traded in Butembo, 40% in Bunia and 15% in Beni.

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50 In Congo most traders use a coin of 1 franc in their balance to equal a gram. In reality this coin weighs however around 1,28 grams. The price offered for this Congolese is therefore 36,08 USD.

These trade flows have an **ethnic dimension**. Over 90% of the traders operating in Mambasa are estimated to belong to the Nande ethnic group. Nande have been moving to Mambasa since many decennia, a process that accelerated about 20 years ago due to the conflict in North Kivu. Historically traders, Nande have invested in the gold sector and developed important commercial routes to Beni and Butembo. Given that the Nande belong to the same ethnic group as the Konjo people that live in the Rwenzori Mountains of Southwest Uganda, there are also important cross-border (trade) networks.

## 4.5. Presence of state services and taxation

This section gives an overview of the different state services that are reported to visit mine sites in Mambasa. Mostly, these visits serve to collect a complex tangle of formal and informal taxes.

### *Presence of state services*

According to a circular note from February 2017 by the Ituri Governor, only three state agencies are allowed to be present on or visit mine sites: the *Service d'Assistance et d'Encadrement du Small Scale Mining* (SAESSCAM), Division des Mines, and the Congolese National Police (PNC).<sup>51</sup>

The primary role of **SAESSCAM** is to technically assist and train artisanal miners, to help and stimulate miners in forming cooperatives, to ensure coordination with the Mine Administration, and to monitor the minerals from extraction to export.<sup>52</sup> For these reasons, the presence of SAESSCAM on mine sites is justified and necessary. SAESSCAM agents have a regular presence on 67% of the sites in the focus area. In 8% of these cases this is on a weekly basis, 71% on a monthly basis, and 26% are irregular visits.

**Division des Mines** represents the Ministry of Mines at the local level and carries out the administrative work in the mining sector. Its role is to deliver the miners' and traders' licenses and permits, and to ensure coordination between the Mine Administration, the Governor and the Territory Administration.<sup>53</sup> *Division des Mines* covers 68% of the mines in the area of focus with field visits, mostly on an annual basis to check and assure the renewal of licenses and permits.

The presence of the **PNC** is only permitted in the framework of law enforcement. Hence, it is not allowed to levy taxes or interfere with mining operations. During the monitoring period the presence of police agents was reported on 11 mine sites. There were no reports of taxation or harassment by policy services, and their presence was in all cases assessed as related to security and law enforcement.

Furthermore, the **chefferie** or chiefdom – the customary administrative authority – is broadly accepted to have a customary right to visit mines and levy taxes for community investments foreseen in the *cahier des charges* (see section 4.1). They were reported to visit 19% of the monitored mines. Customary rights can be paid in the form of an arrangement covering the cost of constructing a school or housing plus a percentage on production, or it can simply be an annual fee (often in the order of 450 USD). Some *chefferies* demand that miners pay a weekly fee (of ca. 2 tiges or 6000 FC) to mine in their jurisdiction.

The **unlawful presence of other state agencies** was reported on 47% of mine sites. Firstly, the provincial revenue authority, *Direction Générale des Recettes de la Province de l'Ituri* (DGRPI), was reported to visit 35% of the sites, mostly annually. In most cases, DGRPI agents were levying taxes on the Mining Title (*Agreement Minier*), which should in principle be collected by *Division des Mines*, and subsequently advanced to DGRPI.

The Energy Service's presence was monitored on 15% of sites. The latter creates confusion by levying taxes on the owners of mechanised tools, such as metal detectors and motor pumps (see below).

51 Gouverneur Provincial de l'Ituri, *Note circulaire n°1/JAPM/003/CAB/PROGOU/PI/2017 relative à l'évacuation des services non-habilités à oeuvrer dans les sites miniers de la province d'Ituri*, Bunia, 2 February 2017.

52 Journal Officiel de la République du Congo: *Décret n°047/C-2003 du 28 Mars portant: Création et statut d'un service d'assistance et d'encadrement du small scale mining, en sigle "SAESSCAM"*, Kinshasa, 15 June 2003

53 Cabinet du Président de la République: *Décret n°038/2003 du 26 Mars portant: Règlement Minier*, Article 13, Kinshasa, 1 April 2003, p.14.

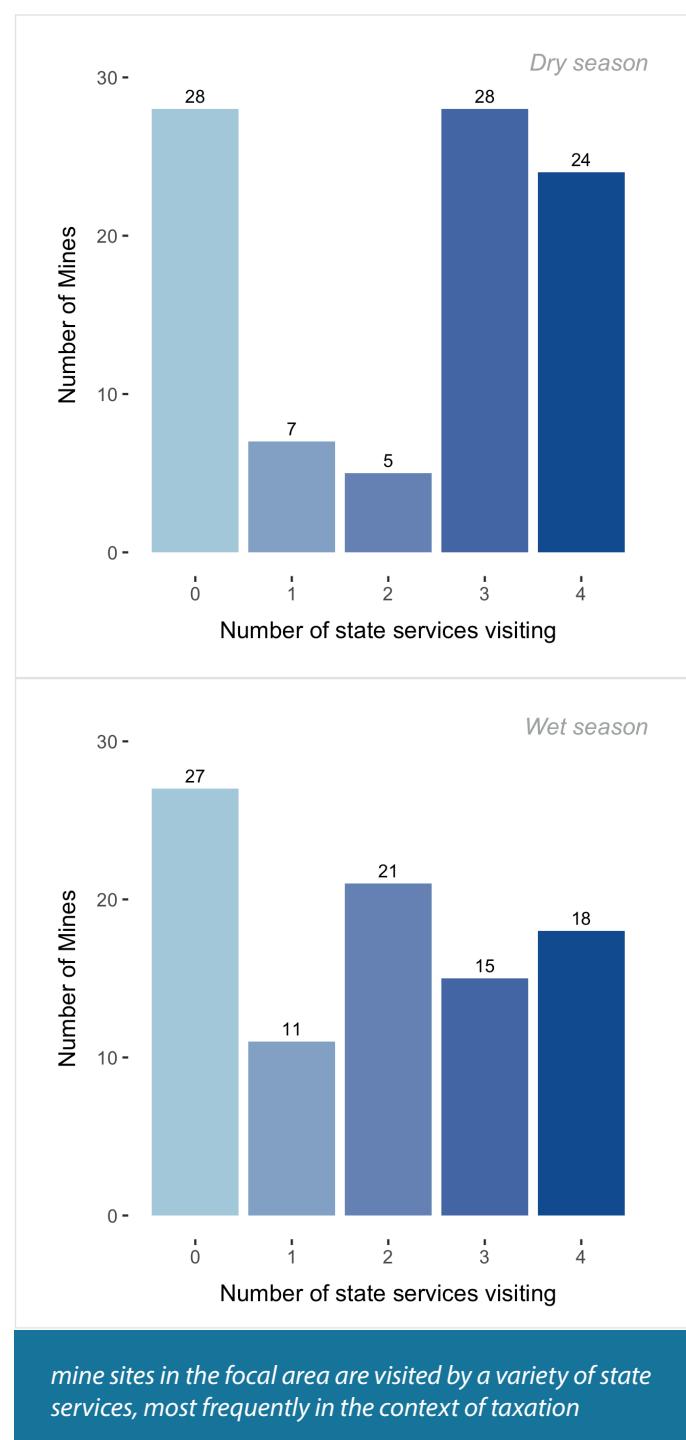
The General Directorate for Taxation (*Direction Générale des Impôts* or DGI) was identified on 8 sites. They were generally seeking to collect the Personal Tax on Profit (*Impôt Personnel sur le Bénéfice*) from AFMs and PDGs. In three cases, DGI was reported to request unspecified payments of 60 USD a year from traders and miners.

Lastly, the *Fonds Forestier National* (FFN, or national forest fund) was in several instances reported to be collecting a fee for reforestation and rehabilitation from AFMs on mine sites. While this is a lawful tax mentioned in the DRC Handbook for Mineral Traceability, it does not justify FFN's presence on mines.<sup>54</sup>

### *A multitude of taxes and collectors*

The multitude of state agents on mine sites incites double taxation, confusion and in several cases also corruption. For example, several owners of technical tools and machines indicated to have remunerated four different services for the same tax. Also the fees for miners' licenses were in some instances said to be collected twice by both DGRPI and *Division des Mines*.

These concerns have led to repeated instructions from the provincial Minister of Mines and the Governor<sup>55</sup> to expel unlawful agents from mines. To solve some of these issues, authorities in Ituri have been working to set up a *guichet unique* or single desk, whereby SAESSCAM would collect all 23 existing taxes in the artisanal gold mining sector, which can then be distributed according to the set distribution keys.<sup>56</sup>



*mine sites in the focal area are visited by a variety of state services, most frequently in the context of taxation*

54 Ministère des Mines et Ministère des Finances, *Manuel de procédures de traçabilité des produits miniers: de l'extraction à l'exportation*, Kinshasa, April 2014.

55 Minister of Mines, Press release, Bunia, 4 June 2016, p 2; Governor of the Ituri Province, *Note circulaire n°1/JAPM/003/CAB/PROGOU/PI/2017 relative à l'évacuation des services non-habilités à oeuvrer dans les sites miniers de la province d'Ituri*, 2 February 2017.

56 Gouverneur Provincial de l'Ituri, *Arrêté provincial n°01/JAN/130/CAB/PROGOU/PO/2012 portant révision de la répartition des frais en remuneration des services rendus en vue de canaliser le substances minérales de production artisanale et de la petite mines dans le circuit officiel de commercialisation et de lutter contre la faude et la contrebande minières dans la Province Orientale*; *Arrêté provincial n°01/JAPM/032/CAB/PROGOU/PI/2017 du 17 mars 2017 portant MODIFICATION de l'Arrêté n°01/JAN/130/CAB/PROGOU/PO/2012 portant la révision de la répartition des frais en remuneration des services rendus en vue de canaliser le substances minérales de production artisanale et de la petite mines dans le circuit officiel de commercialisation et de lutter contre la faude et la contrebande minières dans la Province de l'Ituri*. Bunia, 17 March 2017; Gouverneur Provincial de l'Ituri, *Arrêté Provincial n°01/JAPM/011/CAB/PROGOU/PI/2017 du 09 janvier 2017 portant détermination de l'assiette et des taux ainsi que des modalités de recouvrement des droits, taxes, et redevances provinciaux à percevoir à l'initiative du Ministère provincial de l'Environnement, Tourisme, Energie, Mines et Hydrocarbures*, Bunia, 9 January 2017.

Often the nature and sizes of reported taxes do not correspond to the ones foreseen in the law. The amount paid is often the result of an informal negotiation between the agent and the taxpayer, or an agreement between a cooperative and the state service. For example, SAESSCAM-Mambasa has agreed with the cooperative of AFMs (CODEMA) that if the production is lower than 10 grams per month, the AFM must pay a monthly flat rate of 50 USD. If the production is above 10 grams then SAESSCAM applies the official 5% on production. Further, instead of the official rate for the Mining Title of 450 USD per year, some AFMs indicated to have paid only 410 or 430 USD, while another was charged 2 400 USD. Similarly, rather than the normal 1% tax on traders' transactions, SAESSCAM agreed with the traders' association (CONORI) to levy a monthly flat rate of 10 USD.

Finally, for taxes on tools and machines only seldom the official amounts were reported to be collected. While a provincial decree prescribes annual tax amounts such as 240 USD for a metal detector, 250 USD per crushing machine, and 580 USD per small motor pump, 57 owners of these various tools generally reported to all pay the same amount of 100 USD per year. On the other hand, DGRPI was in at least one instance reported to demand an annual tax of 945 USD from the owner of an excavating machine.

### ***Lists of the taxes levied on sites***

The table below gives an overview of taxes that were reported to IPIS monitoring teams as collected on mine sites.

Tax	Amount	Frequency	Paid by	Collected by	Number of sites	Observations
Tax on artisanal production of precious substances.	5% or 50 USD	Monthly	AFMs or Miners	SAESSCAM	58	SAESSCAM either levies the legal tax of 5% on production or charges AFMS a flat rate of 50 USD.
Mining Title (Agrément Minier)	Between 410 and 2400 USD	Annually	AFMs	Division des Mines and DGRPI	58	The law fixes the fee at 450 USD to be paid to Division des Mines, which then forwards it to DGRPI. However, in several cases DGRPI goes itself on mine sites to levy this tax. Generally, AFMs pay a fee between 430 and 450 USD with some reported excesses up to 2400 USD.
Tax for the rehabilitation of the artisanal mine environment	50 or 400 USD	Monthly or Annually	AFMs	FFN	6	, AFMs are required to pay an annual rehabilitation fee of 400 USD. Surveyors were able to register this tax on 4 sites. In 2 additional cases, AFMs instead indicated to pay a monthly fee of 50 USD (or 600 USD per year) to the FFN.

57 Gouverneur Provincial de l' Ituri, Annexe I de Arrêté provincial n° 01/JAN/130/CAB/PROGOU/PO/2012 portant révision de la répartition des frais en remuneration des services rendus en vue de canaliser le substances minérales de production artisanale et de la petite mines dans le circuit officiel de commercialisation et de lutter contre la faude et la contrebande minières dans la Province Orientale

Tax	Amount	Frequency	Paid by	Collected by	Number of sites	Observations
Customary rights	Diverse	Diverse	AFMs	Chefferie	17	Typically, a chefferie or chiefdom negotiates a specific cahier des charges with each AFM in their customary jurisdiction compensating their right to mine with a number of community investments. The nature and content of these agreements varies.
Carte d'identification des creuseurs (Miners identification)	5 USD	Annually	Miners	Division des Mines	6	
Miner's licence (Carte de creuseur)	25 USD	Annually	Miners	Division des Mines and DGRPI	19	In 7 cases, miners have paid their licence to the DGRPI instead of Division des Mines.
Tade on sales of artisanal production of precious substances.	1% or 10 USD	Monthly	Traders	SAESSCAM	16	While normally the payment of 1% on transactions is required, SAESSCAM and the traders' association in Mambasa agreed on a payment of 10 USD per month.
Trader's licence (Carte de négociant)	25 USD	Annually	Traders	Division des Mines	22	Small traders visiting mine sites are called "commissionnaires" (intermediaries) and their licence legally costs 100 USD. However, they have negotiated it at 25 USD instead.
Taxes on tools producing or using energy (motor pumps, solar panel, generator, etc.)	Between 50 and 250 USD	Monthly or Annually	Owners	Energy Service SAESSCAM DGRPI DGI	12	There are several reports of engine owners paying the same tax to several state agencies. This is not based on any formal arrangement, as in most cases these taxes are lower than what the provincial decree prescribes.
Individual Tax on Profit	Between 50 and 200 USD	Monthly or Twice a year	AFMs or PDGs	DGI	4	DGI was reported to collect the Individual Tax on Profit from AFMs and/or PDGs on 4 sites.
Tax to open a new chantier	900 000 FC	Annually	AFMs	DGI	1	Surveyors registered one case where DGI levied an undefined tax of 900 000 FC (ca. 675 USD) from an AFM to open a new 'chantier'.
Various unspecified taxes	Between 30 and 150 USD	Annually or monthly	Miners, Traders, AFMs	SAESSCAM, Division des Mines, DGI, DGRPI, Environment Service, Energy Service	22	On 22 occasions, various unspecified taxes were collected without any obvious explanation or justification.

## 4.6. Security and armed groups

CAs explained in the methodology (section 2),<sup>58</sup> the area for this Artisanal Gold Monitoring Pilot in Mambasa was specifically chosen for its safety and stability. It is therefore not surprising that relatively few of the monitored sites had an armed presence. The monitoring data reveals further improvements between the first and second site visits, as well as in comparison with data collected by IPIS field teams in the framework of the 2015 update of the interactive webmap on artisanal mining in Eastern DR Congo.<sup>59</sup>

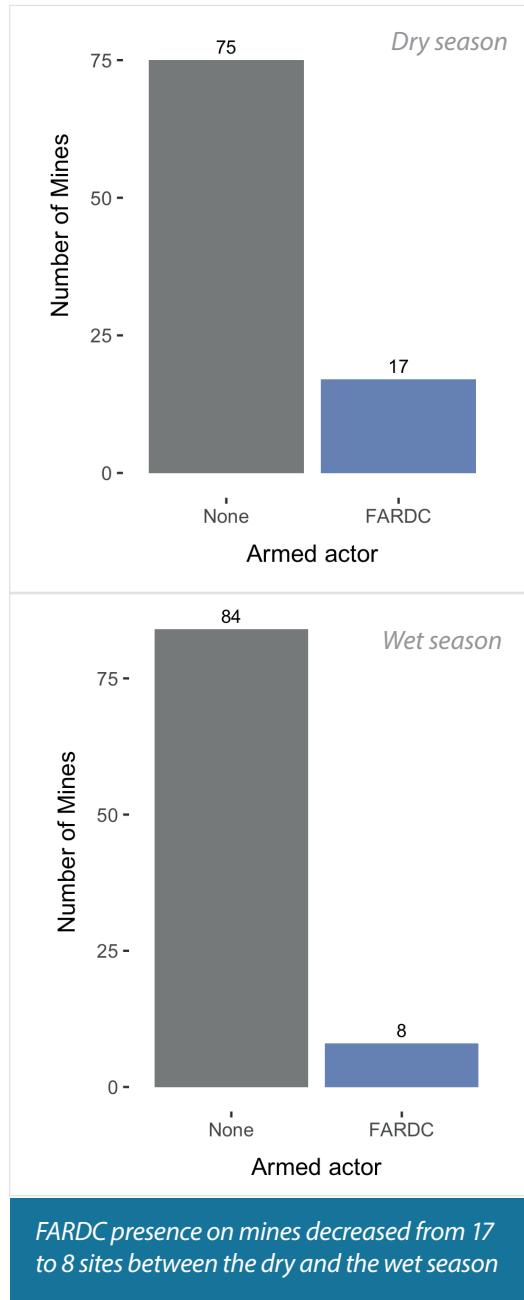
In 2015, in the framework of IPIS' on-going mapping program of artisanal mining, IPIS field teams visited 43 of the 92 mines in the focal area. 21 of them were identified as having an armed presence. In 19 cases this was the national army, the FARDC (*Forces armées de la République démocratique du Congo*). Its presence on mines is as such illegal. Moreover, it was in most cases acting in an undisciplined manner and interfering with mining activities. Their main forms of were taxation and pillaging. At two mines did IPIS surveyors identify Mai-Mai Simba (ex-Morgan) that were pillaging the sites regularly.

During the **first monitoring** visits of this pilot, between January and March 2017, FARDC patrols were reported on 17 mine sites on a weekly basis, and no non-state armed groups were observed. Between April and June, during the **second (wet season)** visits the presence of FARDC dropped to 8 mines. An armed presence at 18,4% of mines in the dry season, and 8,7% in the rainy season demonstrates that the pilot area in Mambasa is much less militarized than other eastern DRC gold mines, where 64% of the miners were estimated by IPIS in 2015 to work in the permanent or regular presence of men in arms.<sup>60</sup>

Severe human rights violations, such as torture, sexual violence or forced labour by FARDC soldiers, were reported in a few instances. Surveyors reported one act of sexual violence against women, one site with regular incursions by FARDC soldiers, and one case where two men had been tortured.

**Illegal taxation** by FARDC elements was more frequent, mainly in the dry season. On 9 sites, FARDC units were claimed to demand a weekly payment of 500 FC (ca. 0,4 USD) or of 1 to 3 tiges of gold from each miner. In the rainy season, weekly payments were being collected by FARDC units on 2 sites, while on 2 others they were reported to collect payments of 5000 and 10 000 FC (3,75 and 7,5 USD) from the mine site management every two weeks. These units justified these levies as a compensation for their salary not being paid by the national authorities.

The reduction of FARDC presence on mine sites coincided with an increase in the number of roadblocks or barriers held by FARDC or PNC from 11 to 20 on the roads taken by surveyors to access mines. Out of those 20 barriers, 5 were reported to collect illegal tax.<sup>61</sup>



58 For an in-depth discussion please see Phase I Progress Report: [http://www.resolv.org/site-ppa/  
ipis-data-collection-at-artisanal-gold-trading-hubs/](http://www.resolv.org/site-ppa/ipis-data-collection-at-artisanal-gold-trading-hubs/).

59 IPIS Interactive map of artisanal mining area in Eastern Congo: <http://ipisresearch.be/mapping/webmapping/drcongo/v4/>.

60 IPIS, *Analysis of the interactive map of artisanal mining areas in eastern DR Congo: 2015 update*, October 2016, p. 25

61 In comparison with another study IPIS has done in the territories of Walikali and Masisi (North Kivu) in 2016, this is relatively low IPIS, *Pillage route: l'économie politique des barrages routiers à Walikale et Masisi*, Antwerp, December 2016, p.18.

## 5. CONCLUSION

With this Artisanal Gold Monitoring Pilot in Mambasa, Ituri, IPIS aimed to contribute to the rising efforts for more transparency in artisanal gold supply chains of Eastern DRC. This was done by developing a methodology that relies on and enhances complementary local monitoring capacities of state agents and civil society actors. This served to facilitate access to useful data for a variety of stakeholders supporting sector transparency, good governance and responsible sourcing.

Between January and June 2017, joint teams of SAESSCAM and civil society surveyors visited and monitored 92 mine sites around the Mambasa artisanal gold trading hub. Each site was visited twice, once during the dry season and a second time in the rainy season.

These mines lie in a densely populated area with difficult access, particularly in the rainy season. Most mines are alluvial (in river beds), with a smaller portion of eluvial (on hill sides) and few hard-rock open-pit or underground mines. While this area has a great number of sites, few of them are exceptionally large. The total number of workers in the pilot area decreased from 3 066 in the dry season to 2 009 in the rainy season, with a typical mine home to between 20 and 35 workers. About half of them descend from another province than Ituri. Together with their remote location, this explains why nearly 90% of mines have a camp where workers live and sleep, in nearly all cases with families.

Mechanisation is generally poor and the extraction mainly manual, with pickaxes, spades and shovels as most common tools. Nevertheless, compared to other areas in Eastern DRC, artisanal gold mining in the monitoring zone is assessed as particularly productive. While IPIS estimated an average gold production per miner of 1,17 grams in Eastern DRC between 2013 and 2015,<sup>62</sup> the analysis of monitoring data in Mambasa points to an estimated production of 1,31 grams per miner in the dry season. In the rainy season the overall production drops, but due to the lower number of miners, their individual production rose to even 1,53 grams per week.

This gold is either used as a currency on mine sites and in villages, or sold to traders of diverse nature and sizes. All of this occurs according to informal structures and arrangements, with no registered trading house in the entire territory of Mambasa. This renders oversight particularly difficult. Surveyors identified 18 different trading centres in the focal area, with Mambasa town itself as most important hub. From there the gold is assessed to flow in most cases to Butembo, followed by Bunia and then Beni.

Memories of the area's violent past are still fresh. As recent as 2013, rebels (Mai-Mai Simba) led by the notorious leader 'Morgan' took Mambasa town shortly under their control. However, in recent years the national army FARDC has been expanding its zone of control steadily. On none of the sites did surveyors identify any presence of or interference by non-state armed actors. The FARDC itself was observed to be visiting 17 of the 92 sites during the dry season (an illegal practice under Congolese law). This presence decreased to only 8 sites in the rainy season. On respectively 9 and 4 sites were they reported to collect illegal taxes. Severe human rights violations by FARDC elements were rare, with few reports of violence (1 case of sexual abuse, 1 case of torture, and incursions on 1 site).

While only 3 state services (SAESSCAM, Division des Mines and PNC) have a mandate to be present on Ituri's mines, surveyors reported 5 additional actors that were frequenting the 92 sites. The main reason for their presence appeared to be the collection of a complex tangle of ill-defined formal and informal taxes, inciting confusion, double taxation and sometimes corruption.

Given that few miners have received technical training on health and safety, and that protective gear is rare, the risk of accidents is high. Nonetheless, as mining is mainly alluvial, with few deep pits or galleries, accidents appeared to occur on a lower scale than in many other mining areas in Eastern DRC. Still, over the 6-month monitoring period, surveyors reported 7 wounded and 8 fatalities due to accidents on mine sites, the main cause being pit collapses.

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62 IPIS, *Analysis of the interactive map of artisanal mining areas in eastern DR Congo, 2015 update*, Antwerp, October 2016, p. 16.

The production process in Mambasa is strongly male-dominated and only few women take part in the production or processing phase. Yet, their role in non-mining activities (such as small commerce, cooking, and transport) is quintessential. The male-dominance, remoteness of mine sites, and absence of state authority, leads to a high risk of sexual violence. While this is difficult to monitor, surveyors registered 5 cases of sexual abuse on mine sites. Sex workers were identified on 17 sites, and in 4 cases were surveyors convinced that minors were involved.

Child labour occurs but does not appear to be widespread in Mambasa. Surveyors registered 11 sites where children under the age of 15 were with certainty involved in the production process. This concerned mainly non-hazardous tasks such as washing, panning and sieving, but also some more demanding jobs like crushing or grinding rocks, and transporting water and stones.

The absence of industrial mining activities has spared the focal area from social tensions or major violent incidents that often occur related to land and mining rights in DRC. This might also explain why miners have undertaken so few attempts to organise themselves and why cooperatives of mine workers are non-existent in the area.

## Data access

IPIS attaches great importance to data security. With this Artisanal Gold Monitoring Pilot, the aim is to enhance overall transparency of artisanal gold supply chains, whilst taking into account the potential political and commercial sensitivities of distributing detailed and disaggregated data. IPIS therefore opts for a two-tier approach to data access that reflects the nature of potential data sensitivity: public access for non-sensitive data, and tailored responses to specific queries regarding commercially and politically sensitive data.

On the one hand, the publically available data is disseminated in three ways. Firstly, an analytical monitoring report provides and contextualises aggregated data for the entire zone of coverage. Secondly, an interactive webmap presents non-sensitive mine-site specific data. This includes both static or slowly changing information such as site coordinates, type of mining operations, and state services presence, as well as more dynamic data on worker and pit numbers, armed group presence/interference, and working conditions. Thirdly, an open data sheet displays the data on which the webmap is based, as well as some additional non-sensitive mine-specific data.

On the other hand, commercially and politically sensitive data is not considered appropriate for raw distribution and will therefore only be provided through tailored responses to specific requests in the context of due diligence enquiries. Data that is considered commercially sensitive due to its utility to commercial purposes or competitive practices includes disaggregated information on gold pricing, taxes and fees, and destination of gold flows. Political sensitivity refers to issues such as the identities of certain actors in the (illegal) supply chain and details of certain security, fraud, conflict financing and human rights incidents. Data requests that relate to such sensitivities will be responded to once the identity of the data user is known and the security/commercial status of the information requested has been verified.

## Data use and dissemination

IPIS sees three main dimensions in the use of the data produced by this pilot.

Firstly, the data must be seen as the output of a pilot testing a trade-hub level monitoring system. It demonstrates what a low-cost model, using and enhancing local structures and capacities to put in place a dynamic data flow, can deliver. IPIS in this manner seeks to contribute to the on-going debate on enhancing transparency and traceability of artisanal gold supply chains in Eastern Congo.

Secondly, the data gives a detailed insight into the production and trade conditions along the artisanal gold supply chains feeding into the Mambasa trade hub. This data is of use to actors interested in setting up specific responsible sourcing initiatives, as well as in the light of the on-going work of validating artisanal mine sites in Eastern DRCongo.

Finally, the data output of this pilot gives broader insights into the often opaque world of artisanal gold mining and trade in DRCongo. It helps to understand the dynamics of this sector, in a manner that seeks to aid the multitude of actors and initiatives striving to improve the governance, security, socio-economic and human rights impact of artisanal gold mining.

In order not to limit this discussion to the international level, IPIS will translate the report to French and organise a dedicated dissemination event in Ituri. It will distribute the report and maps broadly and stimulate the much-needed Congolese debate on responsible gold sourcing.

## Pilot follow-up and scalability

With its artisanal gold monitoring pilot, IPIS simultaneously strived to reach sustainable results in Mambasa, and develop a reliable, dynamic, secure and low cost monitoring methodology that can be applied in other areas of Eastern DRC.

In Mambasa, the results obtained by the pilot can be divided in two categories. First, the most visible output of the monitoring pilot is evidently the data on operational, socio-economic and due diligence aspects, which can be accessed by interested parties in various forms. IPIS will actively promote this data and hopes it can trigger, inform or support existing or new responsible sourcing initiatives in Mambasa/Ituri. Secondly, the capacities and awareness in the area on responsible sourcing were raised considerably and sustainably. Mambasa now has a pool of around 10 responsible sourcing agents from civil society and SAESSCAM who will under their respective mandates continue to monitor artisanal gold mining and trade conditions in the area.

Thanks to the PPA grant IPIS was offered the opportunity to develop this methodology and test and optimise it during 6 months in Mambasa. IPIS is now ready and eager to apply it to different geographic areas in Eastern DRC in order to achieve similar data outputs, raise awareness and improve monitoring capacities. IPIS believes there is a future in DRC for this kind of monitoring, which does not rely on snapshot visits or expensive technology, but on a continuous use and enhancement of local structures and capacities. Parties interested in cooperating with IPIS to replicate this methodology as such or adapt it to the specific needs of their activities are warmly invited to reach out to IPIS.