ASSESSMENT OF HUMAN TRAFFICKING IN ARTISANAL MINING TOWNS IN EASTERN DEMOCRATIC REPUBLIC OF THE CONGO

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ACRONYMS

C-TIP	Countering Trafficking in Persons
CAPI	Computer Assisted Personal Interviewing
DHS	Demographic and Health Surveys
DRC	Democratic Republic of Congo
FARDC	Forces Armées de la République Démocratique du Congo
FDLR	Forces Démocratiques de Libération Du Rwanda
IPIS	International Peace Information Service
IRED	Institut en Recherches et Evaluations pour le Development
IPV	Intimate partner violence
MONUSCO	United Nations Organization Stabilization Mission in the Democratic Republic of the Congo
NGO	Non-governmental Organization
SAESSCAM	Small-Scale Mining Technical Assistance and Training Service
SI	Social Impact
TIP	Trafficking in persons
ODK	Open Data Kit
OR	Odds ratio
UNICEF	United Nations Children's Fund
UNODC	United Nations Office on Drugs and Crime
USAID	United States Agency for International Development

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INTRODUCTION

Human trafficking is a fundamental violation of human rights. In conflict and post-conflict situations, people may be more vulnerable to trafficking due to high levels of exploitation and violence, weak civilian protection mechanisms, displacement, and a breakdown in social cohesion. The Democratic Republic of the Congo (DRC) has been embroiled in violence since 1996, when violence from the Rwandan genocide sparked conflict across the border in the eastern provinces of Congo. Dozens of armed groups with shifting allegiances, motivations, and identities have preyed upon civilian communities, perpetrating a wide array of human rights abuses. Over the decades of violence, millions of civilians have died, making Congolese conflict the deadliest since World War II.

In recent years, the artisanal mining sector in eastern Congo has gained a great deal of international attention for the role it has played in fueling the conflict by providing rebel groups with a source of income. Recognition of this dynamic has raised concerns that these mining communities are also home to some of the worst human rights abuses as different powerful actors vie for control of these profitable areas. Hundreds of thousands, and possibly millions[1] of artisanal miners and their families rely on mining for their livelihood. Driven by extreme poverty with limited economic alternatives, these miners accept extreme working conditions. The environment is further complicated by poor governance, poor regulatory oversight, and widespread corruption; conditions that are conducive to labor and sexual trafficking.

The United Nations and a number of advocacy groups have described different forms human trafficking in these areas. The 2014 State Department Trafficking in Persons Report calls particular attention to trafficking in persons in the artisanal mining sector. Despite this recognition, systematic quantitative evidence about the type and scale of human trafficking in Congolese mines is lacking. This project attempts to provide an empirically-based understanding of the nature and scale of labor and sex trafficking of men, women and children in artisanal mining sites in South Kivu and North Katanga. It then aims to use this information to identify recommendations for the United States Agency for International Development's (USAID) programmatic interventions.

Fundamental to the understanding of the scope of human trafficking in this context is clearly defining who a trafficked person is. Broad categories of human trafficking include: forced labor; debt bondage; sex trafficking; forced child labor and child sex trafficking. The Trafficking Victims Protection Act of 2000 (TVPA) defines the most severe forms of human trafficking as:

- Sex trafficking in which a commercial sex act is induced by force, fraud, or coercion, or in which the person induced to perform such an act has not attained 18 years of age; or
- The recruitment, harboring, transportation, provision, or obtaining of a person for labor or services, through the use of force, fraud, or coercion for the purpose of subjection to involuntary servitude, peonage, debt bondage, or slavery.

[1] Some experts estimate between 2 to 3 million Congolese throughout the country may work in artisanal mining on a regular basis.

PURPOSE OF THE ASSESSMENT

Systematic empirical evidence about the type and scale of human trafficking in DRC mines is lacking. Many of the assertions cited by domestic and international groups are based on anecdotal evidence that seek out specific instances of trafficking in persons (TIP). Despite the important body of work aimed at documenting the issues of trafficking in the artisanal mining sector, the established narrative is undermined by the absence of data on the prevalence, patterns, and causes of trafficking. It is therefore difficult to identify which types of interventions are most needed, and what the most pivotal points of entry are for programming to combat TIP. This assessment therefore seeks to fulfill the need for an empirical inquiry using quantitative research methods.

The objectives of this work are to: 1) provide an empirically-based understanding of the nature and scale of labor and sex trafficking of men, women and children in eastern DRC mining communities; 2) identify recommendations for USAID programmatic interventions; and 3) recommend evaluation activities and research questions related to the recommended programmatic interventions. This initial version of the assessment addresses the first point and aims to serve as a basis for further discussion about recommendations.

SURVEY SITES AND SAMPLE SELECTION

The survey is intended to measure human trafficking in the artisanal mining industry in two Eastern DRC provinces. Sampling was conducted in Kalehe, Walungu, and Mwenga territories in South Kivu Province and in Kalemie and Nyunzu territories in North Katanga. Absent more accurate population figures, we cannot be completely sure of the generalizability of the results; however, the findings presented here are the product of a systematic approach to both random site and random respondent selection. The final sample included 1,522 respondents across 32 sites, which included 1,129 males (74.2%) and 393 females (25.8%). The survey results were also complemented by qualitative data collection activities in five sites.

FINDINGS

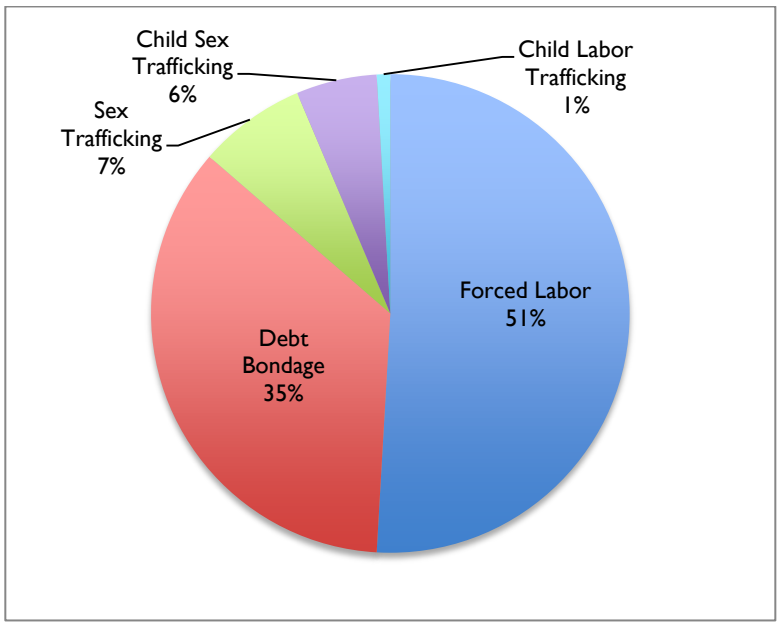
Based on the definitions operationalized in this assessment, the results indicate that 6.7% of survey respondents are or have been victims of trafficking. Table 1 outlines the different forms of trafficking identified in the assessment and Figure 1 provides a summary of the distribution of trafficking cases. The findings suggest that labor trafficking (3.7% of the sample) and debt bondage (2.6% of the sample) are more prevalent than sex trafficking in sampled mining sites. The findings from the survey also emphasize the fact that many of the coercive labor practices are committed by civilian actors, such as family members, mining bosses, other miners, or local and government officials, rather than by armed groups. Fifty-six individuals (3.7% of the total sample) were determined to have been labor trafficked. This number reflects those individuals who were forced to work in the mines, or were brought into mining through forced fraud or coercion, and who also stated that they did not feel free to leave their job in mining. Only fourteen individuals (0.9%) of the sample were identified as sex trafficked, six of these were under the age of 18.

Table 1: Definitions and Measures of Human Trafficking

Category of Human Trafficking n=1,522	Male Frequency	Female Frequency	Total Frequency	Total Percent
Labor Trafficking				
Respondents stating that they were forced to work in the mines, or were brought into mining through forced fraud or coercion, and who also stated that they did not feel free to leave their job in mining	44	12	56	3.7%
Debt Bondage				
Respondents stating that they are not able to repay the debts they have accrued, and report having been held against their will, or not being able to leave mining because of debt repayment	32	7	39	2.6%
Sex Trafficking				
Respondents stating they had been forced into marriage	0	5	5	0.3%
Respondents stating they were sex workers by profession and did not feel free to leave their job	0	3	3	0.2%
Child Sex Trafficking				
Respondents stating they were sex workers by profession and under the age of 18	0	6	6	0.4%
Child Labor Trafficking				
Respondents under 18 years of age stating that they do not feel free to leave work in the mines	0	1	1	0.1%
Estimated Total Number of Trafficked Persons: 102 (6.7%)*				

**The total number of trafficked persons is not a straightforward sum of each category since some people fell into multiple definitions of trafficking.*

Figure 1: Human Trafficking by Type (n=102)



The broader analysis of those who show some risk of being trafficked found that these individuals tend to be concentrated in certain territories and sites. Furthermore, a regression analysis looking at risk factors associated with trafficking found that longer time at the mining site; working in Mwenga versus other territories; sleeping at the mining site; having borrowed money in the past year; and being a minor are all significantly associated with the risk of human trafficking (for further details, see the section titled "Characterizing Human Trafficking").

The data presented in Table 1 suggest a low incidence of sex trafficking, as operationalized by incidences of forced marriage, an expressed inability to leave sex work, or sex work under the age of 18. Nonetheless, the survey finds that a high proportion (31.1%) of female respondents report exchanging sex for money. This population is clearly vulnerable to exploitation, as evidenced by high incidences of sexual violence, the exchange of sex for access to work, food and protection, and by the high fees that sex workers report paying both to mine concessionaires as well as to governing authorities. In addition, seven percent of women (28 individuals) reported experiencing sexual violence in the past year.

Trafficking of minors and child labor represents a priority concern. Minors are more likely than adults to be trafficking victims, and 11 out of 49 surveyed minors (22.4%) were considered labor trafficking victims. Furthermore, DRC law and international norms dictate that children under 18 should not engage in physically hazardous work like mining; however, 39 of 49 of the minors in the study (79.6%) were engaged in such work. Furthermore, by subtracting the amount of time adults between the ages of 18 and 25 reported that they have been working in mining, we estimate that 44.2% of these adults worked as miners when they were under 18.

The study identified only a small number of individuals that represented clear cases of debt bondage, unable to pay their loans or leave the mining communities (39 individuals or 2.6% of the sample). Nonetheless, given the high degree of borrowing, the asymmetric relationship between lender and borrower, the common practice of using work to pay off debts, and the high degree of informality in lending (i.e. no documentation nor clear interest rate), it is clear that there is a strong potential for exploitation via lending. The lack of savings associations or other formal lending mechanisms in surveyed mining communities provides individuals working in the mines with few options to safely borrow money.

The most common form of trafficking was forced labor (n=56 or 3.7% of the sample). The definition used for the project was relatively broad. The first criterion for forced labor was any individual that stated that they had been forced to work by threat or coercion at any time since working in the mining sector. The second criterion was that these individuals also stated that they did not feel they were able to leave their job. The assessment also finds a number of additional risk factors and vulnerabilities for exploitative practices. The survey results highlight the low levels of knowledge about laws and policies in mining areas and general unfamiliarity with rights and protections due to those working in artisanal mining. Women in particular have very limited access to information, and reported less access to cell phones and radio messaging than men. Alcohol and drug use is extensive; 50.4% of men report drinking daily and 10.8% of men report using drugs daily. Respondents also have to navigate a variety of fees, whose legality was frequently in doubt. While it is an estimate, we calculate that on average men paid 6.7% of their annual salary in fees for things such as materials, sites, equipment, to travel on roads and to gain the right to engage in trade. Furthermore, numerous respondents faced security threats.

The results presented in this assessment challenge two pieces of accepted wisdom. First, while this assessment does find evidence of trafficking, the research finds lower levels of TIP than is commonly held to exist. This

is not to understate the challenges that exist in Eastern DRC's mining communities; rather, the data suggest that other forms of abuse are more common than trafficking, and that the risk factors for trafficking – such as individual instances of being forced to work for free or experiencing abusive labor practices – deserve attention. People working in mining towns live in a complex landscape of vulnerability where exploitation is extensive. This includes predation from powerful political actors, including state agencies, the national army and other armed groups. Child labor is widespread as is women's sexual exploitation, though they do not always take the form of trafficking. Limited spaces for political participation or labor organization, especially for those in support roles in mining, means that people have little chance to organize and advocate for better working conditions. From a population-level standpoint, confronting these more complex and perhaps more subtle vulnerabilities could have the power to address greater needs and have a wider impact than a more narrow focus on labor or sex trafficking.

Second, it is commonly assumed that conflict is a primary driver of trafficking. To be sure, the decades-long conflict in eastern DRC has destabilized individual lives as well as social, political and economic structures in profound and complex ways. The region as a whole has been profoundly affected by and continues to experience the consequences of current and past violence and conflict. Nonetheless, these findings do not reveal stark differences in the types and levels of abuse in "conflict" vs "non-conflict" sites in the South Kivu and North Katanga contexts examined for this project. In fact, there might be lower levels of trafficking victimization in conflict sites. Surprisingly, respondents reported having witnessed and/or experienced more forced labor, incidences of working for free, and child labor in non-conflict locations. While some abuses could be directly related back to armed groups, the assessment finds that the vast majority of the perpetrators of abuses, such as sexual violence, extortion of fees, and forced labor, were mining bosses, state agents or other civilian actors. These findings speak to the need to address socio-cultural norms, peace-time power structures and attitudes and to promote civic engagement in the rebuilding of the mining sector rather than focus exclusively on armed group abuses.

I. INTRODUCTION

Trafficking in persons (TIP) is a global crime that involves the recruitment, transportation, transfer, harboring, or receipt of persons through the use of force, fraud, or coercion for the purposes of exploitation. A modern form of slavery, human trafficking constitutes a violation of human rights in which victims are deprived of their humanity and basic freedom. TIP can involve either sex or labor exploitation, or both. Trafficking victimizes millions of women, men, and children worldwide and yet is mainly hidden from public view.

In its 2014 TIP Report, the U.S. Government ranks the Democratic Republic of the Congo (DRC) on the lowest tier ranking, Tier 3, a position it has held since 2010 when it dropped from the Tier 2 Watch List.[2] The DRC is a source and destination country for women, men, and children subjected to forced labor and sex trafficking. The TIP Report cites that the majority of this trafficking is internal, and armed groups and criminal elements of government forces in the country's unstable eastern provinces perpetuate much of it. The Report also calls particular attention to trafficking in persons in the artisanal mining sector:

"A significant number of men and boys working as unlicensed Congolese artisanal miners are reported to be exploited in situations of debt bondage by businesspeople and supply dealers from whom they acquire cash advances, tools, food, and other provisions at inflated prices and excessively high interest rates. The miners are forced to continue working to pay off constantly accumulating debts that are virtually impossible to repay, and some miners inherit the debt of deceased family members. During the year, in North Kivu, South Kivu, Orientale, and Katanga provinces, armed groups such as the Democratic Forces for the Liberation of Rwanda (FDLR), Mai Mai Kata Katanga and Mai Mai Morgan, and M23, as well as elements of the Armed Forces of the DRC (FARDC), routinely used threats and coercion to force men and children to mine for minerals, turn over their mineral production, pay illegal "taxes," or carry looted goods from mining villages.

Children are engaged in forced and exploitative labor in agriculture, informal mining, and other informal sectors… Some Congolese women are forcibly prostituted in brothels or informal camps, including in markets, bars, and bistros in mining areas by loosely organized networks, gangs, and brothel operators."

Hundreds of thousands, and possibly millions[3] of artisanal miners and their families rely on mining for their livelihood. Driven by extreme poverty, with limited economic alternatives, these miners accept harsh working conditions. Poor governance, poor regulatory oversight, and widespread corruption further complicate the environment. Conditions are highly conducive to labor and sex trafficking.

The prohibition of slavery is a fundamental principle of international law. There are several treaties that criminalize trafficking in persons, the foremost of which is the United Nations Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children, supplementing the United Nations Convention against Transnational Organized Crime (the "Palermo Protocol"). Within the legal framework of the DRC, Articles 16 and 61 of the Constitution prohibit slavery and imprisonment.

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[2] Tier 3 countries are those countries "whose governments do not fully comply with the U.S. Trafficking Victims Protection Act's minimum standards and are not making significant efforts to do so."
[3] Some experts estimate between 2 to 3 million Congolese throughout the country may work in artisanal mining on a regular basis.

An important aspect of the mining situation in the DRC is that both Congolese and foreign armed groups and criminal elements of the FARDC are believed to have exploited DRC's massive mineral resources to finance the conflict. Due to these concerns, in September 2010, DRC President Kabila banned artisanal mining in North and South Kivu and Maniema provinces. The ban was lifted in March 2011 after a multi-stakeholder set of engagements were concluded to reform the eastern DRC mining sector. Related to these efforts, the US Congress passed an amendment to the Dodd-Frank Wall Street Reform and Consumer Protection Act, under which the U.S. Securities and Exchange Commission (SEC) newly required companies to disclose the use of conflict minerals (tin, tantalum, tungsten or gold) in their supply chain and to report on their due diligence efforts to eliminate any illegal profit to armed groups. The California Senate also passed bill 657, the California Transparency in Supply Chains Act of 2010, requiring companies with annual worldwide gross receipts exceeding $100 million that do business in California to disclose what efforts, if any, they have taken to eliminate human trafficking and slavery from their supply chains.

The international community and the Government of the DRC have taken many steps to address the concerns over conflict minerals, including the development of traceability and certification schemes. The US State Department developed a strategy in response to the provisions of Dodd-Frank to reduce linkages between human rights abuses, armed groups, mining of conflict minerals and commercial products. One of the five objectives of this strategy is to protect artisanal miners and local communities and to "reduce the vulnerability of men and women in local communities directly and indirectly engaged in the mining sector."[4] While the efforts to address conflict minerals are still underway and concern has been stated about human rights abuses in artisanal mining in the eastern DRC, efforts have not included a concerted focus on elimination of trafficking in persons.

As the State Department TIP report indicates, many reports suggest that labor, sex, and conflict related trafficking is a common feature in the DRC. These assertions have been made by a number of actors including the Office of the United Nations High Commissioner for Human Rights, the Security Council's Group of Experts on the DRC, United Nations Children's Fund (UNICEF), the United Nations Organization Stabilization Mission in the Democratic Republic of the Congo (MONUSCO), and the non-governmental organization (NGO) Free the Slaves. For example, a UN report suggests there is widespread coerced labor in mines controlled by armed forces, which illegally exploit, tax, and trade minerals.[5] In North Kivu, an area not examined in this project, some estimates have put the number of artisanal miners trapped in debt bondage as high as 90%.[6] However, the definition of debt bondage in these reports is restricted to looking at people who owe some debt to *commerçantes* in barter systems. These estimates do not draw heavily on international definitions of debt bondage, but rather look simply at instances of debt. Another assessment, which surveyed a non-random sample of 742 individuals in North Kivu also found very high levels of experiences that suggested human trafficking. In Bisie in North Kivu, the survey found that 40% of

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[4] The State Department strategy identifies the following five objectives: promoting an appropriate role for security forces, enhance civilian regulation of the DRC minerals trade, protect artisanal miners and local communities, strengthen regional and international efforts, and promote due diligence and responsible trade through public outreach.

[5] UN Security Council, Final Report of the Group of Experts on the Democratic Republic of the Congo, S/2009/603, New York, November 23, 2009.

[6] Garret, Nicholas. (2008). "Artisanal Cassiterite Mining and Trade in North Kivu: Implication for Poverty Reduction and Security" (Accessed at http://www.rcsglobal.com/documents/CASM_WalikaleBooklet2.pdf) pg. 45.

respondents were experiencing conditions of slavery.[7] A 2010 assessment of human trafficking was conducted in South Kivu in sites selected because of a high level of mining activity and the presence of armed actors. Interviews were conducted based on a convenience sample that sought individuals who exhibited "observable signs of vulnerability to or likelihood of being in slavery."[8] While the results of this project found extremely widespread cases of slavery, the report stated that the methodology was intended to seek out cases of this abuse, rather than provide a population-based estimate.

Because of varying definitions and methodologies, the nature and extent of trafficking varies across these reports. This is perhaps to be expected, as the study of trafficking in the region is complicated by numerous definitional and measurement challenges, in often remote and insecure areas of the DRC. Many of the reports cited here look at few notorious mines in North Kivu, or seek out areas that are suspected to have the high levels of abuse. Further complicating the ability to estimate the extent of human trafficking is the difficulty determining the degree to which exploitation is driven principally by coercion or whether economic hardship pushes people into exploitive situations, which may not amount to trafficking. This study represents the first population-based assessment of human trafficking in South Kivu and North Katanga aimed at assessing the overall scope and nature of this problem.

PURPOSE OF THE ASSESSMENT

Systematic empirical evidence about the type and scale of human trafficking in DRC mines is lacking. Many of the assertions cited by domestic and international groups are based on anecdotal evidence that seek out specific instances of TIP. Despite the important body of work aimed at documenting the issues of trafficking in the artisanal mining sector, the established narrative is undermined by the absence of data on the prevalence, patterns, and causes of trafficking. It is therefore difficult to identify which types of interventions are most needed, and what the most pivotal points of entry are for programming to combat TIP. This assessment therefore seeks to fulfill the need for an empirical inquiry using quantitative research methods.

The study began with a scoping assessment in March 2013 to gather information necessary to articulate an assessment strategy for an empirical study of the nature, scale and scope of forced labor and sex trafficking associated with artisanal mining in eastern DRC.[9] This scoping mission involved speaking with representatives of key UN agencies, donors, local and international non-governmental organizations, and representatives of the national and provincial government in both Kinshasa and Bukavu. Results of this initial assessment informed the work described in this report, which includes a population-based survey; qualitative data collection and the formulation of recommendations. The objectives of the project described in this current report are to: 1) provide an empirically-based understanding of the nature and scale of labor and sex trafficking of men, women and children in eastern DRC mining communities; 2) identify recommendations for USAID programmatic interventions; and 3) recommend evaluation activities and research questions related to the recommended programmatic interventions.

This project seeks to answer the following research questions in order to achieve the stated objectives:

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[7] Free the Slaves. (2011). The Congo Report: Slavery in Conflict Minerals. (Accessed at https://www.freetheslaves.net/document.doc?id=243)
[8] Free the Slaves (2013). "Congo's Mining Slaves: Enslavement at South Kivu Mining Sites." (Accessed at https://www.freetheslaves.net/document.doc?id=305). pg. 13.
[9] The minerals of interest for this particular study include gold, Tantalum (coltan), Tin (cassiterite), and Tungsten (wolframite), also referred to as the "3Ts".

1. What is the nature and scale of human trafficking of men, women and children in gold, cassiterite, coltan, and tungsten mining towns in eastern Democratic Republic of the Congo (DRC)?
2. What are community attitudes and knowledge regarding trafficking?
3. Which factors contribute to the perpetration of human trafficking in mining communities, including conflict versus non-conflict environments; state and non-state armed group control; type of mineral exploitation; and cultural, economic, political, and institutional structures?
4. What are opportunities to protect artisanal miners and local communities from human trafficking and to promote C-TIP activities?

DEFINITIONS AND APPROACH

Fundamental to the understanding of the scope of human trafficking in this context is clearly defining who a trafficked person is. Broad categories of human trafficking include: forced labor; debt bondage; sex trafficking; forced child labor and child sex trafficking, each of which is defined in Box 1. This report will address all forms of trafficking, drawing on the definitions used by the Office to Monitor and Combat Trafficking in Persons at the U.S. State Department and the Trafficking Victims Protection Act of 2000 (TVPA).

This report uses responses to survey questions to identify different forms of human trafficking. In some cases, the TVPA definitions provide relatively straightforward ways to identify victims. In this category, for instance, are those who report being forced to marry against their will and those being forced to work by an individual or organization. Other forms of trafficking are more subtle and difficult to detect, yet it is just as important to identify these cases. Examples of this include those who are forced to continue working because of overwhelming debts. The TVPA description of debt bondage does not provide a clear-cut operational definition, and many of those facing this issue might not necessarily self-identify as being trafficked. To address this issue, the survey asked detailed questions about debt, borrowing, and loan repayment in addition to asking questions about feeling forced to work or unable to leave.

Human trafficking is a complex phenomenon. The illicit nature of the problem makes it fundamentally challenging to measure. Those individuals affected by trafficking may not be completely aware of the extent to which they have been exploited, nor understand the full nature of the abusive systems that victimize them. As such, perhaps the best methodological approach to understanding human trafficking is for researchers to embed themselves for long

Box 1: Key Definitions

Labor trafficking
Labor trafficking encompasses the range of activities – recruiting, harboring, transporting, providing, or obtaining – involved when a person uses force or physical threats, psychological coercion, abuse of the legal process, deception, or other coercive means to compel someone to work. Once a person's labor is exploited by such means, the person's previous consent or effort to obtain employment with the trafficker does not preclude the person from being considered a victim, or the government from prosecuting the offender.

Sex trafficking and child sex trafficking
A commercial sex act is induced by force, fraud, or coercion, or in which the person induced to perform such an act has not attained 18 years of age.

Debt bondage
The status or condition of a debtor arising from a pledge by the debtor of his or her personal services or of those of a person under his or her control as a security for debt, if the value of those services as reasonably assessed is not applied toward the liquidation of the debt or the length and nature of those services are not respectively limited and defined.

Child labor trafficking
A child can be a victim of human trafficking regardless of the location of that exploitation. Indicators of forced labor of a child include situations in which the child appears to be in the custody of a non-family member who has the child perform work that financially benefits someone outside the child's family and does not offer the child the option of leaving.

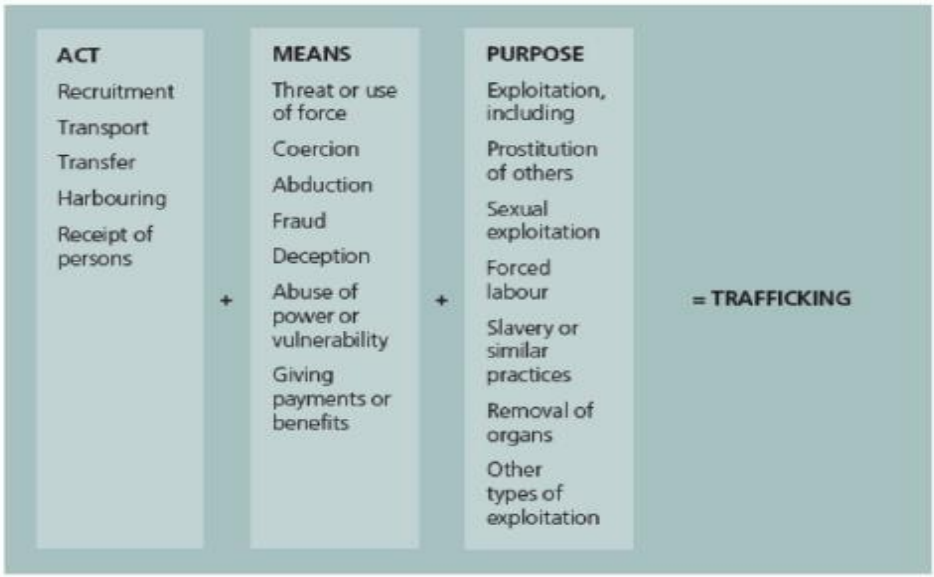
amounts of time in communities to explore hidden dynamics and the experiences of those vulnerable to trafficking. Nonetheless, such an approach would not allow for a broader generalization about the extent and scope of the problem. Population-based surveys offer an important tool to fill this gap and to help illuminate the scope and nature of trafficking within a given area. This knowledge can then be translated into better policy and programming responses to address this devastating phenomenon.

Survey based measurements of trafficking, however, must overcome substantial definitional and measurement challenges. Those people who have experienced trafficking cannot be asked to define whether they have been victimized. Fear of reprisals or concern over reporting abuses from those in power can also hinder researchers' ability to define this problem. To address these problems, this project asked concrete questions about reasons for seeking out work in mining towns, vulnerabilities they encountered while doing this work, challenges related to pay, control by bosses, and freedom to leave work in mining should they choose to leave. A number of safeguards were put in place to protect respondents throughout the project activities, as discussed in the methodology section below. In addition, there was repetition built into the survey, so respondents who did not report a sensitive experience on one question had the opportunity to disclose later in the survey. This approach has been used to measure other sensitive topics – for instance the experience of intimate partner violence (IPV) in the Demographic and Health Surveys (DHS).[10]

The authors drew upon the United Nations Office on Drugs and Crime (UNODC) approach to understanding human trafficking. Their definition teases apart the elements that contribute to identifying a crime as human trafficking, as opposed to other forms of exploitation. As shown in Figure 2, trafficking according to UNODC requires an act, a means, and a purpose. These three elements might take different forms, but trafficking requires all three. In a similar vein, this project sought to systematically combine responses to a set of survey questions to identify those individuals who seemed to have been trafficked. Affirmative answers to individual survey questions might suggest a potential risk factor for trafficking, however, any one question by itself might not offer a clear indication of victimization. For example, the survey asks respondents if, "At any point since working in the mining sector, has anyone held you somewhere against your will, or restricted your freedom of movement?" While an affirmative answer would suggest the potential of victimization, it is insufficient to conclude that a respondent has been trafficked. As such, respondents who respond in the affirmative to one of many trafficking related questions are considered to demonstrate risk factors for trafficking while only individuals who demonstrate certain combinations of responses have been considered to be trafficking victims.

[10] Michelle J. Hindin, Sunita Kishor, Donna L. Ansara. (2008) "Intimate Partner Violence among Couples in 10 DHS Countries: Predictors and Health Outcomes." Macro International Inc. Calverton. (Accessed at: http://dhsprogram.com/publications/publication-AS18-Analytical-Studies.cfm)

Figure 2: The Elements of Human Trafficking



Source: United Nations Office on Drugs and Crime, http://www.unodc.org/unodc/en/human-trafficking/what-is-human-trafficking.html.

In the sections on forced labor and debt bondage, the report makes explicit exactly how the definitions were constructed from the survey elements. Each element of the definition is clearly defined and counts of those who have experienced each element are given. This is important since, while few people may have experienced all three elements of trafficking, it is useful to understand how many people experienced one or more of the risk factors or components. For instance, in operationalizing labor trafficking, we take into account whether a person has even been forced to work at any point, but also whether a person feels they are not free to leave their job. By combining these experiences, we hopes to capture the concept of being "compelled to work" in exploitative conditions, as stated in the definition of labor trafficking.

This project recognizes that these results should not be viewed as the one and definitive way to define human trafficking for every individual surveyed for the project. It instead looks at how broad categories of risk factors combine to help detect trafficking at a population level. Acknowledging challenges and trying to move forward within these constraints is a fundamental part of this effort. For this reason, the report makes all definitions related to human trafficking very transparent in the text of the report. This is done in the hopes of contributing to an ongoing dialogue among those in this field, and to serve as one step in the effort to define best practices related to measuring human trafficking. Furthermore, this assessment discusses multiple forms of exploitation and abuse examined in the survey that, while they may not fall formally within trafficking definitions, are nonetheless critical for understanding vulnerabilities in mining towns.

II. METHODOLOGY

SURVEY SITES AND SAMPLE SELECTION

The survey is intended to measure human trafficking in the artisanal mining industry in two Eastern DRC provinces. Sampling was conducted in Kalehe, Walungu, and Mwenga territories in South Kivu Province and in Kalemie and Nyunzu territories in North Katanga. These territories were selected to represent locations with active artisanal mining activities that also were of interest to USAID. Sampling from all possible mining tunnels in these territories ensured adequate variation in conflict, the presence of regulators, and the type of mineral being mined. Originally, the team had intended to include a third territory from North Katanga; however, because of insecurity, difficult access, and relatively fewer mining sites, it was decided to limit the sample to two North Katanga territories.

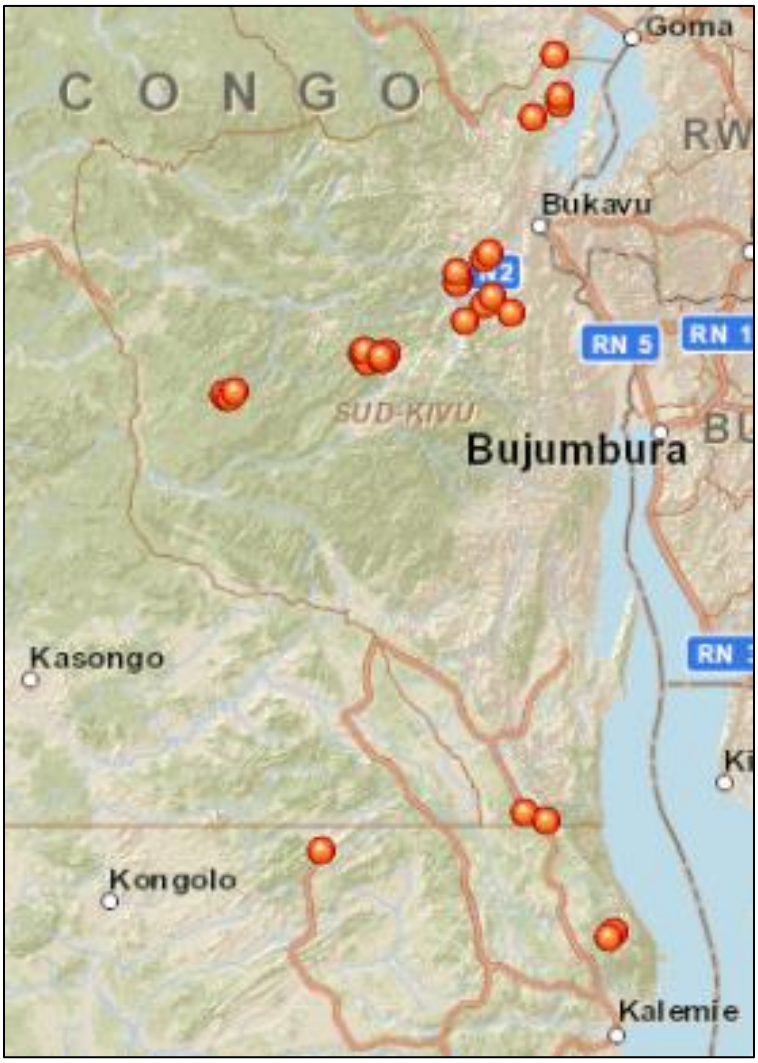
The study benefited enormously from the work of the Belgian research institute the International Peace Information Service (IPIS), which conducted a census of artisanal mining sites in Eastern DRC in 2013 and 2014, and constructed a comprehensive list of roughly 800 mining sites and 85 trading centers.[11] This rich source of information included the location of sites (with GPS coordinates), the number of mines in each site, the approximate number of miners, the presence or absence of armed groups, and the types of metals being mined. The assessment team used these data as a sampling frame for the study. Conflict-status of the sites was assessed based on the IPIS determination of conflict-affectedness. Those sites that had any armed group presence were designated as "conflict-sites."

The IPIS-identified mining sites across the five study territories were stratified by conflict, and clusters and randomly sampled proportionate to size with replacement. The definition of which sites were conflict sites was determined by the IPIS dataset, which explicitly mapped the presence of armed group in mining sites. The selection of a site implied that a cluster of 24 respondents would be surveyed at that site. By stratifying by conflict, the methodology would help ensure that the sample reflected the population in terms of those working in conflict and non-conflict areas. By randomly sampling proportionate to size with replacement, larger sites had a higher probability of being sampled and of having numerous clusters selected from that site. The goal was to achieve a sample that would be approximately representative of the population working in and around the mining industry in the five territories of study.

Figure 3 below displays the sampled mines on a map. The locations of each mine are marked with an orange circle.

[11] Steven Spittaels and Filip Hilgert. (2013). "Analysis of the interactive map of artisanal mining areas in Eastern DR Congo." Antwerp: International Peace Information Service.

Figure 3: Map of Sampled Mines



While the study aimed to achieve as representative a sample as possible through random sampling of complete lists of miners and support workers in sampled sites, there are several unavoidable sources of sampling error. First, although the IPIS data provided estimates of the population of miners at each site, these were estimates and not an exact count of miners. Second, the target population for this assessment is somewhat different than IPIS's target population—this assessment targets anyone working in the mining industry, including traders, sex workers, mine bosses, and support workers, while the IPIS data only focuses on miners. The IPIS data also did not generally divide their population estimates by gender. While it is safe to assume that there is a strong correlation between the number of miners and support workers across different sites, it cannot be assumed to be a perfect one to one correlation. Third, given that interviews had to be conducted in person without a complete population listing, the survey is still based on a cluster sample rather than a simple random sample. Fourth, data collection in the Eastern DRC confronts a number of challenges, including conflict, crime, challenging weather conditions, and limited infrastructure. In several cases, it was necessary to replace randomly selected sites because of these considerations. For example, while the mining site of Zombe was originally included as part of the sample, it had to be replaced because of armed conflict in

the area and a broken bridge that prevented access. The replacement site was randomly selected from a list of locations with characteristics similar to the inaccessible site.

Fifth and perhaps most importantly, the mining population is a very fluid population that changes on a daily basis based on the availability or perceived availability of minerals. In a related vein, conflict or the level of conflict can also change rapidly. The most salient example of such dynamic population changes can be seen in Musebe, North Katanga. At the time of the IPIS data collection, Musebe had an estimated 1,250 miners; however, by the time of this survey a few months later, an uptick in mineral discoveries had increased the population to over 10,000. As a result, even though the IPIS data was recently collected, it cannot reflect the ever-changing reality on the ground. While the assessment team did adjust the sampling strategy and draw additional clusters from Musebe, this site remains under-represented in the final sample.

Creating complete lists of miners and support workers at each mining site was a key challenge for this work. In an industry that is transient and informal, it is difficult to access complete lists of those working at mining sites. In order to achieve this, the assessment team worked with key informants at each site to develop as comprehensive of a list as possible of all of the individuals involved in the industry and then randomly sampled from that list. Since those working at sites could include thousands of workers, the assessment team first identified which professions were active at each mining site. In some sites, there were only miners and heads of mining teams and few supporting professions. In the larger sites, there were many professions with large numbers of people working in each. To make the listing exercise manageable, for each type of profession, the assessment team identified those who were knowledgeable about the context and could list the people working in a given job. Once a key person completed a list, the assessment team took the list to others to check for accuracy and completeness. In the sites with hundreds or thousands of employees, lists were created for subdivisions of the mine to make the listing exercise manageable. By subdividing mines into manageable pieces, the team sought to ensure that the lists remained accurate.

Since a focus of this work was to understand women's participation in mining towns, and their vulnerability to human trafficking, efforts were made to ensure at least 20% of the sample was comprised of women. Once a list of all people working at the mining site was compiled, the survey team counted the number of women on the list. If the proportion of women was over 20%, then proportional sampling of women was undertaken. If, however, less than 20% of the sample was women, the survey team over-sampled females to get at least a 20% sample. In some cases, this was not possible because of the very limited number of women at a site. For instance, if 100 individuals were identified, but only 5 were women, then the survey team was asked to attempt to interview all 5.

To compensate for participation in the survey, respondents were provided with a bar of soap. This kind of remuneration has been found successful in previous projects. While the provision of a small incentive helps offset costs associated with taking the time to answer the survey, it is not such a generous payment those who might not want to participate felt compelled to do so. The response rate for the survey was 88.9%. As shown in Annex B, the sample included 1,522 respondents across 32 sites, which included 1,129 males (74.2%) and 393 females (25.8%).

The tables presented in Annex B provide a sense of how the sample may differ from the population of individuals working in the artisanal mining industry. While the tables in the annex present both the population estimates from IPIS's study and from our own estimates, it is important to reiterate that these are approximations and that the populations remain unknown. The tables presented in Annex B suggest that the

Katangan territory of Nyunzu is under-represented and the South Kivu territory of Walungu is over-represented. This is somewhat driven by under-sampling in the heavily populated Musebe site of Nyunzu. Conflict sites might also be under-sampled, and this is likely a result of the replacement of some conflict sites that posed a threat to enumerators.[12] Finally, women might also be somewhat oversampled. Given the uncertainty in the population figures, however, we have opted not to weight the data and simply present the unweighted data in this assessment report.

SURVEY INSTRUMENT AND MEASUREMENT

A survey was generated to assess respondents' demographic characteristics, access to information, personal priorities, employment experiences, experiences with exploitation, and attitudes and knowledge about trafficking. There are several challenges to operationalizing the definitions of trafficking discussed above through a survey. Trafficking is a sensitive issue and there is a risk that respondents will not honestly answer survey questions, resulting in an underestimation of the phenomenon. Given the substantial measurement challenges, we present a detailed explanation of each measurement in the analysis that follows.

Survey data were collected using SurveyCTO, an Open Data Kit (ODK)-based collection software, on android tablets. Electronic data capture allowed for computer assisted personal interviewing (CAPI), which reduces human error in a number of important ways. For example, skip patterns are programmed into the survey, avoiding common skip pattern errors, value ranges are restricted, and certain survey items are programmed as "required" to prevent blank survey responses. Furthermore, CAPI avoids the need for an additional process of data entry, where additional errors could be made. In addition, the use of electronic data collection enabled GPS and time-stamped data, which enables better data supervision and quality control. The survey and qualitative instruments are included in Annex D.

RESEARCH TEAM

Data collection was performed by a South-Kivu-based research organization, Institute of Research and Evaluation for Development (IRED). The IRED project director worked closely with the principal investigator and a local mining expert to pilot the survey instruments, train the enumeration team, and oversee data collection. The enumeration team was a highly skilled team of researchers with previous experience conducting both qualitative and quantitative surveys. Five IRED supervisors underwent an initial training and then oversaw both the pretesting of the instrument and an onsite piloting of the instrument and sampling methodology. The full data collection team went through a week long training on upholding research ethics, creating positive and appropriate interaction with survey respondents, monitoring for psychological distress, ensuring appropriate data collection and storage, using electronic tablets, and following safety protocols in unstable settings. Four survey teams were assembled, each with a supervisor and at least one female enumerator to conduct interviews with women at the mining site. A total of 24 survey enumerators (17 men 7 female) were trained. Female survey enumerators interviewed all female respondents. Data collection occurred between April 3 and May 13, 2014. Several mechanisms were in place to ensure the quality of the data: 25% of surveys took place in the presence of a supervisor, an additional 50% were audited by the field supervisors, and 23% were audited by IRED's home office.

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[12] Although one would expect this to present a problem for the study, the data actually suggest that labor and sexual trafficking and exploitation in Eastern DRC's artisanal mines are more problematic in non-conflict areas. This might not be the case with trafficking of child soldiers; however, this study did not attempt to measure this phenomenon.

ETHICAL CONSIDERATIONS

Ethical approval for the research was obtained from the Institutional Review Board at Social Impact. All potential participants were read a comprehensive consent script that emphasized the voluntary and anonymous nature of the study. Verbal informed consent was obtained from all respondents and interviews were conducted in a private setting identified in each site. As mentioned above, participants were given a small gift (a bar of soap) for their participation. Enumerators emphasized that non-participation or non-response of certain questions would in no way affect a respondent's ability to receive the gift, or their ability to receive other services in the community. Enumerators were trained to monitor for respondent distress. In the event of respondent stress, the enumerators offered to either terminate the survey or to set up a time to come back if the respondent expressed wanting to resume the survey at another time. In addition, all enumerators had a location-specific referral card for psychological and medical services in the area that was shared in the case that the respondent requested referral information or exhibited signs of stress. This occurred in two cases during the course of the survey administration. While the majority of the survey respondents were adults, 49 respondents, or 3.2% of the sample, were minors between the ages of 15 and 17.

STATISTICAL ANALYSIS

All variables were analyzed disaggregated by sex of the respondent, since examining gendered differences in experiences was central to this project. In those cases where there were notable differences in the gendered experiences, this was noted in the results. Additionally, a goal of the project was to examine if presence of an armed group at the mine and type of mineral affected indicators related to human trafficking. Unadjusted associations were run looking at armed group presence and type of mineral and the following variables: reports of children working at the mine; reports of people witnessing forced child labor; women working at the mine; reports of having engaged in transactional sex; reports of being a regular sex worker; exchanging sex for food; engaging sex for protection; experiences of sexual violence; reports of witnessing forced marriage; being held against one's will; having to work for free; having to sell minerals at lower than market price, and having to work for free to pay off a debt (Table C.5 in Annex C). In addition, a logistic regression analysis was run to explore the correlates and causes of labor trafficking.

QUALITATIVE DATA COLLECTION

The survey data are also complemented by key informant interviews. Four mining sites were purposively selected to conduct qualitative data collection activities. The research team added a fifth site mid-way through data collection to maximize conflict-affectedness and diversity in types of minerals being mined. Ultimately, 24 semi-structured interviews were conducted in 2 South Kivu sites and 3 Katanga sites (Annex B). Respondents included local buyers and traders (*négociants*), mining team heads (chefs d'équipes), restaurant owners, traders and miners. All interviews were audio-recorded and transcribed by the research team.

III. RESULTS

In the analysis that follows, we first provide social and demographic background information on the people working in the artisanal mining sector in Eastern DRC. We then explore the patterns and scope of sex trafficking, labor trafficking, debt bondage, and child labor. After presenting results on knowledge and attitudes towards human trafficking, we present other sources of vulnerability, including security threats, drug and alcohol use, and fees related to mining. Throughout, the report we explore how sex and labor trafficking and vulnerabilities vary by gender and across sites based on region, conflict, and the type of mineral being mined.

RESPONDENT DEMOGRAPHIC AND HOUSEHOLD INFORMATION

Data were collected in 32 mining sites. Over 1500 people responded to the survey (n=1522). Roughly three-quarters were men (n = 1129, 74.2%) and one-quarter were women (n=393, 25.8%). Individuals working in the artisanal mining industry are a unique study population. First and foremost, the population is overwhelmingly male. We estimate that 90.2% of those working in the mining industry and support roles are males and only 9.8% are females based on data gathered from site leaders at each mining site.

The population is also unique for its migratory nature. As shown in Table 2, only 37.9% of the sample reported that they came from the community where they were interviewed and 13.2% had been in the community for less than a year. Most interviewees came from a different territory but either from the same district (33.9%) or from the same province (44.5%). Women tended to have spent less time in the community than men. Only 6 individuals (0.7% of the sample) reported coming from another country. When asked why they had moved to the area, responses typically focused on a lack of work, food, or services in their previous location. In a minority of cases, conflict was listed as a cause of moving. This mobility also appears to affect marriages as 22.1% of married men reported living away from their spouses.

Table 2: Is This Your Place of Origin? If Not, How Long Have You Lived Here?

Years	Frequency	Percent
Less than one year	201	13.3%
One to two years	205	13.5%
Two to three years	110	7.3%
Greater than three years	424	28.0%
Originally from the community	574	37.9%
Total	**1514**	**100.0%**

Responses from the qualitative work emphasize the migratory nature of work in mining towns. As one miner from South Kivu noted, "*Money is circulating here. Some come from Mwenga, others from Shabunda. The majority are from Walungu…"* Respondents from Katanga echoed the transitory nature of mining sites. As one mining boss from Musebe described, "*Some came since the discovery of the mining tunnel and never went home, others come to tour through here. Others are from here, but once they make money, they go live in bigger towns outside. That's why you see people with diverse origins, but the majority are from outside."*

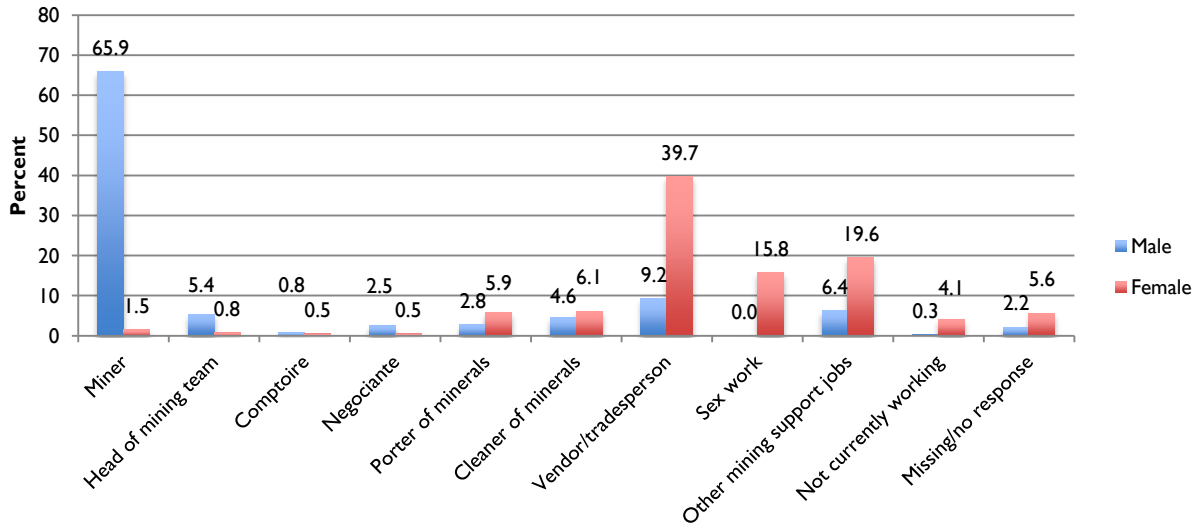
As mentioned in the methods section, the minimum age for inclusion in the sample was 15. Male respondents had a mean age of 31.0 years, with a range of 15 years to 68 years. Female respondents had a similar average age of 30.0 years with a range of 15-80 years.

Women reported an average of 4.7 children while men reported an average of 3.7 children. While 58.8% of women were married, large minorities were widowed (10.2%) and separated or divorced (17.8%). In contrast, men were more likely to be married (67.2%) and only small percentages were widowed (0.7%) or separated or divorced (2.13%). As such, while men were more likely to report being the head of the household than women, there were a surprising number of women who reported that they were the head of the household (57.5% of women). Only 33.5% of women reported that they had completed primary school, compared to 63.6% of men. 47.9% of females reported that the stay and sleep at the mining site, compared with 31.4% of men; the remainder reporting that the stay in the village.

TYPES OF WORK IN THE MINING SECTOR

Roughly two-thirds of men in the sample note that they are miners while only 1.5% of women identify as working in this profession. The next most commonly cited job for men was vendor or tradesperson (in French "*commercant*"). Women most commonly reported working as vendors, typically small-scale sellers of manioc flour, beer, bananas or peanuts. The next most commonly reported job for women was "other mining support role," which includes jobs like pounding and washing mined earth to extract minerals (19.6%). The third most commonly reported job by women (15.8%) was sex work; no men identified as part of this profession. The actual percent of women engaged in sex work is somewhat higher. This question appeared early in the survey, and, due to sensitivities, sex work was not listed as one of the job categories. As such, women reporting sex work at this stage said they did "other" types of work and then specified that they were sex workers. Later in the survey, respondents were asked series of questions about their experience exchanging sex for money or goods. In this section, the disclosure of sex work was even higher, with 18% of women stating they regularly engaged in sex work. The bar graph below (Figure 4) shows how little overlap there is between the mining-related jobs done by men and women.

Figure 4: Types of Employment in Mining Town: Disaggregated by Sex



The majority of both men and women noted that they were paid in cash for their work (69.1% of men and 82.7% of women). However, roughly one-fourth of male respondents reported being paid in-kind, while only 5% of women reported this. This disparity between the sexes can most likely be explained by the common

trend of paying those in the mineral supply chain in minerals, which is discussed further in the section about borrowing and debt.

Ninety percent of men and women stated that they were paid directly for their work. However, a small minority (between 2-3%) stated that someone else was paid their salary. When asked who this was, men most often said that the boss of their team was paid once the minerals were sold (often on a weekly basis) and depending on production. The miners' share was then passed on by their boss. Women reporting that someone else was paid for them noted that their husband might bring home the salary or that they would not get a salary if people did not buy their goods that week. Men reported working almost twice as many hours as women per week (54.5 hours versus 37.6 hours; $p<0.001$).

REASONS FOR SEEKING OUT MINING WORK

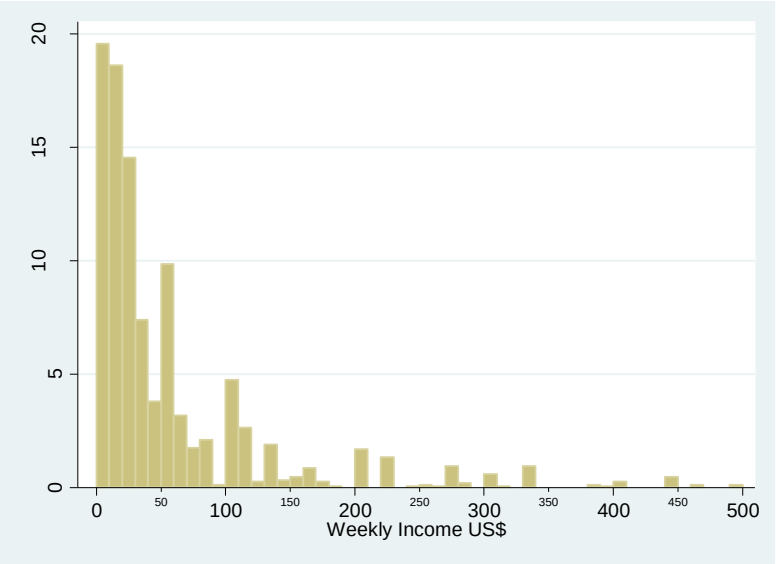
Survey participants were asked why they chose to do work in mining towns. They were provided several options and were allowed to select up to three responses from the following list: to earn money; family pressured me; it was expected of me; I have family that works in the mine; I was forced or threatened; someone recruited me; someone tricked me; other reason. The overwhelming majority of respondents reported seeking work in mining towns to earn money (90% for both men and women); roughly half of all respondents states that going into mining was expected of them; 14% of both men and women reported that felt pressured by family to seek out mining work; roughly 14% of men and 9% of women stated that they had family working in the mine; just under 2% of men and women said that someone recruited them. When asked to explain how this recruitment occurred, respondents noted that either a friend or someone already working in mining had interested them in the job. Two male respondents stated that someone had tricked them, and one male respondent said he was forced to work in mining by his uncle. The extent to which respondents were victims of trafficking is explored in greater detail below.

INCOME

Weekly income distribution in US dollars is presented in Figure 5. There were several outliers over $500 a week, which were dropped from Figure 5 below. The median individual weekly income of respondents to the survey was US$27.78.[13] There was a substantial difference in the incomes between men and women. While the median income weekly individual income for men was US$33.3 per week, women reported a median income of US$17.89 per week. Only 15.3% of respondents noted they had other sources of income beyond their main occupation in mining towns. As with the primary income data, there were some extreme outliers in the other sources of income data. The median income from secondary sources is US$ 16.11 per week.

[13] The prevailing conversion rate at the time of the research was 900 Congolese Francs to 1 US$.

Figure 5. Histogram of Weekly Income Distribution for All Respondents (with outliers dropped)



When asked if their household income allowed them to cover household expenses, six out of ten respondents stated that they were "not at all" able to cover expenses (See Figure 6). Roughly equal proportions of respondents responded that they could "not usually" cover expenses or could cover expenses with careful planning. As shown in the figure, women tended to report having a harder time covering their expenses. The largest weekly household expense was by far food, followed by education and lodging (See Figure 7). Similar patterns were seen with both male and female respondents.

Figure 6: Self-Assessed Ability to Cover Household Expenses

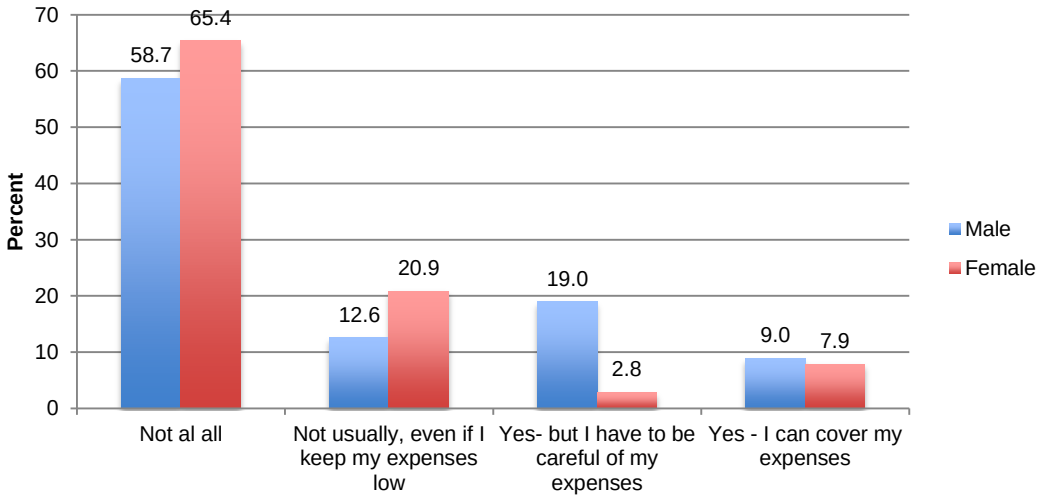
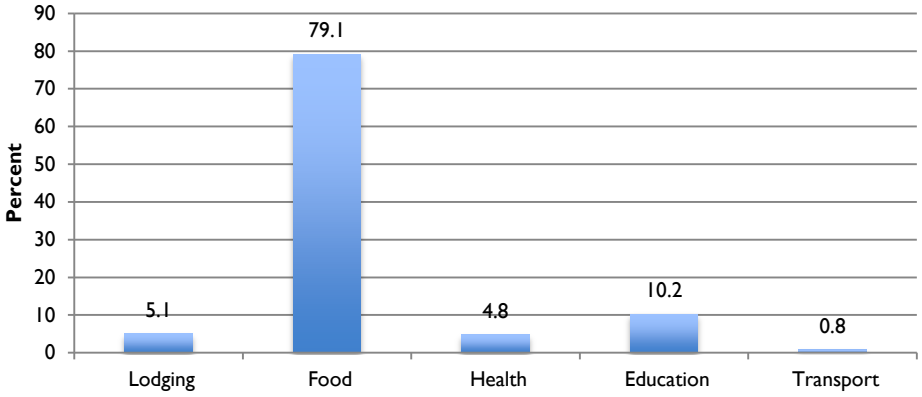


Figure 7: Primary Weekly Household Expense



IV. PATTERNS AND SCOPE OF SEX TRAFFICKING

This section addresses the scope of sex trafficking in mining towns. In order to understand the landscape of vulnerability around sex trafficking, it is important to also look at women's experiences related to gender-based violence and sex work. The survey assessed respondent experiences with sexual violence, sex work and transactional sex in mining towns. The questions related to sex work were used as an entry point to examine whether women felt trapped or controlled within this profession.

Quick Statistics
Vulnerability and Sexual Coercion in Mining Towns

- 11 women were identified as having been sex trafficked (0.7% of the sample)
- 18% of women self-identified as sex workers in mining towns while no men identified in this profession
- 87% of sex workers stated they worked for themselves, while 13% said they worked for an association or an individual. Of these, three women stated they did not think they could leave being sex workers if they wanted to (0.04% of the women identifying as sex workers)
- 7.1% of women and 1.2% of men experienced sexual violence in the past year in the mining site. The most common perpetrators of this violence were friends or acquaintances (identified as responsible for roughly 1/2 of the attacks) and miners (1/5 of the attacks).
- Women who reported having ever engaged in sex work had 11.3 times greater odds of also reporting experiencing sexual violence, and a 1.5 times greater odds of being held somewhere against their will at some point since working in the mining sector

SEX WORK

As shown in Table 3, 31.1% of all women reported engaging in sex work (defined as exchanging sex or sexual favors for money) at some point while working in the mining sector, and 18.1% identified themselves a sex worker by profession. In contrast, only 0.3% of men stated they had ever engaged in sex work, and no male respondents stated that sex work was their profession. The majority of women identifying as sex workers stated that they worked for themselves (87.3%). See Table 4 below.

Of the eight sex workers reporting membership in a cooperative or association, three women stated that they did not feel free to leave. While there were follow up questions in the survey to probe about feelings related to being free or not free to leave, the three respondents who answered that they felt constrained to stay in their association did not provide answers to these follow up questions. The one woman reporting having a boss or manager stated that she felt free to leave sex work.

In addition, three of the respondents who identified as sex workers were 17 years old. According to definitions of trafficking, minors engaged in sex work are automatically considered trafficked persons. An analysis of this sub-population showed that none of these girls identified working for a person or association.

Table 3: Patterns and Scope of Sex Trafficking

	Female n=385		Male n=1119		Total n=1504	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Ever undertake sex work?	120	31.1%	3	0.3%	123	8.2%
Undertake sex work on a regular basis?	71	18.1%	0	0.0%	71	4.7%
Ever exchange sex for access to work, food, protection	120	26.2%	17	1.5%	120	7.9%
Total: Any exchange of sex for money, access, food, protection	146	32.6%	18	1.6%	146	9.6%
Who do you work for?	n=71					
Work for myself	62	87.3%	0	0.0%	62	4.1%
Part of association/group	8	11.3%	0	0.0%	8	0.5%
Boss or manager	1	1.4%	0	0.0%	1	0.1%
Feel you can leave?	n=9					
Yes	6	66.6%	0	0.0%	5	0.3%
No	3	33.3%	0	0.0%	3	0.2%

Women who reported engaging in sex work were also far more likely to report being vulnerable to a range of other forms of exploitation. Women who reported having ever engaged in sex work for money also reported exchanging sex for food, access to work, or protection. Sex workers had 12.5 ($p=<0.001$) greater odds of having to exchange sex for access to work and 9.70 ($p<0.001$) greater odds of having to exchange sex for protection. Women reporting engaging in sex work also reported a 1.5 greater odds of being held somewhere against their will at some point since working in the mining sector ($p=0.042$); and 1.93 times more likely to report having witnessed a forced marriage ($p=0.036$). Sex workers were not more likely to report having to work in the mines for free, or to work in mining to pay off their debts.

One-third of women in sites without armed group control reported having traded sex or sexual favors for money compared to 14% in conflict-affected sites ($p=0.004$). Respondents in sites without armed group control were also 3.54 times more likely to report having to exchange sex for food than those in non-conflict sites. ($p=0.001$).

While sex work was reported as common in mining towns, qualitative interview respondents stated that it could still be stigmatized. One interviewee described how sex workers migrate to mining towns because of shame associated with the profession, saying *"[Prostitutes] aren't from here originally. The women from here can't do it [sex work] here because they are ashamed of being seen by the inhabitants of the village…"*[14] This means that women who are often more vulnerable to other forms of exploitation also were least likely to have social support mechanisms, such as family and friends, in the towns where they sought work. The same respondent went on to describe this vulnerability saying, *"The prostitutes don't have anything else to sell except for their bodies…It can happen that a miner comes out of a tunnel and has need of a woman. He has gold but he hasn't sold it for money. He can give the gold*

[14] Small trader, Mukungwe

and the prostitute gives her body. In another case, he sells his gold, he has money, he goes to a prostitution house and they agree, so he gives the money. Both are possible. Sometimes one gives money, sometimes one gives gold."

FORCED SEX

Those who answered "yes" to the question "At any point since working in the mining sector, have you been forced to have sex with someone or perform a sexual act against your will?" were coded as having experienced sexual violence. While the majority of all respondents, 96.4%, said they had not experienced this form of abuse, 7.1% of women (28 individuals) and 1.2% of men (13 individuals) experienced forced sex (odds ratio (OR) 6.69, $p<0.001$). Of the 28 women who reported experiencing sexual violence, 13 were victimized by a friend or acquaintance and 6 by a miner. Of the 13 men who experienced sexual violence, 3 were victimized by miners and 2 were victimized by a family member. Other male victims reported violations by traders. While some male victims specified female traders, others did not specify the trader's gender.

Respondents were also asked whether they had to trade sex for material or non-material goods. Twenty-three percent of women and one percent of men stated they had to trade sex for food (OR 30.1, $p<0.001$). Roughly 15% of women and no men stated they had to trade sex for protection since working in the mining sector. Women had 7 times higher odds than men of being victims of sexual violence; 30 times higher odds of having to trade sex for food; and 56 women versus no men stated they had to trade sex for protection. While the type of mineral mined is not generally found to be predictor of trafficking, respondents in cassiterite mines had a two times greater odds of reporting sexual violence than those in gold mines ($p=0.042$).

FORCED MARRIAGES

A series of questions in the survey addressed the issue of forced marriage. Roughly 6% of all respondents noted they had witnessed forced marriage – a slightly higher proportion of women than men noted that they had witnessed this (8.9% of women versus 5.2% of men)(See Table 4). Those 94 individuals who responded that they had witnessed forced marriage were also asked about who was responsible for this act. The large majority of those reported to be forcing women into marriage were members of that woman's family (69% of the 94 respondents), followed by armed groups (11% of the 94 respondents).

Those surveyed reported witnessing forced marriage more often than experiencing it. While 94 people claimed to have witnessed it, only five women (1.3%) noted that they had personally experienced forced marriage. Of these five, three women stated they were forced into marriage by the rebel group FDLR. These five women were not located in the conflict-affected mines at the time that they responded to the survey. One woman noted that she was forced into marriage by the head of a mining team, and one woman did not provide a response about who forced her into marriage. Reports of experiencing forced marriage were too rare to reveal systematic patterns. The odds of witnessing forced marriage were 2.68 times more likely in non-conflict than conflict sites ($p=0.010$).

Table 4: Forced Marriage

Witnessed forced marriage?			Experienced forced marriage?		
	Frequency	Percent		Frequency	Percent
	94	6.2%		5	1.3%
Who perpetrated this? (n=89)			**Who perpetrated this? (n=4)**		
Family	61	68.5%	Family	0	0.0%
Armed group	10	11.2%	Armed group	3	75.0%
FARDC	5	5.6%	FARDC	0	0.0%
Civilian	5	5.6%	Civilian	0	0.0%
Mine owner/manager	4	4.5%	Mine owner/manager	1	25.0%
Police	3	3.4%	Police	0	0.0%
Miner	1	1.1%	Miner	0	0.0%

In summary, the survey finds that a high proportion of women in the mining sites have exchanged sex for food, work, or protection or self-identify as sex workers. Nonetheless, the study finds only a low incidence of sex trafficking, as operationalized by incidences of forced sex, sex workers who did not feel that they could leave their work, or sex workers under the age of 18. Unfortunately, because of the relatively low numbers of sex trafficking cases, this study is not able to explain variation in this form of trafficking across the sites and across respondents.

It is important to note, however, that there is a risk of understating the problem. Alternative definitions of sex-trafficking might consider any woman who has exchanged sex for basic necessities to be a victim. Furthermore, some women might not fully recognize their lack of consent and some minors might have falsely reported their age. What is clear is that there are a large number of women engaged in sex work or exchanging sex for goods and this population is vulnerable to exploitation, even if they are not considered trafficking victims. The issue of fees will be discussed in greater detail later on in the report; however, it is illustrative of sex-worker vulnerability. 58% of sex workers stated they had to pay a fee to gain access to work in mining – a rate that was almost twice as high as any other profession. An estimated 40% of these fees were paid to the police, traditional leaders, state government officials or administrative leaders, suggesting that leaders are exploiting sex workers' vulnerability.

V. PATTERNS AND SCOPE OF LABOR TRAFFICKING AND DEBT BONDAGE

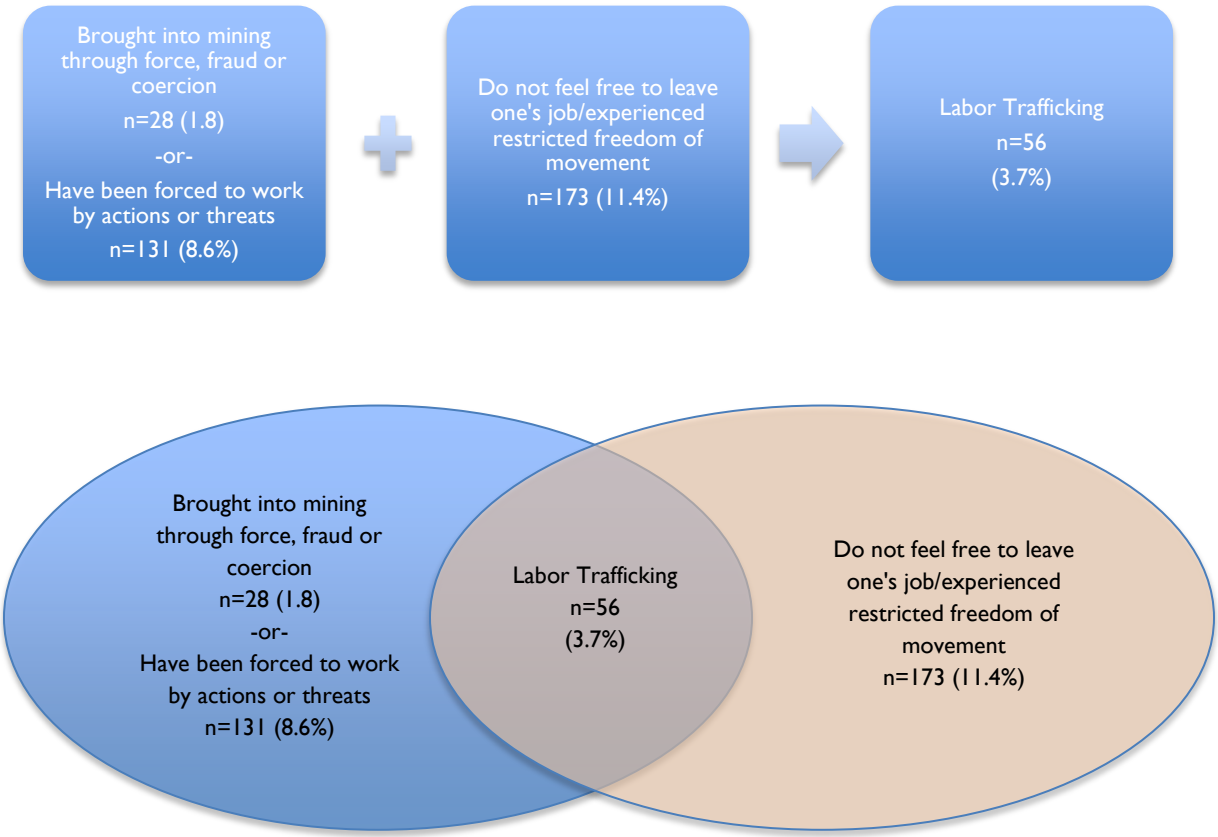
As noted in the introduction, the definitions for labor trafficking and debt bondage have been informed by the definition of human trafficking that examines the act, means and purpose of these forms of abuse. However, the definitions below are more broad and do not make a distinction between act and means. This is intended to give a more inclusive definition, recognizing that victims of trafficking may not always be able to clearly define their experiences with the different elements of trafficking. This section will begin by presenting the operationalized definitions for labor trafficking and debt bondage, with the elements of the definitions clearly deconstructed. The section will go on to explore not only the elements of each form of abuse, but other factors that contribute to exploitative labor and lending practices.

LABOR TRAFFICKING

Fifty-six individuals (3.7% of the total sample) were determined to have been labor trafficked. This number was derived by looking at responses to nine questions meant to identify potential risks of labor trafficking victimization. These questions fall into two broad categories: (1) those who were forced to work in the mines by actions or threats or were brought into mining through force fraud or coercion, and (2) those who did not feel free to leave their job in mining or had their movements restricted. Answering in the affirmative to any one of the nine questions alone would not be adequate to consider a respondent a trafficking victim; however, it does offer a measure of potential risk for trafficking. As such, we considered a respondent to be a victim if he or she fell into both of these two categories and to demonstrate a risk factor if s/he falls into any one of these two categories.

This approach is presented graphically as a Venn Diagram in Figure 8. In the first category, 28 people reported experiencing forced recruitment into mining (1.8%) and 131 (8.6%) reported experiencing forced work at least once. In the second category, 173 people reported that they did not feel free to leave their job in mining or had their movements restricted (11.4%). In total, 259 respondents, or 17.0%, presented a risk factor for victimization; however, there was a relatively modest overlap between the two populations and only 56 individuals, 3.7%, were considered victims of labor trafficking. These measurements are more fully described in the tables below.

Figure 8: Labor Trafficking



In the first category, represented in the left ellipse in Figure 8, a relatively small proportion of people (28 individuals, 1.8% of the sample) were identified as having been brought into mining through force, fraud or coercion. Those reporting being "recruited" were also included in this count in order to capture all potential cases. However, as noted earlier in this report, often recruitment was not necessarily negative and could have involved being told about mining by a friend of family member. The survey questions used to assess this experience are presented in Table 5.

Table 5: Brought into Mining through Force, Fraud, or Coercion

Question	Frequency (Percent)
Answered, "I was tricked" in response to the question, "Why did you decide to do work in mining?"	2 (0.13%)
Answered, "I was forced or threatened" in response to the question, "Why did you decide to do work in mining?"	1 (0.07%)
Answered, "I was recruited" in response to the question, "Why did you decide to do work in mining?"	19 (1.25%)
Answered, "I have experienced abduction" in response to the question, "In the past year, have you seen/experienced abduction/kidnapping?"	6 (0.4%)
Total	**28 (1.84)**

As shown in Table 6, a larger proportion (8.6%) stated that they had been forced to work in the mines since seeking work in these areas. In order to facilitate respondents' disclosure of coercive labor experiences, a number of similar questions were asked. Responses to all of these questions were considered to determine if that person was a victim of labor trafficking. A sizable number of respondents stated that they had been forced to work under threat (answered "yes" to the question "After you came to the mines, have you ever been forced under threat to work in the mines or at mining site"**).** Participants were also asked whether they had *either* seen or experienced certain forms of abuse, including forced labor. Fifteen respondents answered they had directly experienced forced labor in response to this question. Finally, respondents were asked if they were ever forced to work for free. Those who stated "yes" were asked the reason for this. Those who stated they were "forced" to work for free were also included in the count of those experiencing forced work.

Table 6: Have Been Forced to Work at Least Once in Mining

Question	Frequency (Percent)
Answered "Yes" in response to the question, "After you came to the mines, have you ever been forced under threat to work in the mines or at mining site?"	101 (6.75%)
Answered "I have experienced being forced to work in the mines" in response to the question, "In the past year, have you seen/experienced being forced to work in the mines?"	15 (1.01%)
Answered "Yes" in response to the question "Did you ever have to work for free in the mines or at a mining site?" In follow up to why they worked for free, respondent stated he/she was "Forced to".	30 (2.02%)
Total	**131 (8.61%)**

**In the table above, some respondents answered "yes" to multiple questions. They were only counted once in the total, so the total number of individuals reported as forced to work in mining is not a straightforward sum of the rows.*

Respondents who stated they had been forced to work under threat most often cited family members, friends, mineral traders or village leaders as the perpetrators (Table C.6 in Annex C). Indeed, the practice of powerful actors such as village leaders or armed groups forcing miners to work for them for a set number of hours per week has been documented in other reports and was described in the qualitative data. One respondent from Mukungwe in South Kivu, a site where forced labor was notably high, stated, "*Yes that practice [of forced labor] is common here. There are people that are taken by forced and people impose forced work on them. If they don't want to, they could be mistreated or even tortured."*[15]

While most abuses appear to occur at the hands of civilian actors, there is also some evidence that armed groups have perpetuated trafficking, and, at least in some cases, the military and rebel groups have forced others to work for them. One interview respondent noted, "*Yes, there is [forced labor]. It is above all the miners, who are used by military. We have a military here that circulated around the mine – they come from the 10th military region.*[16] *They don't come in a military uniform. They always come in civilian clothes – it's every day in this site. On Saturdays, the miners work on the "account" of the military*."[17]

[15] Undefined respondent, Mukungwe
[16] An FARDC contingent
[17] Commercante / trader small business, Mukungwe

In another site, a respondent described a different form of forced labor: *"This year, 2014, it's calm. In 2013, we had some serious problems. There were whippings, it was a little like in Belgian times. The FDLR menaced us. They mined themselves, and they also often forced people to work for them. After work, they took all of the production from that day without even giving a kilogram to those who had worked for them. In 2012 and 2013 we really knew difficult times here…I'm not lying. Everyone worked for free."*[18]

Despite the small numbers, when disaggregated by sex, there were significant differences between women and men reporting the experience of forced labor. Thirteen women, compared to only two men, described experiencing forced labor. Of the 13 women describing experiencing forced labor, four noted that their families were the ones forcing them, one said the chief of a mining team forced her and eight did not specify the perpetrator (See Table C.6 in Annex C for more detail). Ten of these women said they worked in mining support jobs or selling goods around the mine, three stated they were sex workers and one said she was a miner. Of the two men, one said he was forced to work by a family member and one said that he was forced by the chief of a mining team. One of the respondents identified as a porter and the other stated he worked in a mining support job.

The second category of labor trafficking addressed the lack of capacity to leave mining work. This was assessed through three survey questions, outlined in Table 7 below. In total, 173 individuals (11.4% of the sample) stated that they did not feel free to leave mining, or had experienced restricted movement or abduction.

Table 7: Not Free to Leave Mining

Question	Frequency (Percent)
Answered "Yes" in response to the question, "At any point since working in the mining sector, has anyone held you somewhere against your will, or restricted your freedom of movement?"	122 (8.11%)
Answered "No" in response to the question, "Do you feel you are free to leave work in the mines, if you decided you no longer want to work here?"	52 (3.46%)
Answered "I have experienced kidnapping" in response to the question, "In the past year, have you seen or experienced abduction/kidnapping?	6 (0.40)
Total	**173 (11.4)**

Further details about restriction of movement and abduction experiences are outlined below. As illustrated in Table 8, most of the perpetuators of restricted movements are civilian actors; however, police, FARCD, and armed groups make up 42.1% of the reported cases of restrictions of movement.

[18] Miner, Bushushu

Table 8: Restriction of Movement

	Female n=393		Male n=1126		Total n=1519	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Held against will or restricted freedom of movement	24	6.1%	98	8.7	122	8.00%
Perpetrator of Restricted Movement	n=24		n=97		n=121	
Boss/superior	4	16.7%	25	25.5%	29	24.0%
Police/ANR	1	4.2%	23	23.5%	24	19.8%
FARDC	1	4.2%	13	13.3%	14	11.6%
Armed group	1	4.2%	12	12.2%	13	10.7%
Acquaintance	6	25.0%	5	5.1%	11	9.1%
Other, specify	1	4.2%	10	10.2%	11	9.1%
Miner	3	12.5%	6	6.1%	9	7.4%
Family member	7	29.2%	0	0.0%	7	5.8%
Stranger	0	0.0%	3	3.1%	3	2.5%
Frequency of Restricted Movement	n=20		n=94		n=114	
Only once	4	20.0%	75	79.8%	79	69.3%
Weekly	5	25.0%	3	3.2%	8	7.0%
Monthly	6	30.0%	5	5.3%	11	9.6%
Yearly	5	25.0%	11	11.7%	16	

Respondents were also asked whether they had seen or experienced abduction or kidnapping in the past year. Those witnessing abduction comprised 14% of the sample, but only a very small percent (0.4%, six individuals) reported having experienced this. Two people reported the FARDC as the perpetrator, one person reported a mine owner, and the other three people did not report a perpetrator (See Table 9).

Table 9: Seen or Experienced Abduction or Kidnapping

Ever witnessed abduction or kidnapping in past year?			Ever experienced abduction or kidnapping in past year?		
	Frequency	Percent		Frequency	Percent
	205	13.7%		6	0.4%
Who perpetrated this? (n=203)			**Who perpetrated this? (n=3)**		
Armed group	147	72.4%	Armed group	0	0.0%
FARDC	29	14.3%	FARDC	2	66.6%
Mine owner/manager	4	2.0%	Mine owner/manager	1	33.3%
Police	2	1.0%	Police	0	0.0%
Family	2	1.0%	Family	0	0.0%
Other	19	9.4%	Other	0	0.0%

DEBT BONDAGE

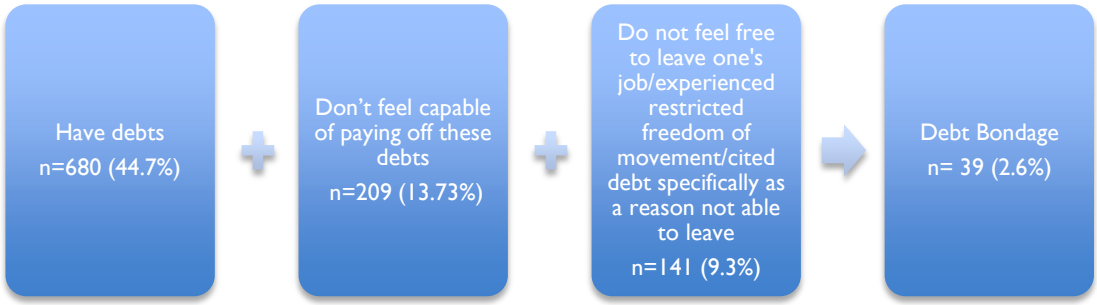
As noted in the introduction, debt bondage is one of the more difficult experiences to identify and measure. However, it may be one of the most common forms of human trafficking, and as such is important to explicitly address, especially in contexts like artisanal mining where economic exploitation is common.

The US Department of Health and Human Services defines debt bondage as: "Labor is demanded as a means of repayment for a loan or service in which its terms and conditions have not been defined or in which the value of the victims' services as reasonably assessed is not applied toward the liquidation of the debt. The value of their work is greater than the original sum of money 'borrowed' (emphasis added)."

The definition presents some challenges, especially given the complex context in eastern DRC. For instance, in a population with low literacy, the terms and conditions of debt may be defined between two people but not written down, making it difficult to assess how "formal" the debt may be. It is also difficult to assess to what extent services are applied towards liquidating the debt. For this reason, we chose to define debt bondage in a relatively intuitive way: looking at those respondents who (a) had a debt, (b) didn't feel capable of paying of their debt, and (c) felt they could not leave their mining job. We also include an analysis of the numbers of borrowers who reported having a written document listing their debt, as well as those who knew their interest rate.

As shown in Figure 9, a large percentage of respondents (44.7%) reported having borrowed money in the last year. Out of the total sample, 13.7% reported that they did not feel capable of paying off their debts and 9.3% of the sample reported that they did not feel free to leave their job or expressed that they had experience restrictions in their freedom of movement. Considering the overlap between these three elements of debt bondage, 39 individuals (2.6% of the sample) were identified as currently bonded by their debt. It is worth noting that people were asked about debts they had in the past year. This was done to reduce recall bias and to give a picture of respondents' current debt, rather than lifetime experiences of having borrowed money.

Figure 9: Operational Definition of Debt Bondage



The following Tables 10, 11, and 12 provide a summary of the questions and responses that make up this operational definition of debt bondage.

Table 10: Have Debts

Question	Frequency (Percent)
Those who stated they had borrowed money at least once in the past year	680 (44.7%)
Total	**680 (44.7%)**

Table 11: Don't Feel Capable of Paying These Debts

Question	Frequency (Percent)
Those who stated they had a "Low" or "Very Low" chance of repaying their debts in response to the question "On a scale from "very low" to "very high," what are the chances that you will be able to repay your debts?"	209 (13.73%)
Total	**209 (13.73%)**

Table 12: Not Free to Leave Mining, Particularly Because of Debt

Question	Frequency (Percent)
Answered, "Yes" in response to the question, "At any point since working in the mining sector, has anyone held you somewhere against your will, or restricted your freedom of movement?"	122 (8.11%)
Gave "debt" as the reason they stated they answered "No" to the question, "Do you feel you are free to leave work in the mines, if you decided you no longer want to work here?"	18 (1.18)
Answered "I have experienced kidnapping" in response to the question, "In the past year, have you seen or experienced abduction/kidnapping?	6 (0.40)
Total	**141 (9.3%)**

In the qualitative data, interviewees describe how people may work in order to pay off a debt they have incurred. In some explanations, this is described as a convention between people to settle a debt, while in other descriptions the work is described as "forced," as described in the second quote. While the former could be considered an informal and asymmetric arrangement subject to abuse, the latter is more indicative of debt bondage:

"You can be made to work to pay off a debt. The person will evaluate your debt, and then can say 'You will work for me from today until the end of the week. It is Monday – until Saturday, you will be working for me.'"[19] Survey results show that 38.3% of women and 46.5% of men reported that they had borrowed money in the last year. Seventeen percent of all respondents said that they had borrowed money once and ten percent had borrowed money twice. Those reporting having borrowed money three or more times in the past year represented a small percentage of the sample, but men were roughly twice as likely as women to have reported borrowing three or more times in the past year.

Those who reported having borrowed one or more times in the past year were significantly more likely to also report having had to work for free. While only 15% of the "non-borrowers" worked for free in the mines,

[19] Miner, Mukungwe

30% of the borrowers had worked for free (OR 2.31 $p<0.001$). This finding is confirmed in the regression analysis presented below.

Those reporting having borrowed money in the past year were asked follow up questions about each loan. These questions included: who they had borrowed money from, what they borrowed money to pay for, whether they had written documentation of the debt, whether they knew the interest and how much this interest was. People were most likely to borrow from traders at the mining site or in the closest village (34%), then from buyers *(comptoirs)* (17%) and heads of mining teams (7%). In only 30% of the cases of borrowing, did respondents say they had a written document listing their debt, and only 15% stated that they knew their interest rate. Echoing the quote above, this suggests a high degree of informality in lending, which opens the door for potential abuses.

Of the 103 respondents who reported their interest rate, 75% said their interest rate was below 20%, 20.4% of respondents reported interest rates between 21-50%, and 4.6% of respondents (5) had an interest rate over 70% (See Table 13). Usury is the illegal action or practice of lending money at unreasonably high rates of interest, and it is a common form of debt bondage. While the concept of usury has deep historical roots, definitions vary from context to context and are usually regulated by local legislation.[20] Based on the interest rate information provided, only a small percentage could be considered usurious by most definitions; however, it seems likely that a form of usury could be more common in informal borrowing.

Table 13: Borrowing and Debts

Interest rate	Frequency	Percent
0-20%	81	75.0%
21-30%	4	3.7%
31-40%	10	9.3%
41-50%	8	7.4%
51-60%	0	0.0%
61-70%	0	0.0%
71-80%	1	0.9%
81-90%	0	0.0%
91-100%	4	3.7%
Total	**103**	**100%**

As shown in Table 14, the most common reasons that people sought loans were to pay for food, to invest in a business enterprise, and to pay for medical care. The need to take out loans to pay for fundamental necessities like food and medical care speak to the difficulties individuals and households face in meeting basic needs. The fact that 20.7% of borrowers took out loans to pay for other debts is concerning and speaks to a cycle of borrowing and debt-paying that might be predatory. Only 3.1% reported taking a loan to pay for mining tools, but this may be related to the fact that we only asked about debt incurred in the last year and many of them had been mining for a longer period of time.

[20] International definitions of usury vary and no definition of usury is given in international instruments such as those of the Basel Committee. Hurtado, Mónica and Catherine Pereira-Villa. (2012). "Dynamics of Human Trafficking: The Colombia-East Asia Case." *Colombia Internacional* 76: 167-194.) In the United States, usury is defined by each State, and allowed rates vary widely, with 45% interest being the highest allowed rate on non-consumer loans.

Table 14: Goods Purchased with Loan

Goods Purchased with Loan	Frequency	Percent
Food	190	27.7
Invest in business	107	15.6
Medical care	93	13.5
Household goods	49	7.1
Rent/house construction	46	6.7
Other	45	6.6
Mining tools	42	6.1
Minerals	30	4.4
Education	27	3.9
Fees to resolve disputes/admin fees	21	3.1
Transportation	17	2.5
Livestock	12	1.8
Agriculture related expenses	4	0.6
Debt	4	0.6
Total	**687**	**100.0**

Qualitative data provided a more detailed understanding of the challenges related to debt and reinforced the quantitative findings. Interviewees spoke about how fluctuating production in the mines led people to fall into debt. Even if production allows people to cover costs sometimes, the instability and unpredictability of revenues leads people to borrow to cover the most basic necessities. As one woman from Mukungwe described, "*It is frequent to fall into debt. There are those who are really in debt, and they are the miners. If the miners haven't started to produce [find minerals], they get a lot of debts. Sometimes they get debts from Bukavu to buy the tools to mine with (pickaxes, spades, bars). Sometimes the ones who find themselves in debts are the mining bosses because of the production*."[21] A miner from Bushushu described a similar phenomenon: "*A miner is a poor person. We live from day to day. You can mine without finding anything, then you still have to feed your family. I have to ask for money from a negociant or a commissionnaire [broker]. I could pay them either in cassiterite or with money. It just depends on what we agree on*."[22]

In summary, by a narrow definition of debt bondage operationalized as those who feel that they are not able to pay off their debts and are not free to leave the mine, only 27 individuals, or 1.8% of the total sample could be considered in debt bondage based on debts incurred in the last year. Nonetheless, provided the high degree of borrowing, the asymmetric relationship between lender and borrower, the common practice of using work to pay off debts, and the high degree of informality in lending (i.e. no documentation nor clear interest rate), it is clear that predatory lending practices are common in mining towns and remain a risk factor for exploitation.

WORK UNDER THREAT AND WITHOUT PAY

A number of questions aimed at examining exploitative labor practices were asked, in addition to those that contributed to the definition of labor trafficking. First, respondents were asked if they have had to work

[21] Commerçante / trader small business, Mukungwe
[22] Miner, Bushushu

without pay; 21.5% of all respondents noted that they had to work for free at some point at a mining site (rates were almost identical for women and men). When these 287 respondents were asked why the work was not paid, 57% (164) said that they had not found minerals, so they were not compensated, reinforcing the finding that some survey respondents noted they were paid in-kind or on commission based on their production. Almost 30% (80) of respondents who reported working for free stated that they worked for free to pay off a debt, 10% (30) stated they were compelled to work for free by force, and 4.5% (13) noted that they were paying off a fine.

As noted in earlier sections, respondents were also asked, "After you came to the mines, have you ever been forced under threat to work in the mines or at mining site?" Nearly ninety percent of men and women stated that they were never forced to work under threat. However, 7.6% of men and 3.8% of women reported that they had been forced to work under threat. (See Table C.6 in Annex C).

CHARACTERIZING HUMAN TRAFFICKING

An objective of this project is not only to measure the extent of trafficking but to better understand when, where, and why trafficking occurs. In the analysis that follows, we characterize where trafficking is likely to occur and explore the impact of key variables on risk factors for trafficking using a logistic regression analysis. Since the number of people identified as trafficked was a small percent of the sample, this analysis focuses instead on people who had key risk factors for human trafficking. As noted in the introduction, risk factors that contribute to human trafficking experiences are just as important to understand as defined cases. As such, the following analyses look at people who reported experiencing forced labor at any point, or feeling that they are not free to leave their job associated with mining – both of these are key aspects of human trafficking. In particular, not feeling free to leave one's work is a key aspect of the definition of labor trafficking, debt bondage and sex trafficking as described in previous sections. By having this risk factor as part of the analysis, we attempt to capture experiences of those people vulnerable to any form of human trafficking. As discussed above in the section on labor trafficking, 259 respondents, or 17.0% of the sample, presented a risk factor for victimization.

There is some clear geographic variation in the prevalence of risk factors among different territories and sites. As shown in Table 15, in some sites, such as Nalubuze Ntula, only a small percentage (3.9%) presented risk factors for trafficking; however, in other sites, such as Mukungwe, a sizable minority presented risk factors (22.1%). While Table 15 presents the percent of individuals exhibiting risk factors across the sites, it is important to note that the survey is not representative at the site level and the expected amount of random error in the small sites is considerable.

Table 15: Observed Risked Factors for Human Trafficking Across Sites

	Not at Risk		At Risk		Total	
Territory	n	Percent	n	Percent	n	Percent
Mwenga	475	80.10%	118	19.90%	593	100%
Nyunzu	174	87.90%	24	12.10%	198	100%
Walungu	407	83.60%	80	16.40%	487	100%
Kalehe	124	86.10%	20	13.90%	144	100%
Kalemie	81	82.70%	17	17.30%	98	100%
Total	**1,261**	**83.00%**	**259**	**17.00%**	**1,520**	**100%**

Figures 10 and 11 present the distribution of sites above and below the site average of 17.0%. Keeping in mind the considerable amount of random error in the data, it nonetheless appears that there may be geographical patterns to trafficking risk factors. While the sites closer to Bukavu in South Kivu offer lower percentages, those farther into the interior appear more likely to present risk factors.

Figure 10: Above and Below Average Risk Factors in South Kivu

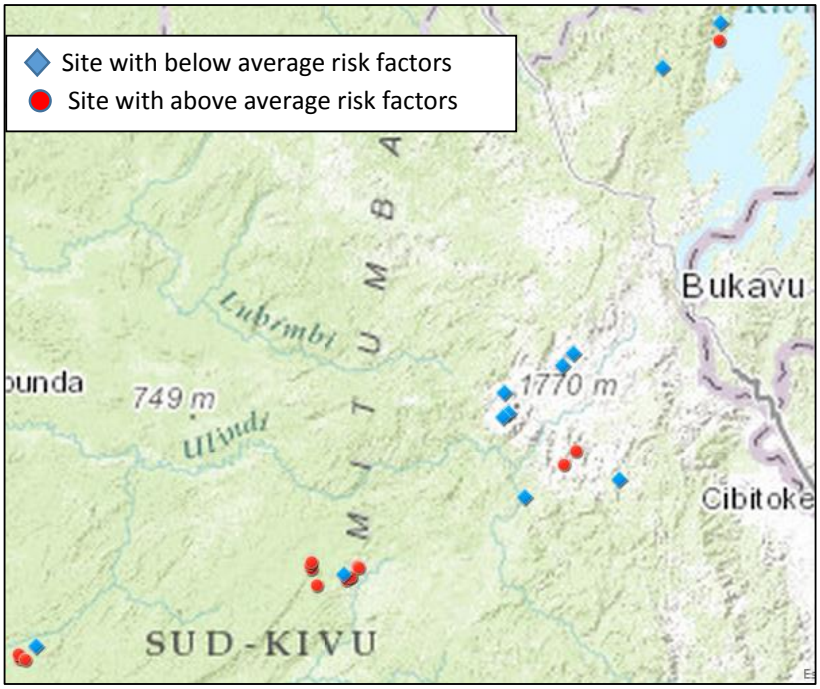
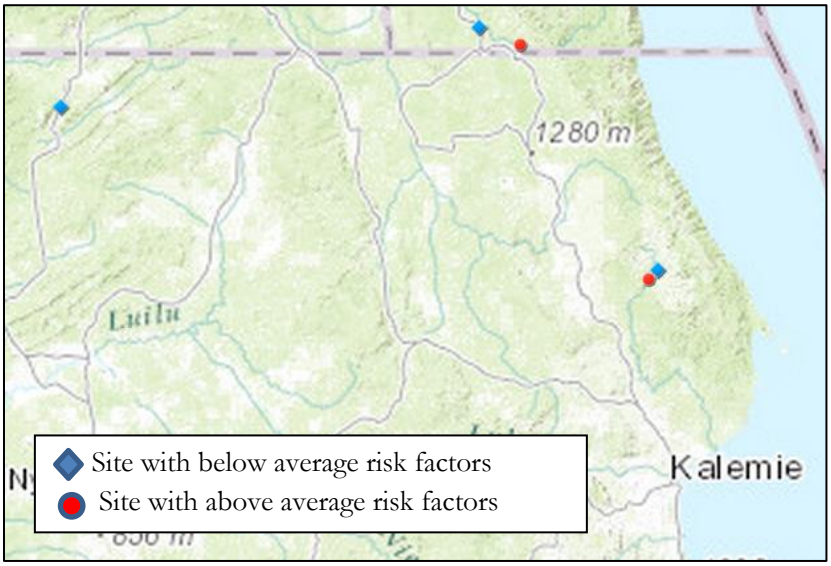


Figure 11: Above and Below Average Risk Factors in North Katanga



In addition to geography, the analysis that follows considers several factors as potential causes or correlates of trafficking. At the macro level, the analysis tests for (1) geographical location, (2) the presence or absence of conflict, and (3) whether gold or some other mineral is mined at the site. At the individual level, the analysis explores several potential covariates, including (4) the amount of time the respondent reports having worked at the site, (5) whether the respondent sleeps at the mining site or in a nearby village, (6) if the respondent has borrowed money in the last year, and (7) if the respondent uses drugs, (8) the respondent's income, (9) gender, (10) whether the respondent was a minor (under 18), and (11) education.

The logistic regression analysis is presented in Table 16. The Pseudo R^2 is very small for the model as a whole; however, this is primarily driven by the limited variation in the dependent variable. The model has a hard time improving its prediction of the presence or absence of risk factors when the probability of victimization is relatively low. The results suggest that the longer time at the mining site; working in Mwenga versus other territories; sleeping at the mining site; having borrowed money in the past year; and being a minor are all significantly associated with the risk of human trafficking with a 95% degree of confidence or above. Statistical significance is noted in the table with stars next to the regression coefficients.

Table 16: Logistic Regression on Risk Factors for Human Trafficking

	Coefficient	Std. Err.	Odds ratio	Low Predicted Prob.	High Predicted Prob.
Walungu (0/1)	-0.0321	0.220	0.968	0.152	0.155
Mwenga (0/1)	0.5060*	0.254	1.658	0.135	0.185
Conflict (0/1)	-0.0887	0.246	0.915	0.162	0.118
Casserite at mine (0/1)	-0.2781	0.248	0.757	0.161	0.115
Years in Residence (0/1)	0.1118**	0.038	1.118	0.122	0.184
Sleep in village (0/1)	-0.9102***	0.191	0.402	0.193	0.134
Borrowed money (0/1)	-0.4524**	0.146	1.572	0.131	0.185
Drug use (0/1)	0.2402	0.208	1.272	0.148	0.195
Income - Below $2 a day (0/1)	0.1311	0.169	1.140	0.153	0.153
Female (0/1)	-0.1327	0.177	0.876	0.155	0.149
Minor (0/1)	0.7628*	0.355	2.144	0.151	0.232
Secondary educ. (0/1)	-0.4852	0.335	0.616	0.158	0.101
Constant	-1.0013	0.303	0.367		
n	1473				
Pseudo R2	0.0424				

*Note: *p<.05, **p<.01, ***p<.001*

The odds ratios and predicted probabilities offer a sense of the predicted explanatory power of each of the variables in the analysis. Individuals exhibiting risk factors are identified at most of the study's sites; however, much of the trafficking appears to be site specific and many sites, particularly those in Mwenga, South Kivu territory, have higher rates of reported trafficking victimization. As shown in the predicted probabilities column, a respondent outside of Mwenga has a .135 probability of being a trafficking victim, while one inside of Mwenga has a .185 probability, representing more than 1.6 times higher odds (see the column entitled Odds ratio) of being a trafficking victim in Mwenga. It is important to note, however, that victimization is not consistent across all of Mwenga.

While it was expected based on previous studies and the above-mentioned qualitative information that trafficking would be greater in conflict sites, we actually see that the percent of respondents exhibiting risk factors across conflict and non-conflict sites is statistically equal. Table 17 presents a cross-tabulation of the results for more intuitive interpretation. This finding is also evident in the open ended responses of trafficking victims, who tend to point to mine bosses and even family members as TIP perpetrators, rather than armed groups.

Table 17: Cross-Tabulation Between Conflict and Risk Factor

	Conflict		**No conflict**		**Total**	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Risk factor	13	4.5%	66	5.4%	79	5.2%
No risk factor	278	95.5%	1,165	94.6%	1,443	94.8%
Total	**291**	**100%**	**1,231**	**100%**	**1,522**	**100%**

While risk factors are observed to be slightly more common at gold mines than in non-gold mines, the small difference observed is not statistically significance. The regression results in Table 16 suggest that this observed difference is more a function of the geographic location of the mine rather than an effect of gold mining per se.[23]

Those who report more time at a site are significantly more likely to report risk factors than those who arrived more recently. This seems logical, as longer periods of time present more opportunities for victimization; however, the finding does suggest that new arrivals are not necessarily those most susceptible to trafficking, as might be expected. A respondent who has been at a site for 1-2 years only as a .122 probability of exhibiting risk factors, while a respondent who has been there for more than five years has a .184 probability.

Workers who sleep at the site are also significantly more likely to report risk factors. This variable can be considered a proxy for vulnerability; however, it is also possible that current victims are actually forced to stay at the site. This finding is independent of income. Surprisingly, low income respondents, those who report earning less than US$2 a day, are no more likely to have been victims of trafficking. In fact, 11 of 64 mining team heads presented risk factors. This finding is perhaps a function of time, as these mining leaders might have been trafficked in the past when they earned lower incomes. It is interesting to note, however, that education levels also do not correspond with risk factors. Those with a secondary level of education or higher had an equal probability of exhibiting risk factors as those with no education. Economic precariousness cannot be ignored, however. As suggested above, individuals who report having borrowing money in the last year are significantly more likely to report having been a victim. This either suggests a risk of debt bondage or that victimization forces individuals to turn towards debt since they may not be paid for their labor.

Females and males were equally likely to experience trafficking risk factors, with other variables controlled for in the model. Minors represent a small proportion of the sample; however, they were more likely to be at risk of trafficking (0.232 probability) than those over 18 years of age (0.151 probability).

[23] For both conflict and mineral type, collinearity diagnostics suggest that no multicollinearity is present.

VI. CHILD LABOR AND CHILD TRAFFICKING

CHILD LABOR ISSUES

Respondents were asked if they had ever seen child labor in or around the mines. While no respondents stated they themselves had been forced to work as children, 13% stated that they had seen children working in the mines (See Table 18). Of those people who said they had witnessed children working in mining towns, 60% said that it was forced.

Table 18: Child Labor and Trafficking

	Frequency	Percent
Seen children working in mining towns?	193	12.7%
If you have seen children working in the mines, do you think it was forced?	n=194	
Yes	114	59.1%
No	77	39.9%
Missing	3	1.1%
Who perpetrated this?	n=114	
Mine owner/manager	55	48.3%
Other	20	17.5%
Armed group	13	11.4%
FARDC	13	11.4%
Missing/no response	8	7.0%
Family	4	3.5%
Police	1	0.9%

Consistent with the results above, reports of witnessed forced labor appears to be greater in non-conflict areas. Sixty-five percent of respondents in non-conflict sites reported having seen forced child labor versus only 32% in conflict sites (OR 3.8, p=0.001). While armed groups and the FARDC are listed as perpetrators, roughly 70% of perpetrators are mine owners, managers, and other non-armed actors. There was no significant association between type of mineral being mined and the reporting of witnessing forced child labor.

DRC law permits minors 15 and over to work; however, physically hazardous work for those under the age of 18 is against both DRC law and international conventions. Thirty-nine of 49 survey respondents under 18 (79.6%) reported doing physically hazardous work. In order to further examine the issue of child labor in mining towns, this project also examined respondents who were over the age of 18 but had worked in mining for a significant amount of time. By subtracting the amount of time that a person had worked in mining from their stated age, we were able to identify cases where people had started working in mining before the age of 18. In order to reduce recall bias, only respondents 25 years of age and younger were considered for this analysis. This calculation identified 326 people who had started working in mining before the age of 18. Since only physically hazardous work is banned under international child labor conventions, those children who stated they were selling small goods at the mines were excluded from the definition of child labor, leaving 290 individuals (50.9% of those between the ages of 18 and 25) who stated they worked in mining, or in mining

support jobs including washing, grinding and transporting minerals – all dangerous and physically grueling jobs. These 290 individuals qualify as engaging in illegal child labor. While this does not count as human trafficking, it remains a significant and alarming issue in mining towns.

The issue of children being abducted into armed groups has been a salient part of the Congolese conflict and represents an egregious violation of human rights and a form of trafficking of children. Respondents were asked whether at any point in time they had been part of, or associated with an armed group in any way. Few respondents reported this experience (2.5%), and none of these were under 18. It is possible that this experience was underreported since former combatants are often stigmatized within communities.

VII. COMMUNITY KNOWLEDGE, ATTITUDES AND PRACTICES RELATING TO HUMAN TRAFFICKING

KNOWLEDGE AND ATTITUDES ABOUT HUMAN TRAFFICKING

A majority of men (55.6%) and women (75.1%) noted they have not heard anything about the issue of human trafficking. These respondents were those who answered "no" to the following statement: "We have heard some discussion recently about what some people refer to as Human Trafficking, or forced labor/slavery. Have you heard anything about this?" Those who responded that they knew anything about human trafficking were asked a series of follow up questions. Of those who said they had heard anything about this issue, 31% of men and 17% of women stated they were either "somewhat informed" or "informed" about human trafficking (See Figure 12). As shown in Figure 13, the top three sources of information about trafficking were, in order of importance: friends or relatives, radio, and community leaders. Television, written materials and the internet were cited much less often as sources of information about trafficking.

Figure 12: Knowledge Relating to Human Trafficking: Disaggregated by Sex

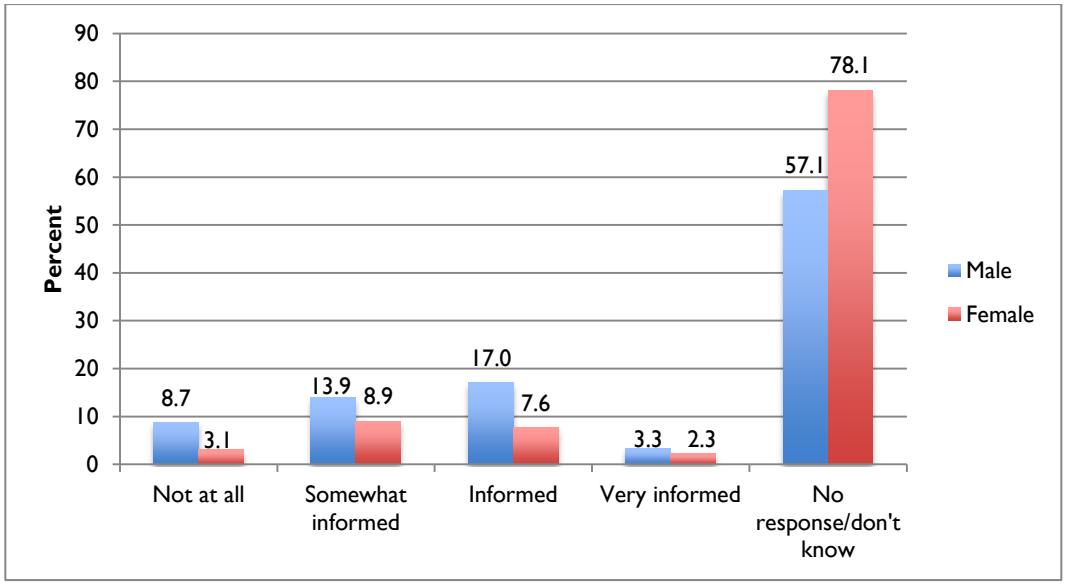
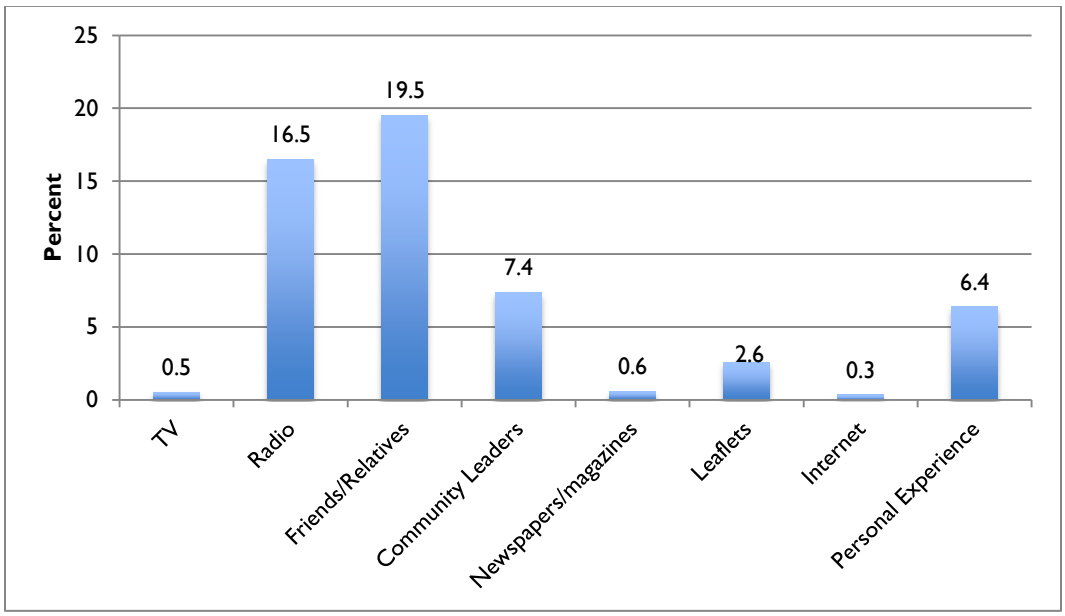


Figure 13: Sources of Information about Human Trafficking



Similar patterns were seen related to questions about sex trafficking. A majority of men (57.6%) and women (72.3%) again noted that they had not heard anything about this issue. Of those that had said they had heard anything about it, a very large percent still stated that they had no response or didn't know anything about the issue, despite having heard about it. As with human trafficking, most respondents said they got information about sex trafficking from radio or friends and relatives (See Figure 15). The third-most common source of information however was noted as "personal experience." Those who stated that they knew something about human trafficking were asked to define it. Most often respondents stated that human trafficking was "slavery" or was being forced to work against one's will. Similarly, those who stated that they did know about sex trafficking were asked to define it. Most often, respondents stated that sex trafficking was "forcing someone to have sex against one's will." These responses show a general lack of awareness about the difference between acts of rape or sexual violence, and human trafficking.

Figure 14: Knowledge about Sex Trafficking: Disaggregated by Sex

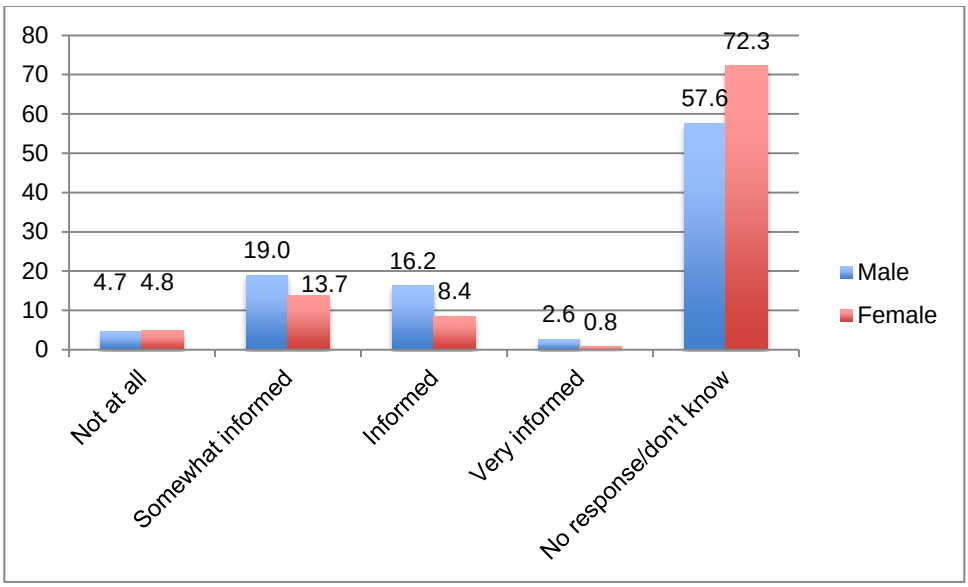
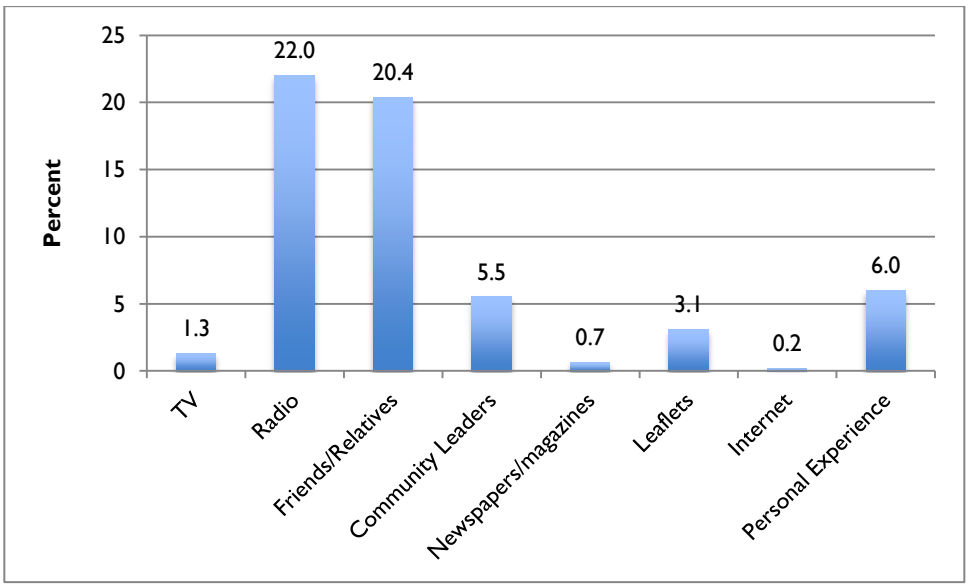


Figure 15: Sources of Information about Sex Trafficking



ACCESS TO INFORMATION

The assessment sought to explore ways that people working in artisanal mining sites in this sample were able, or not able, to access information vital to their employment, safety, and to the laws and regulations that affected their work. Notably, both men and women rated their level of information about government laws on artisanal mining as quite low on a scale of 0 (not knowledgeable) to 3 (very knowledgeable). More than half of all women (68%) and 46% of men stated they were "not knowledgeable" about government laws relating to artisanal mining. The level of self-reported information about the market prices for minerals was higher for both sexes. Three-quarters of men said they were "somewhat knowledgeable" or "knowledgeable" about mineral prices. However, more than half of women and 23% of men still stated they were "not knowledgeable" about mineral prices.

When respondents were asked about the sources of information about laws related to mining, they noted that radio (27.1%) was the most important source, followed by family (23.0%) and then the governmental Small-Scale Mining Technical Assistance and Training Service (SAESSCAM) (20.0%). SAESSCAM's designated role is to serve as a technical service office to the Ministry of Mines. The office is tasked with supporting artisanal miners, assisting with the creation of mining cooperatives and correctly collecting taxes related to artisanal mining. Given this mission, it is encouraging to see SAESSCAM mentioned as a top source of information relating to artisanal mining laws. However, when disaggregated by sex, women relied much more on information from friends and family and only 10% stated they received information from SAESSCAM. SAESSCAM was also not mentioned as main source of information about mineral prices. Instead, respondents stated that friends and family (31.2%), other miners (29.8%), and radio (11.3%) were the main sources of information.

These results speak to the need to strengthen SAESSCAM's impact related to supporting miners, and helping them understand laws, policies and practices to help them achieve safer and more effective artisanal mining practices. In particular, women's low level of employment in profitable jobs, and their low engagement with SAESSCAM in general speak to the need to have this office engage with women in more appropriate and effective ways.

Half of all male respondents and only 25% of women reported having access to a mobile phone (OR 3.2, $p<0.001$). When asked to rate access to information about local events on a scale of 0 -3 (0 being very bad and 3 being very good), 68% of women and 35% of men stated their access to information was "bad" or "very bad." There were significant differences between women and men's responses across categories. Similarly, almost half of all women stated they "never" listened to the radio, compared only to 25% of men. Again, this was statistically significant.

VIII. CIVIC ENGAGEMENT

Survey respondents were asked about their participation in community organizations. Mining cooperatives emerged as powerful actors in mining towns. In areas where they are active, membership is often compulsory for miners who want to work in artisanal mining, and these organizations can wield substantial power with traditional leaders and others. [24]

In contrast, "associations" are less formal organizations that take the form of networks of people who meet periodically, in contrast to formal NGOs that often have a set budget and undertake specific activities. Associations are often formed by groups (for instance, widows, youth, *transporters*) who feel that they are marginalized from the political process and attempt to organize to address this. Despite attempts to organize, those in associations often still express a sense of exclusion and disenfranchisement from local power structures.[25]

This reality is borne out by the data relating to civic participation in the survey. Those most likely to be members of any community group (including cooperatives, associations, cultural or religious clubs, or savings and loans groups) were those with the most power. Seventy-two percent of mineral buyers *(comptoirs),* half of mining team leaders, and 25% of miners were members of a community groups. In contrast, less than 20% of potters, food vendors and sex workers reported membership in community organizations. One-quarter of men reported being members of any kind of community organization compared to 17% of women (OR 1.91, $p<0.001$).

When one looks at the types of organizations in which people are involved, we again see distinctions between those involved directly in mining and those in support roles. Miners, heads of mining teams, and *comptoirs* reported being members of mining cooperatives and worker's associations, whereas very few people in more marginalized jobs reported inclusion in these groups.

It is worth noting that almost no respondents noted being part of savings and loans programs (13 respondents, 0.9% of the sample). However, this kind of engagement could hold remarkable power to help people cover costs in the face of variable mining production and fluctuations in pay. Savings and loans groups could also provide a safe and non-exploitative avenue for money management.

EXPERIENCES WITH SECURITY THREATS

Respondents were asked whether they had experienced any of the following threats to security in the past year: armed theft; unarmed theft; assault with weapon; assault without weapon; and bribery or corruption. Respondents were able to pick as many of the options as were appropriate. Results were analyzed using bivariate logistic regression to examine differences between male and female experiences.

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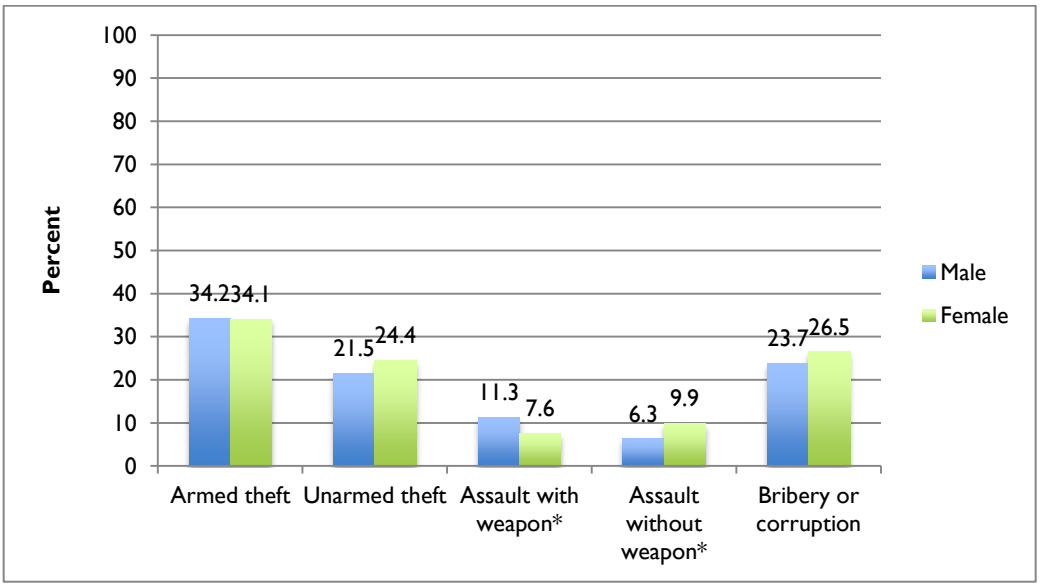
[24] Previous qualitative work in mining towns by Kelly et al. found that "Local authorities, mining cooperatives, and armed groups, were all seen as part of the same entrenched system. Participants expressed a common perception of local political economies as rampant with corruption and nepotism. Miners from Nyabibwe described this in detail. As one man noted in a focus group, "It is a secret of the cooperatives how they work, there are many meetings they do that they don't invite people, we don't know how it really works inside." Kelly, Jocelyn T.D. (2014). "The Mine is Our Farmland." *Resources Policy*. Vol. 40: 100-108.
[25] *Ibid.*

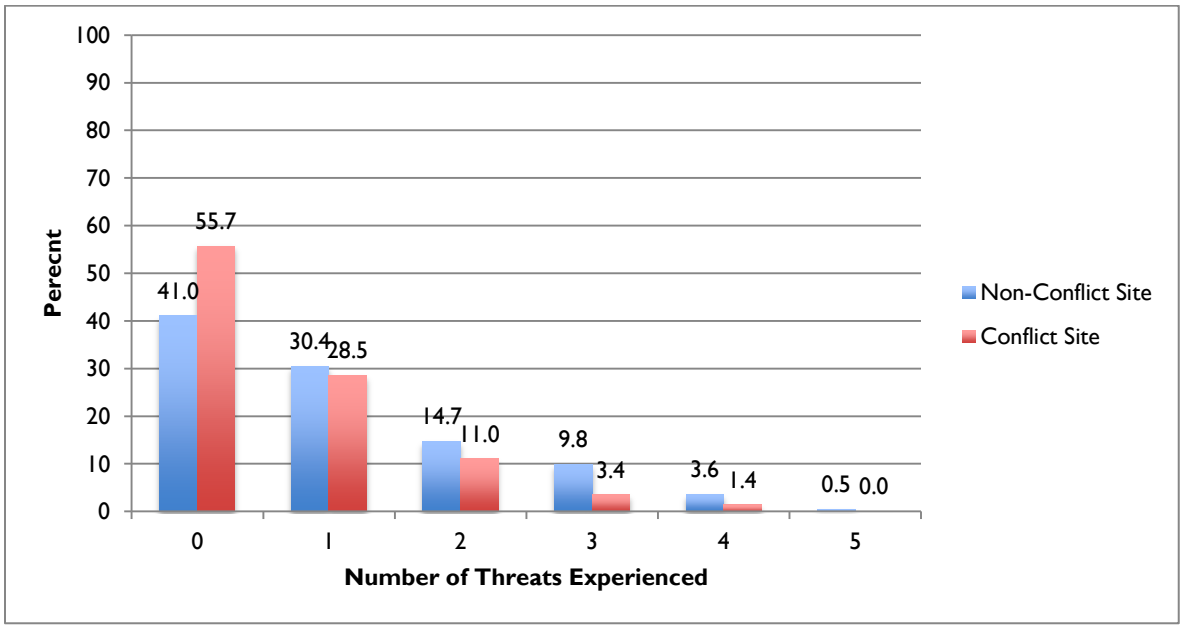
The most common type of security threat experienced by survey respondents in the past year was armed theft, with roughly two thirds of both men and women experiencing this event. Roughly one in four women and one in five men reported unarmed theft in the past year (See Figure 16). The most common type of threat after armed theft was bribery or corruption.

Figure 16: Types of Security Threats Experienced in the Last Year: Disaggregated by Sex



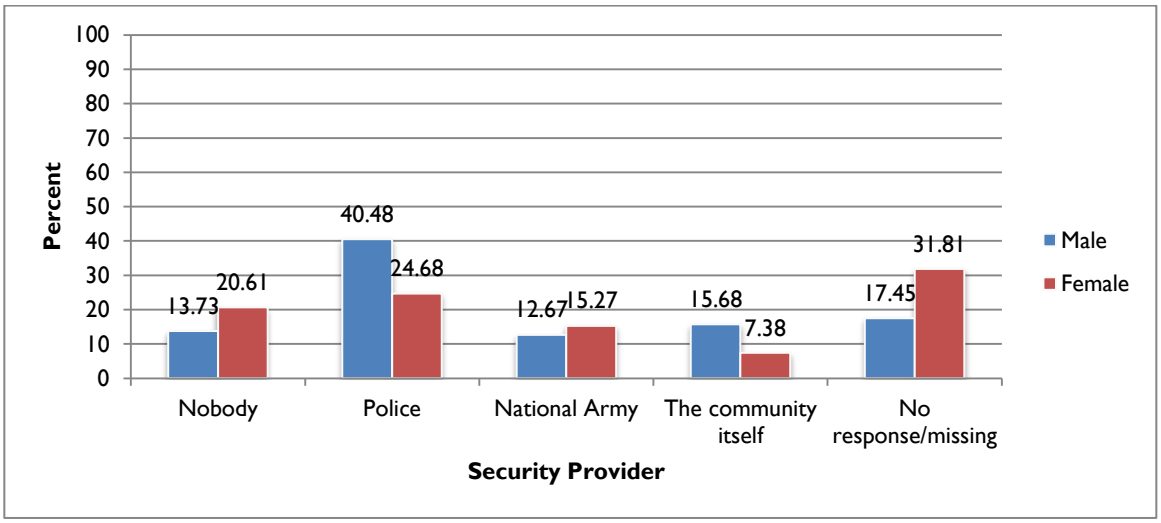
Interestingly, as shown in Figure 17, those working in sites not controlled by armed groups consistently reported experiencing more security threats than those in sites controlled by armed groups. A possible explanation may be that having one group in control of a mining site prevents a certain amount of predation by other armed groups, whereas "non-conflict" sites may be more vulnerable to intermittent predation by a number of different armed actors.

Figure 17: Experiences of Multiple Threats: Disaggregated by Conflict vs. Non-Conflict Sites



Men and women reported differing perspectives on who provides security in the community. Forty percent of men stated that they thought the police provided security in the community, followed by the community itself (15.7%); nobody (13.7%); and the National Army (12.7%) (See Figure 18). In sharp contrast, women were much less likely to report that the policy provided security (24.7%), and more likely to state the "nobody" provided security in the community (20.6%), suggesting a higher perception of insecurity among women. No female respondents stated that she had ever been associated with an armed group in the past, and only 3.3% of men noted that he had been in an armed group in the past.

Figure 18: Perception about Providers of Security in the Community: Disaggregated by Sex



DRUG AND ALCOHOL USE

Half of all male respondents reported drinking alcohol every day, and one in ten reported using drugs every day (See Figures 19 and 20). While women were less likely than men to report both alcohol and drug use, one-fifth of women also reported alcohol use every day and 3% reported using drugs every day. It is notable that those reporting any use of alcohol and drugs were most likely to report daily consumption as opposed to more intermittent use. These patterns suggest that those who do consume drugs and alcohol do so at high levels.

Figure 19: Self-Reported Alcohol Use: Disaggregated by Sex

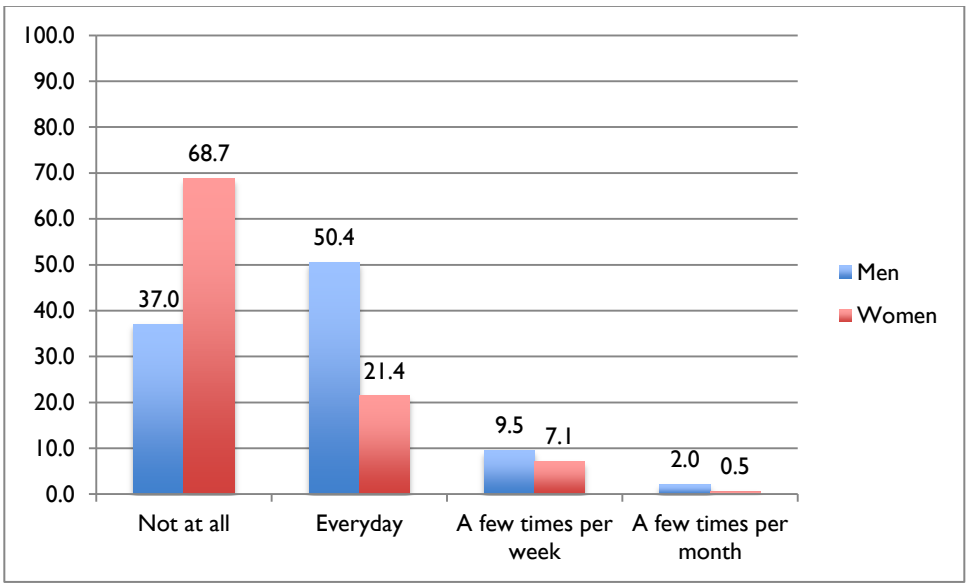
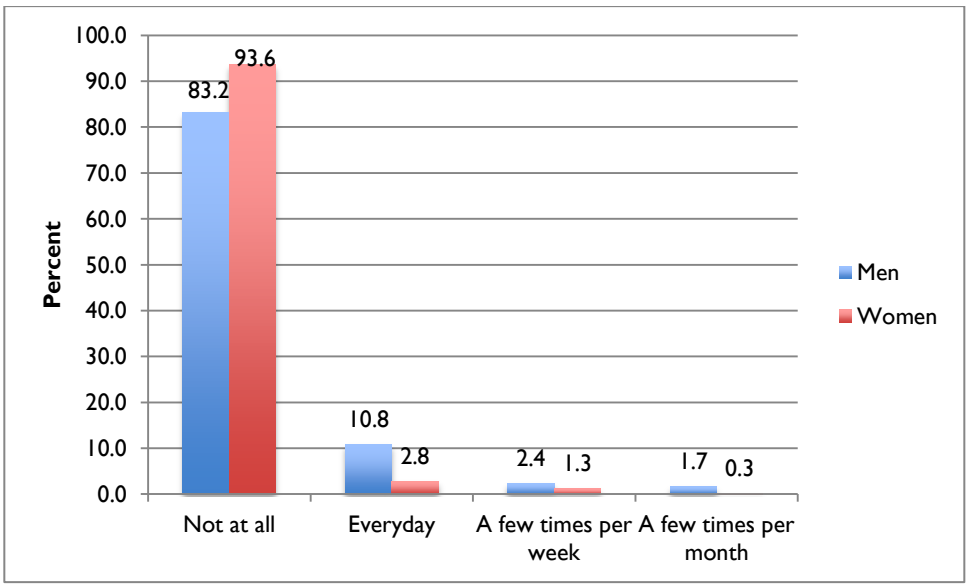


Figure 20: Self-Reported Drug Use: Disaggregated by Sex



FEES RELATED TO MINING

Respondents were asked a detailed series of questions about fees they paid to engage in work in mining sites. This section of the survey was intended to assess less visible forms of extortion and exploitation, and was informed by qualitative work describing a complex and involved system of charges assessed by a multitude of actors in mining towns. Respondents were asked about the amount and frequency of fees they were assessed to gain access to materials, sites, equipment, to travel on roads and to gain the right to engage in trade. Some fees, like paying a fee to gain access to a tunnel, were specific to those doing physical mineral extraction. Other fees, like paying to be able to travel on roads, could apply to all people in mining towns, including those in support roles.

Table 19 provides a listing of the frequency of fees paid by respondents. The most common types of fees were fees for tools and equipment, fee for a mining license, and fees to travel on roads. Fees for tools and other equipment were most often paid to traders, while mining license fees were most often paid to concession owners and the local mining administration. When disaggregated by profession, half of all miners, mine owners and buyers (*comptoirs*) described paying for a mining license – an indication of the increasing formalization of the artisanal mining sector.

Table 19: Fees Related to Mining

Type of Fee	Respondents Saying They Had Paid This Fee	
	Frequency	Percent
Fee for tools or equipment	654	45.8%
Fee for mining license	475	33.2%
Fee to travel on roads around mining site	360	24.2%
Fee to gain access to work at the mining site	304	20.3%
Fee to gain access to a tunnel or digging site	230	16.0%
Cooperative membership fee	151	10.7%
Fee to buy minerals	137	10.0%
Fee to sell minerals	80	5.6%

While paying for mining licenses and tools may be seen as justifiable costs related to work, fees to travel on roads are an illegal form of taxation. In previous qualitative work, this has been described as one way that armed groups can exert control over mining towns. In support of this, respondents noted that in just under half of the cases, it was the Congolese National Army that was levying this fee. In one quarter of the cases the fee was paid to a trader. Perhaps surprisingly, there were not significant differences in the number of times the fee was assessed, nor in the amount paid between conflict and conflict sites. This suggests that the National Army and other actors may exert control over mining areas by taxing road travel whether a site is considered under armed control or not.

In qualitative interviews, respondents emphasized that it was difficult to know the difference between legal, formal fees and taxes compared to illegal, informal payments and bribes. As one miner from Mukungwe said, "*There are many taxes; to the point where we don't know the real and false ones…That's why we would like for the State to provide justice and settle our conflict, [then] I think things could work well."* The qualitative evidence emphasized not only the confusion related to payment of fees and taxes, but also differences in levels of knowledge between people in the same site, suggesting uneven implementation of education efforts. A female trader who was also from Mukungwe said, "*Yes – people in civil society and who are involved in the mining sector, they tell us what should be done and what should not be done; which taxes one must pay, and the ones we don't have to pay. They tell us where to go in case of problems*…" However, in Bushushu another respondent said simply, "*No one comes to educate us. We don't know anything related to mineral exploitation."*

The fee to gain access to work in mining towns was also an interesting informal "tax" to examine.[26] Disaggregating this by profession, we see that some types of people – like porters, washers, and food vendors were seldom charged money to work in mining (under 20% report paying this fee). However, one-third of

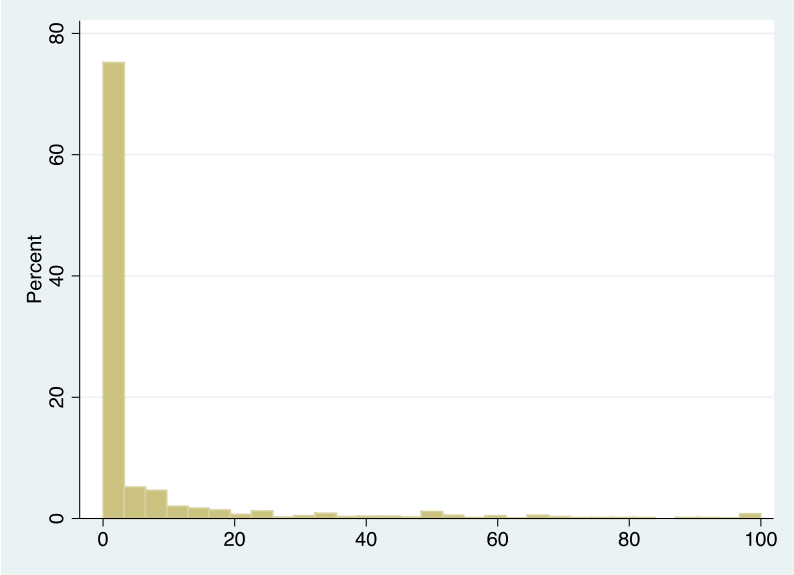
[26] An exception is that pregnant women are banned from doing hard physical labor by the Congolese mining code.

those directly involved in mining – miners, heads of mining teams and *negociants* – stated they paid this fee. Half of all of these fees were paid to concession owners. Others who collected this fee included police, traditional leaders, the National Army and the office of the mines. Notably, almost 60% of sex workers stated they had to pay a fee to gain access to work in mining – a rate that was almost twice as high as any other profession. Almost half of these fees were paid to the owner of the mining concession. Another 40% of these fees were paid to the police, traditional leaders, state government officials or administrative leaders. These findings suggest that local and traditional leadership structures are involved in assessing fees from women coming to seek work in mining towns. While the survey does not establish directly that these leaders knew the women were engaged in sex work, it is striking that a small proportion of food vendors seldom pay this fee (17%) compared to sex workers (58%). This suggest that leadership are aware of the practice of prostitution, have a sense of who engages in it, and find ways to profit from it.

To examine the total amount that people spent on fees throughout the year, all fees were standardized to an annual amount (for instance, monthly fees were multiplied by 12 to get an annual estimate). The annual fee amount was then divided by yearly income to estimate the percent of earned salary that was allocated to paying fees. While this is a rough estimate, due to recall bias and fluctuations in both fees assessed and in income, it gives one of the first estimates of the amount of fees that someone working in mining towns might pay. Fees that were outliers and orders of magnitude larger than all other fees were presumed to be data entry errors and dropped from the analysis – this did not affect the overall findings related to fees.

The histogram below in Figure 21 shows the amount of fees paid annually as a function of annual income. More than 80% of the sample paid fees that were less than 10% of their annual salary. The average percent of annual salary spent on fees was 6.7% for men and 1.6% for women. Miners spent significantly more of their income (a mean of 8.0% of income spent on fees) compared with those in other professions (2.9% of income spent on fees) ($p<0.001$). The proportion of annual salary spent on fees was more than twice as much in conflict-affected sites compared to non-conflict sites (9.7% of income vs. 4.4% of income) ($p<0.001$).

Figure 21: Amount of Fees as a Percent of Annual Income



DISPUTES AND CONFLICT RESOLUTION

Artisanal mining is prone to conflicts over land access, ownership of minerals, payment, and prices among other things. Interpersonal disputes can be exacerbated by stress over fluctuating amounts of mineral production and drug and alcohol use.

Interviewees in the qualitative work highlighted these challenges. As one trader from Mukungwe described, *"Can there exist a place where there isn't conflict? More than anything, it is about money. Or about gold. Conflicts exist. Too many conflicts between the miners themselves, first of all; between women over there; a woman who leaves the house to go prostitute herself will have problems with her husband; between bosses and miners…"*[27] An interviewee from Bushushu echoed many of these sentiments and described one potential resolution, *"Here in Bushushu, we say that there are people who have problems everywhere…if a miner drinks strong alcohol, he can do who knows what. If there is a dispute between two miners in this case, the owner of the mining concession convenes them. The person that was wrong pays a small forfeit…"*

Despite these widely recognized tensions, only 20% of all respondents stated they were involved in any kind of dispute in the past year. Those who reported being involved in a dispute were asked how many disputes they were involved in and the nature of the disagreement. Almost half of respondents (42%) said they only had one dispute, one-third reported two disputes and just under a third of respondents report between 3 and 6 disputes.

Certain types of professions seemed more prone to disputes than others. Local buyers and traders *(negociants),* people working in mining support jobs, and sex workers reported higher rates of disputes than others (See Table 20). Roughly 30% of people in these jobs reported having a dispute in the past year, compared to between 12% and 25% for other professions such as mining support, sex workers, and traders. There was no significant difference in the odds that women and men would report having a dispute in the past year, nor was there a significant difference in men and women's reporting of whether they felt that they had a just resolution to their disagreement.

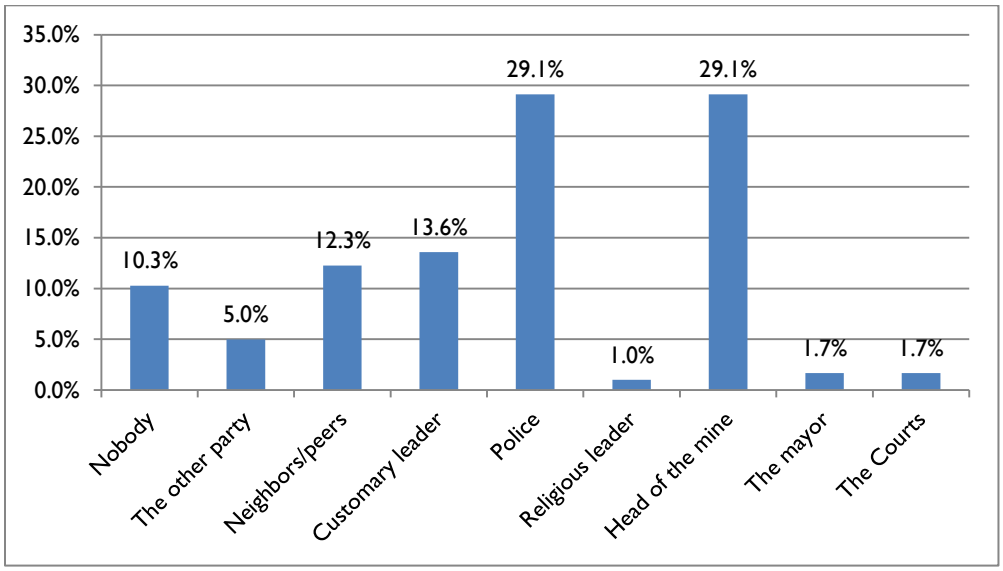
Table 20: Frequency and Percent of Disputes by Mining Job

Position	Number in Position	Frequency (Yes)	Percent (Yes)
Prostitute	62	21	33.9%
Local mineral buyers/traders *(Negociant)*	30	10	33.3%
Mine support	148	43	29.1%
Head of mining team	64	16	25.0%
Cleaner	76	15	19.7%
Miner *(Creuseur)*	747	144	19.3%
Mineral buyers *(Comptoir)*	11	2	18.2%
Porter	54	9	16.7%
Work not related to mining	19	3	15.8%
Vendor	257	33	12.8%
Total	**1468**	**296**	**20.2%**

[27] Miner, Mukungwe

Three-quarters of respondents stated that they felt their dispute was resolved fairly – suggesting active community-based conflict resolution mechanisms. When asked who resolved their dispute, one-third of respondents said it was the local police and one-third cited the head of the mine (See Figure 22). Qualitative data provide insight into some of the resolution mechanisms, which often take the form of mediation from someone in a position of power and the paying of a small remittance or an exchange of goods to the party that was deemed to have been wronged. A miner in Bushushu described this, saying, "*We call the people who are having a conflict, we listen to them, then we try to reconcile them. We also look for the person who is right and tell him he is right, and the one who is wrong, we ask a forfeit* [amende in French] *in order to close the conflict. But if he says he doesn't have anything to give, we take him to the mining tunnel of a PDG and the money which is supposed to be paid to him for this work is used to end the dispute…"*[28] An interviewee in Katanga also mentioned that associations of different types of workers may be used to resolve disputes between people of the same profession*: "Every type of work has an organization called a "mutualité." In case of a problem, they get together and look for a solution."*

Figure 22: If You Had a Dispute, Where Did You Get It Resolved?



PRIORITIES

Finally, survey respondents were asked about their most important priorities or concerns. Overwhelmingly, respondents stated that having money was their most important concern. When combined with responses about concerns about employment this accounted for 37.2%. Concerns about housing and food and education comprise the other top five concerns (See Table 21).

[28] Miner, Bushushu

Table 21: Respondent Priorities

Priority	Frequency	Percent
Money	277	19.8%
Housing	246	17.6%
Work / Jobs	243	17.4%
Food	231	16.5%
Education	135	9.7%
Security/Safety	117	8.4%
Roads	51	3.7%
Land	41	2.9%
Health	40	2.9%
Water and Sanitation	11	0.8%
Electricity	5	0.4%
Total	**1,397**	**100%**

In the qualitative data, respondents also provided input about the changes they would most like to see in their communities. There was an almost unanimous call for the state to bring order, law and regulation to artisanal mining towns. Respondents in South Kivu asked for better regulation and government support, while respondents in Katanga asked for provision of better infrastructure and technical support from the state. A number of people described mining towns as places of chaos or disorder and were adamant about the need for the government to address this. As one female respondent in Mukungwe stated, "I wish that the State would be present. Where the state is present, we couldn't have disorder like this. There should be a law to govern the diggers, there should be a law that will be enacted to ensure that mine sites are managed… First state must get involved, so that miners are informed and knowledgeable, so that women are trained…"

Another female interviewee described mining towns as "a state apart from the state." She went on to say that they pay taxes without any proof of payment and without knowing where the money goes. She noted, "We would like the state to take its power in hand…we ignore laws here. I would want the state to take responsibility, to control the mining sector. .."

In Katanga, there were calls to provide better equipment and better technical support for the miners, in the form of tools, expertise and technical support. In both South Kivu and Katanga, there were calls for better infrastructure to bring a basic quality of life to mining towns: this included the construction of roads, hospitals, schools and the provision of basic services such as electricity and water.

IX. CONCLUSIONS

While it is important to recognize the many challenges to measuring trafficking victimization and the limitations of the data explored here, this assessment represents a unique attempt to systematically measure trafficking incidences in eastern DRC's artisanal mining industry. The study was designed to produce a representative sample of those individuals working in the mining industry in Kalehe, Walungu, Mwenga, Kalemie, and Nyunzu territories. Absent more accurate population figures, we cannot be completely sure of the generalizability of the results; however, the findings presented here are the product of a systematic approach to both site and respondent selection.

The results presented in this assessment challenge two pieces of accepted wisdom. First, while this assessment does find evidence of current and past trafficking, the research finds lower levels of TIP than is commonly held to exist. This is not to understate the challenges that exist in eastern DRC's mining communities; rather, the data suggest that other forms of abuse are more common than trafficking. It is clear that people working in mining towns live in a complex landscape where vulnerability to exploitation is extensive. This includes predation from powerful political actors, including state agencies, the national army and other armed groups. Child labor is widespread as is women's sexual exploitation, though they do not necessarily take the form of trafficking. Limited spaces for political participation or labor organization, especially for those in support roles in mining, means that people have little chance to organize and advocate for better working conditions. From a population-level standpoint, confronting these complex vulnerabilities could have the power to address greater needs and have a wider impact than focusing solely on confirmed cases of labor or sex trafficking.

Second, it is commonly assumed that conflict is a primary driver of trafficking. To be sure, the decades-long conflict in eastern DRC has destabilized individual lives as well as social, political and economic structures in profound and complex ways. The region as a whole has been profoundly affected by, and continues to experience the consequences of, current and past violence and conflict. Nonetheless, these findings do not reveal stark differences in the types and levels of abuse in "conflict" vs "non-conflict" sites in the South Kivu and North Katanga contexts examined for this project. While some abuses could be directly related back to armed groups, the assessment finds that the vast majority of the perpetrators of abuses, such as sexual violence, extortion of fees, and forced labor, were mining bosses, state agents or other civilian actors. These findings speak to the need to address socio-cultural norms, peace-time power structures and attitudes and to promote civic engagement in the rebuilding of the mining sector rather than focus exclusively on armed group abuses.

The type of mineral mined also does not appear to influence risk patterns for labor trafficking, although we observed a higher incidence of sexual violence in cassiterite mines.

Based on the definitions operationalized in this assessment, the results indicate that 5.2% of survey respondents are or have been victims of trafficking and 17.0% exhibit some risk factors for trafficking. Table 22 outlines the different forms of trafficking identified in the assessment. The study found that risk factors of labor trafficking tend to be focused in certain territories (e.g. Mwenga) and certain sites. Those respondents who have worked at the site for a long time, sleep at the mine, have borrowed money, and are minors are all more likely to exhibit risk factors for victimization.

Table 22: Definitions and Measures of Human Trafficking

Category of Human Trafficking n=1,522	Male Frequency	Female Frequency	Total Frequency	Total Percent
Labor Trafficking				
Respondents stating that they were forced to work in the mines, or were brought into mining through forced fraud or coercion, and who also stated that they did not feel free to leave their job in mining	44	12	56	3.7%
Debt Bondage				
Respondents stating that they are not able to repay the debts they have accrued, and report having been held against their will, or not being able to leave mining because of debt repayment	32	7	39	2.6%
Sex Trafficking				
Respondents stating they had been forced into marriage	0	5	5	0.3%
Respondents stating they were sex workers by profession and did not feel free to leave their job	0	3	3	0.2%
Child Sex Trafficking				
Respondents stating they were sex workers by profession and under the age of 18	0	6	6	0.4%
Child Labor Trafficking				
Respondents under 18 years of age stating that they do not feel free to leave work in the mines	0	1	1	0.1%
Estimated Total Number of Trafficked Persons: 102 (6.7%)*				

**The total number of trafficked persons is not a straightforward sum of each category since some people fell into multiple definitions of trafficking.*

Table 23: Human Trafficking Cases by Territory

Territory	Not trafficked		Trafficked		Total	
	n	Percent	n	Percent	n	Percent
Mwenga	540	90.9	54	9.1	594	100%
Nyunzu	189	98.4	3	1.6	192	100%
Walungu	458	94.1	29	6.0	487	100%
Kalehe	135	93.8	9	6.3	144	100%
Kalemie	98	93.3	7	6.7	105	100%
Total	**1,420**	**93.3**	**102**	**6.7**	**1,522**	**100%**

We find only a low incidence of sex trafficking, as operationalized by incidences of forced sex, an expressed inability to leave sex work, or sex work under the age of 18. Nonetheless, the survey finds that a high 31.1% of female respondents report exchanging sex for money. This population is clearly vulnerable to exploitation, as evidenced by high incidences of sexual violence, the exchange of sex for access to work, food and protection, and by the high fees that sex workers report paying both to mine concessionaires as well as to governing authorities.

Trafficking of minors and child labor is of concern. Minors are more likely than adults to be trafficking victims, and 11 out of 49 surveyed minors were considered labor trafficking victims. Furthermore, DRC law and international norms dictate that children under 18 should not engage in physically hazardous work like mining; however, 39 of 49 of the minors in the study (79.6%) were engaged in such work. Furthermore, by subtracting the amount of time adults between the ages of 18 and 25 state that they have been working in mining, we estimate that 44.2% of these adults worked as miners when they were under 18.

The study identified only a small number of individuals that represented clear cases of debt bondage, unable to pay their loans and leave the mining communities. Nonetheless, provided the high degree of borrowing, the asymmetric relationship between lender and borrower, the common practice of using work to pay off debts, and the high degree of informality in lending (i.e. no documentation nor clear interest rate), it is clear that there is the a strong potential for exploitation via lending. The dearth of savings associations or other formal lending mechanisms provides individuals working in the mines with few options to safely borrow money.

The assessment also finds a number of additional risk factors and vulnerabilities. The survey results highlight the low levels of knowledge about laws and policies in mining areas and general unfamiliarity with rights and protections due to those working in artisanal mining. Women in particular have very limited access to information, and reported less access to cell phones and radio messaging than men. Alcohol and drug use is extensive; 50.4% of men report drinking daily and 10.8% of men report using drugs daily. Respondents also have to navigate a variety of fees, whose legality was frequently in doubt. While it is an estimate, we calculate that on average men paid 6.7% of their annual salary in fees. Furthermore, numerous respondents faced security threats. In short, while the rates of trafficking, per the definitions operationalized in this study, were found to be lower than expected, the evidence of very high levels of vulnerability to trafficking, which justifies future USAID interventions in the area.

X. RECOMMENDATIONS

Based on the definitions operationalized in this assessment, the results indicate that 6.7% of survey respondents are or have been victims of trafficking. While the intent of this study was to specifically examine the scope and nature of human trafficking in mining towns, the results of this work highlight a complex landscape of abuses that, while not all qualify as trafficking, deserve attention. These include: sexual exploitation, abusive fees levied by authorities; high levels of child labor and disenfranchisement from political processes. By widening the focus of the recommendations to address risk factors for trafficking as well as the impact of trafficking as well as other abuses, we believe these recommendations will have the broadest impact. However, it is worth noting that this project did not undertake to investigate all possible abuses within mining towns, and so the recommendations below, while not solely focused on trafficking, are focused on those data that were collected as part of the survey. A separate report has been prepared with detailed recommendations specific to USAID. The following are more general proposals for efforts that could be taken by the government, donors, civil society, the private sector and others to address the issues highlighted by this project.

Increase knowledge about mining laws, human trafficking and human rights abuses to improve conditions and identification and reporting of exploitation.

1. Promote civic engagement and awareness of rights, laws and government responsibilities through community engagement, radio messages, and improved outreach by SAESSCAM and the Ministry of Mines at local sites.
2. Support women's associations as an avenue for creating more equitable working conditions and addressing the information asymmetry in mining towns.
3. Work with SAESSCAM, mining cooperatives and civil society organizations to put systems in place where human rights abuses can be reported and to ensure mining cooperatives are benefiting and promoting the rights of the miners.

Promote financial stability and mitigate exploitative lending practices.

4. Support community-level savings and loans and microfinance programs to protect against exploitative lending practices and to promote community cohesion.
5. Support non-exploitative, formalized lending practices.
6. Promote food security in mining towns through diversification of livelihoods, food price monitoring, improved infrastructure and through communal agricultural production.
7. Standardize fees for mining equipment, including the purchasing and rental of related equipment.

Strengthen the formal and informal justice sector mechanisms.

8. Leverage community conflict-resolution organizations to identify, report and address possible cases of human trafficking.
9. Support police and justice mechanisms in mining towns to address exploitative practices.

Support national-level efforts that can address human trafficking.

10. Incorporate anti-trafficking measures into the conflict-free certification process.

This project has built on a large body of existing research and attempted to fill the gaps left by a wealth of qualitative studies. Nonetheless, there remain several areas where future research would be informative. Firstly, this assessment was limited to mining sites in South Kivu and Katanga. These results are therefore not generalizable to the rest of the country or to other mining intensive provinces. Similar studies could be carried out in other provinces, notably North Kivu, where artisanal mining is common and abuses have been widely reported. There is also the need for a nationally representative assessment of trafficking more generally.

Additional research could also be undertaken to illuminate some of the processes and pathways that lead people into exploitative situations. This research could take the form of qualitative or survey-based work with people who have been identified as "at risk" for trafficking. Investigating the value chains and traceability and certification processes involved in the mining trade from a human trafficking lens could also expose ways to ensure more equitable transport and trading practices around artisanal mineral exploitation.

Most importantly, however, there is a need for greater research into what types of programmatic interventions work in reducing worker vulnerability to trafficking victimization. The development of programmatic activities designed to address the concerns raised in this assessment could and should be developed with an impact evaluation in mind, which would allow USAID and other parties to understand what approaches are most effective in reducing both victimization and vulnerability.

Annex A. SCOPE OF WORK

Sexual and Labor Trafficking & Human Rights Assessment in Select Mining Communities of the DRC

Assessment Plan

USAID
Limited Internal Distribution

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This publication was produced as a part of the United States Agency for International Development's Center of Excellence on Democracy, Human Rights, and Governance Learning Agenda. It was prepared by Jocelyn Kelly (Social Impact and Harvard Humanitarian Initiative), Daniel Sabet (Social Impact), Patrick Vinck (Social Impact and Harvard Humanitarian Initiative), Jordan Fulp (Social Impact) and Natasha Greenberg (Human Rights Program Specialist, USAID).

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Acronyms

AG	Armed Groups
ASSODIP	Association for the Development of Peasant Initiatives
BGR	Bundesanstalt für Geowissenschaften und Rohstoffe (Federal Institute for Geosciences and Natural Resources, Germany)
CREDDHO	Center for Research on the Environment, Democracy, and Human Rights
C-TIP	Countering Trafficking in Persons
CU	Columbia University in the City of New York
DRC	Democratic Republic of Congo
FARDC	Forces Armées de la République Démocratique du Congo
FDLR	Forces Démocratiques de Libération Du Rwanda
HHI	Harvard Humanitarian Initiative
IPIS	International Peace Information Service
IRC	International Rescue Committee
IRD	International Relief and Development
IRED	**Institut en Recherches et Evaluations pour le Development**
JMP	Joint Monitoring Programme
MONUSCO	United Nations Organization Stabilization Mission in the Democratic Republic of the Congo
NGO	Non-governmental Organization
SAESSCAM	Service d'Assistance et d'Encadrement du Small Scale Mining
SI	Social Impact
USAID	Unites States Agency for International Development
WMC	World Mining Company

Introduction

This document outlines a research agenda for an empirical assessment of the nature and scale of labor and sex trafficking of men women, and children in target mining communities in the Democratic Republic of Congo (DRC) under the Evaluating Democracy, Human Rights and Governance Effectiveness - Impact Evaluations (EDGE-IE) contract. The "Sexual and Labor Trafficking & Human Rights Assessment of Select Mining Communities in DRC" will evaluate and distinguish among the types of trafficking in persons along the supply chains of four conflict minerals-gold, cassiterite, coltan and tungsten. For each mineral, the study will explore the influence of local and regional cultural, socio-economic and political/security conditions on the levels and types of Trafficking in Persons (TIP). The evaluation will also differentiate between the nature and scale of trafficking in the mining areas of conflict-prone eastern DRC and other provinces not experiencing conflict.

The data collected for the assessment study will be used to identify programmatic recommendations for USAID interventions as well as recommend evaluation activities and research questions related to the proposed programmatic interventions.

Background

Trafficking in persons is a global crime that involves the recruitment, transportation, transfer, harboring, or receipt of persons through the use of force, fraud, or coercion for the purposes of exploitation. A modern form of slavery, human trafficking constitutes a violation of human rights in which victims are deprived of their humanity and basic freedom. TIP can involve either sex or labor exploitation, or both. Trafficking victimizes millions of women, children, and men worldwide and yet is mainly hidden from public view.[29]

In its 2012 TIP Report, the U.S. Government ranks the DRC on Tier 3, a position it has held since 2010 when it dropped down from the Tier 2 Watch List. The DRC is a source and destination country for men, women, and children subjected to forced labor and sex trafficking. The majority of this trafficking is internal, and much of it is perpetrated by armed groups and criminal elements of government forces in the country's unstable eastern provinces. Nonetheless, incidents of trafficking occur throughout all 11 provinces.

The 2012 TIP report cites the problem of unlicensed Congolese artisanal miners (namely men and boys) being exploited in situations of debt bondage by businessmen and supply dealers from whom they acquire cash advances, tools, food, and other provisions at inflated prices, and to whom they must sell the mined minerals at prices below the market value. It also highlights that Congolese women and girls are forcibly prostituted in markets and mining areas by loosely organized networks, gangs, and brothel operators.

In September 2010, President Kabila banned artisanal mining in North and South Kivu and Maniema provinces. The ban was lifted in March 2011 after a multi-stakeholder set of engagements were concluded to reform the eastern DRC mining sector. Implementing the reforms will require time. At the same time, in April 2011, U.S. end-user companies covered by the Dodd-Frank Act initiated actions of curtailing Central African imports which led to a *de facto* embargo. In the interim, the ban and subsequent military reorganization have increased volatility in the control of mining sites. Illegal exports

[29] For more information about the definition of trafficking, go to USAID's Counter-Trafficking in Persons Field Guide

have continued, including gold, which is much easier to smuggle and helps to finance armed groups and criminal activities by members of the Armed Forces of the Democratic Republic of Congo (FARDC).

In addition, the outbreak of what became known as the "M23 Rebellion"[30] in February 2012, by Rwandan-linked elements of the FARDC centered in North Kivu, strongly underscored the insecurity of this region and its interrelationship with the illegal exploitation of minerals and other economic racketeering by both Congolese and foreign armed groups (AG) and criminal elements of the FARDC. Some analyses of the motivation for the rebellion assert that Rwandan-linked elements within the FARDC and AGs are attempting to re-assert their economic role in minerals trading and other economic activities in North and South Kivu provinces. As the FARDC has concentrated on fighting the rebels in North Kivu, an increased level of attacks by domestic AGs has broken out in areas of the Kivus from which the FARDC has withdrawn or is weakened. Often these areas include sources of minerals.

According to the 2012 TIP report, armed groups (such as Democratic Forces for the Liberation of Rwanda, known by its acronym FDLR, and the FARDC) in North Kivu, South Kivu, and Katanga Provinces routinely used threats and coercion to force men and children to mine for minerals, turn over their mineral production, pay illegal "taxes," or carry looted goods from mining villages. There are reports that the military's control of the mines intensified during the Government's ban on mining, and that some FARDC elements increased their use of forced labor in the mines, a charge repeatedly denied by the FARDC.

In addition to suffering from conditions of forced labor, artisanal miners face threats to their health and personal safety caused by poor working conditions in the mines. Working in unregulated mines without proper equipment and poor ventilation, these miners endure landslides, cave-ins of shafts and other hazards. Miners suffer a host of medical conditions (including eye injuries, conjunctivitis, bronchitis, tuberculosis, asthma, diarrhea, fractures, tetanus, and spinal cord injuries— among others).

Despite these exacting conditions, hundreds of thousands, and possibly millions[31] of artisanal miners and their families rely on mining for their livelihood. Driven by extreme poverty with limited economic alternatives, these miners accept extreme working conditions. The environment is further complicated by poor governance, poor regulatory oversight, and widespread corruption. Conditions are highly conducive to labor and sexual trafficking.

Many reports suggest that labor, sex, and conflict related trafficking is a common feature in the DRC. Human rights abuses--including sexual and labor trafficking of adults and children--in mining communities in both conflict-affected eastern DRC and throughout the country are widely cited by international human rights organizations, such as Free the Slaves, Enough, and Global Witness, as well as Congolese organizations, such as the Center for Research on the Environment, Democracy, and Human Rights (CREDDHO) and the Association for the Development of Peasant Initiatives (ASSODIP). For example, a recent study in South Kivu found that a large majority of civilians in the artisanal mining sector are victims of trafficking.[32]

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[30] M23 refers to the March 23, 2009 peace and re-integration agreement among armed groups, including the former rebels also linked with Rwanda in 2008 and 2009, and the GDRC.
[31] Some experts estimate between 2 to 3 million Congolese throughout the country may work in artisanal mining on a regular basis.
[32] Communication about Free the Slave forthcoming report

These assertions are echoed by other international actors, including the Office of the United Nations High Commissioner for Human Rights, the Security Council's Group of Experts on the DRC, UNICEF, and the United Nations Organization Stabilization Mission in the Democratic Republic of the Congo (MONUSCO). For example, a UN report suggests widespread coerced labor in mines controlled by armed forces, which illegally exploit, tax, and trade minerals.[33]

The nature and extent of trafficking varies across these reports. This is perhaps to be expected, as the study of trafficking in the region is complicated by numerous definitional and measurement challenges. For example, the nature of trafficking appears to vary by the type of work, producing differences across labor trafficking in DRC's artisanal mines, sexual trafficking, and conflict-related trafficking. Furthermore, often at issue is the degree to which exploitation is driving principally by coercion or whether economic hardship pushes people into exploitive situations. Studies by Free the Slaves, for example, have found evidence of coercion by mine 'owners', traders, money lenders, brothel owners, and even parents.[34] Furthermore, the nature of trafficking and how we understand trafficking differs for minors *vis a vis* adults, as child labor and forced recruitment into sex, mining, and armed conflict are frequently cited concerns.[35]

Purpose of the Assessment

Despite numerous case studies on trafficking in the region, systematic empirical evidence does not exist regarding the type and scale of these human rights abuses. Many of the assertions cited by domestic and international groups are based on anecdotal evidence and/or non-quantitative surveys that seek out specific instances of TIP. Despite the important body of work aimed at documenting the issues of trafficking in the artisanal mining sector, the established narrative is undermined by a lack of clarity on definitions, methodological limitations, and the absence of scientifically valid data on the prevalence, patterns, and causes of trafficking. It is therefore difficult to identify which types of interventions are most needed, and what the most pivotal points of entry are for programming to combat TIP. This study will collect population based information that will be used to analyze how prevalent different forms are, and whether prevalence rates vary depending on factors such as presence of armed groups, proximity to cities, etc.

This assessment therefore seeks to fulfill the need for an empirical inquiry using quantitative research methods such as randomized surveys to determine the nature and scale of the problem. The data collected from the assessment activities will be used to develop recommendations for USAID, the government of DRC, NGOs and the broader international community of ways to develop programming to combat TIP in the artisanal mining areas. The development of tools to measure the scope of human trafficking in artisanal mining in the eastern DRC will also be useful in enabling measurement of progress towards mitigating TIP and the assessment report will include recommendations of ways to create impact evaluations of suggested programs.

Social Impact – USAID Scoping Trip

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[33] UN Security Council, Final Report of the Group of Experts on the Democratic Republic of the Congo, S/2009/603, New York, November 23, 2009.
[34] Free the Slaves. Findings of Slavery Linked with Mineral Extraction in Eastern DRC. Washington, DC, July, 2010. http://www.endingslavery.com/celworx/DRC/docs/FTS_DRC_Findings--July_2010.pdf; Free the Slaves. 2013. Forthcoming report South Kivu.
[35] *Ibid.*

Sexual and Labor Trafficking and Human Rights Assessment in DRC Mining Communities

Between March 18th and 29th, 2013 the DRC C-TIP mission including Patrick Vinck (consultant), Patrice Howard (SI) and Natasha Greenberg (USAID) travelled to the Democratic Republic of Congo (DRC). The objective of the mission was to gather the information necessary to articulate an assessment strategy for an empirical study of the nature, scale and scope of forced labor and sex trafficking associated with artisanal mining of four minerals in eastern DRC.[36] The mission was in Kinshasa (5 days) and Bukavu (5 days). The mission interacted with key actors in both locations. These included representatives of key UN agencies, donors, local and international non-governmental organizations, and representatives of the national and provincial government (see Annex I). One field visit to a mining site occurred during this scoping trip, which included interviews with miners, representatives of miners' cooperatives, traders, and local authorities.

Common Themes from Preliminary Interviews[37]

The scoping trip research activities resulted in the following tentative conclusions, which provide the foundation for this draft assessment plan.

I. Extreme poverty, the lack of alternative livelihood opportunities, and on-going insecurity lead a high proportion of civilians to engage in artisanal mining related activities.[38] Working and living conditions at or near mining sites are rudimentary with no or little access to services, including education and healthcare. However, artisanal mining-related activities are generally perceived as the only livelihood option that generates readily available cash income. Agriculture suffers from low productivity, insecurity, which reduces access to fields and carries the potential of harvest loss, and inadequate access to storage facilities, transportation, and markets.

II. Within this context, many observers contend that individuals involved in artisanal mining-related activities tend to join the sector willingly, driven primarily by the economic conditions. According to the information received during the scoping trip meetings, there was *not* a widespread belief that individuals are tricked, coerced, or otherwise forced into *entering* work in the artisanal mining sector or its surrounding economy. Miners reportedly have some flexibility in moving to different mining sites, but debt may hinder this freedom of movement. Those who work as artisanal miners or in commercial activities near the mines may also lack the resources needed to relocate. The strong imbalance between labor demand and supply reportedly results in abuses of power among those having control over access to land, job opportunities, and credit. The lack of education of artisanal miners is also seen as a reason they may be duped into accepting lower pay.[39] Since this information was derived from organizations working with miners and not the miners themselves, the study will work to

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[36] The minerals of interest for this particular study include gold, Tantalum (coltan), Tin (casseterite), and Tungsten (wolframite), also referred to as the "3Ts".

[37] The interviews that took place during the scoping trip were conducted with an assurance of confidentiality (and anonymity) between the interviewers and the respondents, as stated in the interview guide that was shared and used during the mission. Therefore we cannot provide attribution or quotes for statements. The findings that are presented reflect convergence of opinions unless otherwise specified.

[38] Mining-related activities include but are not limited to digging, carrying excavated dirt, breaking stones, cleaning excavated dirt, trading minerals, trading supplies (food, equipment) with miners, and prostitution. Historically, the collapse of industrial mining and liberalization of the mining sector in the 1980's and 90's led to the bankruptcy of large companies like Gecamines, Forminieres, Sominki, Locimo. This pushed many individuals who worked there to adopt artisanal mining as an alternative livelihood, and in the absence of State proposed alternatives. Originally a marginal activity, it is now too large to easily replace, employing as many as 2.5 million workers across the country.

[39] Porters, for example, earn as little as 200 Francs (less than 50 cents) for the transport over relatively long distance of a bag of 50kg. Pay for diggers vary based on production.

obtain primary source data to test the accuracy of these perceptions. It will gather information about both whether force, fraud or coercion is used in entering the work and if workers who willingly entered have subsequently fallen under conditions of human trafficking.

III. The continued presence of armed groups throughout the territory appears to be a factor behind the exploitation of artisanal miners. In mines controlled by armed groups, artisanal miners have to give a portion of their production to these groups. Furthermore, armed groups also extract taxes on transit routes. Both of these factors can facilitate the condition of debt bondage for artisanal miners; however, informants believed that even in mines under the control of armed groups (including FARDC) individuals are generally free to leave if they wish. They also indicated that there may be violence and insecurity in and around the mines which are contested by multiple armed groups. When a single armed group has control of a mine however, security concerns may not be as acute. This study will collect information about miners' perceived security and individual mobility. It will also be able to compare trafficking and worker perceptions in conflict and non-conflict areas.

IV. Artisanal mining appears to be relatively well structured with assigned roles and functions. Mining sites may be found on private, government-owned or customary land. Regardless of the legal ownership, there is typically one person – frequently a local chief – who decides on the allocation of land to individuals who will exploit a digging site. These individuals hire crews to work non-stop on the digging site, with a typical 50%/50% repartition of the benefits. *Négociants* (traders) purchase the production, often through advance purchase / credit agreement and sell it to purchasing center *('comptoir').* However, the risks and benefits along this chain are not clear. Only the ultimate buyers at major purchasing centers seem to generate large benefits by purchasing from *négociants* at a low price.

V. Debt and credits rule economic relations between individuals, often leading to debt bondage. Access to credit is also a source of international fraud.
Artisanal mining requires investment up-front to secure a digging site, explore the mining site for the presence of minerals and obtain equipment, even if it is rudimentary. Based on the educational level of the miners and lack of detailed information on location of minerals, there is the feeling that these investments are made with little or no systematic analysis of the potential revenue that a site could generate. Credits are generally contracted from traders ('*négociants*') by the owner of a digging site. At the same time, artisanal miners contract credit (often from the owner of the digging site) to cover their consumption needs during the preliminary phase of the mineral exploration, which may take weeks or months before reaching mineral deposits. Artisanal miners are often illiterate and lack numeracy skills needed to fully understand the terms of the loan and the possibility of being able to repay it. Once the credit grows large enough to be impossible or unlikely to be repaid, a form of debt bondage is established between the lender and the borrower, with the borrower potentially losing guarantees such as a home plot and/or being forced to continue working until the debt is paid. The risk of debt bondage is high because of the uncertainty around the cash flow that will be generated by any given digging site, because of high interest rates, and because the debt holders have a vested interest in offering the lowest possible purchasing price for the minerals obtained by the borrower (buyer's market).

In addition, there are other taxes and fees that have to be paid, such as a portion of production to the chief, to military groups, and to SAESSCAM (representatives of the Ministry of Mines). Artisanal miners often must purchase consumption goods or services with credit or a portion of their production. The risk of debt bondage is further compounded by the high cost of living in the mining areas, which are not typically close to cities (food may be 3-4 times more expensive near mining sites). Finally the absence of financial services, such as access to microcredit or a system for savings, hinders artisanal miners' ability to build the resources needed to be independent from lenders. Several informants also mentioned the lack of availability of credit locally as one of the drivers for the involvement of neighboring countries,

who are willing to provide loans. The study will delve further into these issues to get specific information on personal borrowing practices, interest rates, etc... to determine how many of those surveyed are experiencing debt bondage.

VI. Corruption and the lack of political will to address is believed to contribute to the impoverishment and exploitation of artisanal miners. Miners are made further vulnerable by the illegal character of their activity. State institutions, such as the Ministry of Mines and their local agents receive no or very minimal formal salaries. They, in turn, implement various parallel taxes or force overpayment for necessary licenses and fees that reduce the profit margin across the supply chain, and create uncertainty. Police can also be paid off to arrest individuals without due process, increasing the likelihood that an individual will be in a position of debt bondage. The survey instruments and structured interviews to be used in this study are intended to capture the amount of taxes and fees paid by those surveyed relative to their income stream.

VII. Women engage in a range of activities related to artisanal mining, with prostitution being frequently reported either as the sole activity or as an additional source of income. Sexual violence may be present, driven by abuse of power among those with access to job opportunities. Pregnant women are not allowed to conduct artisanal mining work, but due to superstition and a misinterpretation of the law, this has translated into women more generally being banned from digging work. Instead, women engage most frequently in peripheral, low-wage activities like breaking stones, and in the small trade of food supply to miners. Informants included those who conducted research on female employment around mining sites. They estimate that due to the low and variable nature of the pay, women often turn to prostitution to sustain themselves and their family. They expressed that although sex workers sometimes have a degree of informal organization, in general most did not believe that women in the mining areas were being systematically coerced into commercial sex. Informants did mention cases of women being forced to have sex with individuals in order to gain the right to work in and around mining sites. Interviews also revealed the presence of consensual relationships between men and women in which a woman agrees to provide cooking, cleaning, and sexual services to a miner, in exchange for a share of his mineral production. Considering the fact that it is difficult for an outsider to know whether a woman has been forced into prostitution and based on the information from sources such as the TIP report and the Free the Slaves studies, the information from these informants may not tell the whole story of what the women in the mining areas are experiencing. The study will therefore pose questions to attempt to get more information on the prevalence of forced prostitution, sexual violence and forced marriage in the artisanal mining areas.

VIII. Children continue to be employed in artisanal mining, working for extremely low wages. Respondents reported that child labor remains a problem in artisanal mining. There are several reasons for this, including exploitation and coercion, a lack of economic alternatives, low knowledge of the risks and conditions; and even lower levels of social capital. In addition, children may seek out work in and around mines under the guidance of parents who are also involved in mining and cannot afford to take care of them. Considering the prevailing poverty, the opportunity cost of attending school (when it is available) is often too high compared to engaging in cash-generating activity. Some informants describe artisanal mining as the only alternative to children joining armed groups. However, some children reportedly do attend school and work in the mines after school and on holidays. The study will be useful in gaining more specific insight into child labor in the mines.

IX. Many of the interviewees believed that interventions to improve the supply chain had led to improvements; however, interventions might have also led to a decrease in miner's incomes. The process of validating mines as 'conflict-free' is based on a limited set of indicators

including the absence of violence and the absence of armed groups, the absence of child workers, the presence of SAESSCAM workers, and the presence of licensed traders, among other principles.[40] Minerals sourced from such mines undergo a bagging and tagging process to enforce traceability. Some actors (see fn. 14) indicated that the validation and traceability measures have contributed to the reduction of child labor and possibly the most egregious forms of trafficking, along with potentially reducing the illegal trade and exportation of minerals. However, artisanal miners indicated that the process has only institutionalized a legalized system of appropriation by which various government actors, including SAESSCAM, who provide little to no services, prey on miners.[41] In addition, at least in Bukavu, South Kivu, the traceability system has effectively created a monopoly as only one purchasing center *(comptoir)* is licensed to purchase minerals--the World Mining Company (WMC). The result is reportedly a decrease of the price offered to '*négociants'* by up to 25% compared to 3-4 years ago (although the market value of the minerals may also have affected prices). Finally, interventions such as the Dodd Frank legislation are believed to have had the effect of lowering the production of minerals, and are therefore perceived as having a negative impact on incomes and livelihoods. Although it is difficult to assess, at least one informant indicated that a parallel market for selling minerals continues to exist, offering a price equal to, if not higher than, the price paid before the passing of the Dodd Frank Act and President Kabila's 2010 ban on artisanal mining activities.

X. Membership in cooperatives is mandatory but the benefits are unclear, except perhaps for owners of mining sites. Cooperatives regroup under one organization all possible types of functions, including the *chef d'equipe* (often the owner of the mining site), *négociants*, artisanal miners, porters or processors. According to the preliminary interviews, membership appears to be paid by the *chef d'equipe* for his entire crew, with the objective of improving the role and bargaining power of artisanal miners. According to the informants however, the cooperatives do not function as such. Instead it appears that the cooperative is controlled by and works to the benefit of the top level actors (*négociants, chef d'equipe*) rather than the artisanal miners. Some informants indicated that the concept of a cooperative is foreign to these workers and that the overall lack of trust that exists in the mines undermines any ability to build effective cooperatives. The study will collect information about the coops to gain a better understanding of the structure and benefits of the government-mandated cooperative system.

XI. Conflict resolution mechanisms vary. Negotiated settlements are attempted with industrial concession owners, while local conflicts are resolved informally, generally relying on customary chiefs. Concession owners logically disapprove of artisanal mining and attempt to remove miners from their concession. However, in line with corporate social responsibility concerns, the current focus is on attempting negotiated settlements rather than turning to law enforcement. This may involve finding acceptable ways to relocate miners, but continues to be problematic. Artisanal mining is prone to conflicts over land access, ownership of minerals, and prices among other things. In some instances, miners' committees are set up to handle conflicts. The types of conflicts that prevail and how they are resolved will be explored further in the study.

Proposed Assessment Methodology

[40] Visits for the validation of the mines are announced. The visiting teams include representatives of MONUSCO, BGR, civil society, the title holder, PACT, the Ministry of Mines, and the police. They assess the presence of armed groups, including the FARDC, issues regarding political administration (corruption), and the presence of children and pregnant women at the mine sites. Validation should happen regularly, but the delay in approval of the list of mines deemed conflict-free by the Ministry of Mines means that the information may be outdated by the time it is published.

[41] This reflects the chronic absence of payment or underpayment of civil servants in the DRC who in turn have no other option but to 'tax' the population.

Research Questions

1. What is the nature and scale of human trafficking of men, women and children in gold, cassiterite, coltan, and tungsten mining towns in eastern Democratic Republic of the Congo (DRC)?

2. What are community attitudes and knowledge regarding trafficking?

3. Which factors contribute to the perpetration of human trafficking in mining communities, with a focus on examining: conflict vs non-conflict environments; state and non-state armed group control; type of mineral exploitation (gold, cassiterite, tungsten, coltan); and cultural, economic, political, and institutional structures.

4. What are opportunities to protect artisanal miners and local communities from human trafficking and to promote C-TIP activities?

Key indicators

Dependent variables: Self-reported, observed, and perceptive measures of different types of trafficking (e.g. debt based trafficking) and other human rights abuses experienced by men, women, and to a lesser extent children.

Independent variables: Conflict vs non-conflict environments; state and non-state armed group control environments; different kinds of mineral exploitation (gold, cassiterite, tungsten, coltan); cultural, economic, political and institutional structures; community knowledge and attitudes related to TIP; demographic characteristics.

Considering the information gained on the scoping trip, including discussions on methodological issues, and a review of the relevant reports on the topic, the following recommendations for a "Sexual and Labor Trafficking and Human Rights Assessment in DRC Mining Communities" are made:

Sampling Frame

After the scoping trip, SI and USAID decided upon six territories in Eastern DRC to constitute the sampling frame. In South Kivu, Kalehe, Walungu, and Mwenga were selected, and in North Katanga, Kalemie, Nyunzu, and Manono territories were selected.

Sampling will be based primarily on data collected by the Belgian research institute International Peace Information Service (IPIS). In November 2013, IPIS released preliminary study results of an eventual census of artisanal mining sites in Eastern Congo.[42] IPIS's data include the location of sites (with GPS coordinates), the number of mines in each site, the approximate number of miners, the presence or absence of armed groups, and the types of metals being mined.

Sample Selection

[42] Steven Spittaels and Filip Hilgert. 2013. "Analysis of the interactive map of artisanal mining areas in Eastern DR Congo." Antwerp: International Peace Information Service.

Following the verification of mines within the sampling frame, the selection of respondents for the survey will be based on a random multi-stage cluster sampling procedure of approximately sixty individuals in thirty mining sites among four key groups:

Step I: Sampling sites

Based on the IPIS data and additional prospection work, a sampling frame of active mining sites mining gold, cassiterite, coltan, and tungsten in the six territories will be developed. From this list, 30 sites will be selected. Ideally this selection will occur randomly proportionate to the concentration of mining sites in each territory and to the number of miners estimated to be working in each of the mining sites. In other words, the sampling methodology will seek to develop a representative sample of miners in the six territories. However, with a relatively small number of sampled mining sites, it is a higher priority to ensure that the sample of sites includes variation in conflict, type of metals being mined, in registration of artisanal mines, and in geographic location. Furthermore, certain randomly selected sites might either pose too great a risk to survey enumerators or require too high a cost to include in the study (e.g. a site requiring over three days of travel or two armored vehicles). As such, while our first preference is for a random sample of mining sites, some replacement or reduction in sample size might be necessary for methodological, safety, and cost reasons.

Step II: Sampling respondents

In the second step, a list of all subdivision of mining sites referred to as "carres" will be established. A minimum of two carres will be randomly selected in each selected mine.

Depending on the size of the carre, interviewers will either select the center of the carre or of randomly selected set of sub divisions of the carre as a starting point and then will undertake random geographic sampling to choose work sites (tunnels) in which to sample individuals. Geographic sampling is a form of cluster sampling used when natural geographic groupings are evident, as in the case of tunnels contained within a carre. Survey enumerators will then select individuals within the chosen tunnels using ordered lists to create systematic random sampling of those people working at the selected site – this will open the possibility of sampling women, miners, transporters and others around the site.

Interviewers will select individuals from the list to be interviewed until the total number of interviews for that site have been completed. Criteria will be developed for exceptions to these rules, such as exceptionally large digging sites or digging sites connected by tunnels. Recognizing that refusal rates may be high since time completing a survey is time lost from work, modifications to the plan for sampling respondents may be necessary. The final sampling protocol will be established after pilot testing. The evaluation team recommends use of a small incentive for participation. This could be as small as a beignet at a cost of $0.50 each, or a total of about $750 total, or could amount to a small monetary incentive. The final decision about the most appropriate type of incentive will be made after consultation with local staff.

Due to the sensitivity of some questions, the interviewers will be assigned to same-sex respondents. Thus, male interviewers will be assigned to male respondents and female interviewers will be assigned to female respondents. As part of the ethical conduct of the research, each interviewee will be given information about services available in their community to address potential medical and psychosocial needs that are highlighted during the survey response. The sample of those working in the carres are expected to include the following groups:

1. Workers at mining sites

2. Women and girls[43] (age 16 and over) involved in artisanal mining-related activities
3. Dig site owners (chefs d'équipe)[44]

In each of the carres, a team of four interviewers will conduct a minimum of 50 interviews total, though this number may have to be adjusted to account for the size of the carre. The total target sample size is 1,500 interviews, and will include anyone on the mining site, including artisanal miners, women involved in artisanal mining-related activities, chefs d'équipes and others working on artisanal mining-related activities. We will ensure that the sample consists of at least 300 women. If an adequate number of women are not identified through the random sampling procedure at the carres described above, a supplemental sampling plan which involves sampling women at their places of residence or work will be implemented to ensure at least 20% of the sample is made up of women.

Chefs d'équipes and others in higher-level positions (like négociantes) will likely represent a smaller proportion of the population present at the mining sites. While individuals in these positions will be included in the random sampling around the carres, these individuals may provide the most value in their ability to explain complex dynamics related to employment and supply chain issues. Additionally, we will conduct KIIs with women restaurant owners to capture experiences of this key group. We therefore propose 25-30 Key Informant Interviews with *négociants*, chefs d'équipes, women, and other key stakeholders in in the artisanal mining process to provide rich qualitative data to complement the survey data.

We propose a case study methodology based on a 2x2 design for the qualitative component. The thirty sampled sites will be organized in a 2x2 matrix: conflict/no conflict by regulated/non-regulated. A site will be selected from each of the four quadrants, and 7 to 8 interviews from each of the stakeholder groups mentioned about will be conducted in each of the four selected sites. Grouping the interviews around four sites will yield insights about community dynamics and provide for cross-checking of interview responses, while the matrix organization will enhance the generalizability of the findings.

Survey Instruments

Interviews will be conducted by trained interviewers using a standardized, structured questionnaire and electronic data capture. The survey will cover a wide range of issues related to human trafficking and include questions about the socio-economic and cultural dimensions associated with labor conditions in the mining sector. The final design will be based on the pilot conducted during the planning and training phases. Given the sensitive nature of many of the anticipated items in the survey instrument, the assessment team will consider various methods for eliciting truthful responses.

Survey Modules Needed to Address Research Questions

The main issues that have been mentioned in the Statement of Work (SOW) and Scoping Trip Notes include the following:

Survey Modules

- Nature and extent of human trafficking in mining towns in Eastern DRC

[43] We will include women over age 16 in our sample, pending IRB approval.
[44] For all 30 sites, a total of 300 chef d'equipes. Many of these assumptions will be resolved during the sampling frame stage of data collection.

- Community knowledge and attitudes regarding TIP (extent to which local customs tolerate trafficking in targeted mining sites, as well as the extent to which local leaders and community members view TIP as a problem.)
- Forms of armed group control
- Political and economic organization as they relate to trafficking
- Any current C-TIP activities in the area
- Supply chain dynamics as they relate to trafficking

The final content of the survey will be developed by the assessment team in a participatory manner, involving key USAID staff members as well as other UN agencies, donors working groups, international NGOs, government officials, and local actors.

A great majority of the survey questions will have pre-coded response options informed by the pre-test pilot interviews to be conducted prior to the implementation of the full study. Interviewers will be instructed to only read the response option for questions employing a scaling format (e.g., Likert scale). All other questions will have an open-ended field in which interviewers will record complete responses.

In addition to the population-based survey, structured in-depth interviews will be conducted with respondents selected for their specific role in the society (key informants). The assessment team will largely rely on the recommendations of key informants to find other individuals and organizations that would be information resources for the study.[45] These respondents will be selected using a snowball sampling approach.

The questionnaire and consent documents that will accompany the survey instruments will be initially prepared in French and English and then adapted to the local languages to ensure that the language would be appropriate for respondents with limited or no education. The team will validate the instruments' translation using independent back-translation and pilot surveys. Once the questionnaire is finalized, it will be programmed into a Personal Digital Assistant.

Anticipated risks and contingency plans
Given the political and security environment in Democratic Republic of the Congo, security risk is always a concern. Access to key stakeholders, populations and team movement in DRC may be affected. The international community will be leveraged as a well-established information and warning system, and a weekly security meeting will be held.

Evaluation Team

Co-Principal Investigator – Ms. Jocelyn Kelly is the Director of the Women in War Program for Harvard Humanitarian Initiative (HHI) where she designs and implements research projects in the Democratic Republic of the Congo. Ms. Kelly has over seven years' experience specializing in applying quantitative and qualitative research methodologies to complex health-related issues in humanitarian settings. She is highly proficient in quantitative and qualitative methods of survey design and has trained, led and managed interdisciplinary and international survey research teams in both national and international resource–poor settings. Her work in Eastern and Central Africa has focused on understanding the health needs of vulnerable populations and has included partnering with many international and local organizations to identify and conduct surveys with hard-to-reach victims of

[45] This method is respondent-driven sampling, often referred to as snowball sampling.

gender-based violence in mining communities in eastern Democratic Republic of the Congo. Ms. Kelly has also worked with the Uganda Human Rights commission to launch the first office in Africa promoting the Right to Health. After graduating with full and departmental honors from Johns Hopkins University, Ms. Kelly worked as a journalist in Mexico where she also helped conduct public health interventions in remote, indigenous areas. Prior to joining HHI, Ms. Kelly worked as an Emergency Management Specialist in Hurricane Katrina-affected areas and acted as a liaison to the FEMA Public Assistance Chief in Louisiana.

Co-Principal Investigator – Ms. Natasha Greenberg (USAID) is a Human Rights Program Specialist at USAID. Ms. Greenberg manages programs and provides technical assistance on human rights issues such as trafficking in persons, transitional justice, and protection and empowerment of women and LGBT individuals. She previously worked as a member of an interagency USAID/State Department South Sudan stabilization team, serving as the US government representative in Lakes State and reporting to the USG on peace and security issues. As a Presidential Management Fellow in the USAID Office of Women in Development (WID), Ms. Greenberg provided technical expertise and Agency representation on issues related to gender and conflict management, post-conflict reconstruction and governance. She designed and managed projects on GBV as well as women, conflict and climate change in Africa, South America and Asia. Prior to her work at USAID, Natasha was Assistant Director at Facing History and Ourselves, an NGO focused on education to prevent genocide and promote reconciliation in countries such as Rwanda, Colombia, Bosnia and South Africa. She also worked on conflict resolution and development issues with local NGOs in Uganda and Ecuador, and on the Israeli-Palestinian Negotiation Project and the development of case studies through Mercy Corps and the Harvard Program on Negotiation. She received a BS from Cornell University and a Master's degree from the Johns Hopkins School of Advanced International Studies (SAIS).

Research Advisor – Dr. Daniel Sabet (SI) Dr. Daniel Sabet is a Senior Impact Evaluation Advisor at Social Impact with more than 10 years of academic, PE, and IE research experience for a diverse group of institutions including USAID, Georgetown University, University of San Diego California, Oxford Analytica, The Asia Foundation, Tetra Tech ARD, and the Woodrow Wilson Center. His research on diverse governance challenges has led to numerous publications, including *Police Reform in Mexico* (2012, Stanford University Press) and *Nonprofits and their Networks* (2008, Arizona University Press). Sabet formerly taught and oversaw statistics education at Georgetown University's School of Foreign Service and is co-author of the book *Understanding Political Science Research Methods: The Challenge of Inference* (Routledge, 2013). Until recently, Sabet was Director of the Center for Enterprise and Society, a university based research institution in Bangladesh. While working in Bangladesh, he also conducted a mid-term impact assessment of a USAID supported civic engagement and local governance service delivery program and analyzed baseline survey data for a USAID funded community-based policing initiative. Sabet obtained his PhD in Political Science from Indiana University, and he is a former Fulbright Fellow.

Local Researcher – The local researcher will work closely with Ms. Kelly to oversee piloting, training, and data collection. The local researcher will be based in Bukavu, making travel to the data collection sites on short notice possible. Two strong potential candidates are currently being reviewed for this position.

Annex B. SAMPLED MINES AND INDIVIDUALS

Table B.1: Survey Sample by Territory, Site, and Gender

Territory	Site	Male		Female		Total	
		Frequency	Percent	Frequency	Percent	Frequency	Percent
Kalehe	Nkwiro	18	78.3%	5	21.7%	23	100%
Kalehe	Biriki	22	91.7%	2	8.3%	24	100%
Kalehe	Kaitolea Cabangi	18	75.0%	6	25.0%	24	100%
Kalehe	Nyabibwe	54	74.0%	19	26.0%	73	100%
Kalemie	Afrika	17	70.8%	7	29.2%	24	100%
Kalemie	Mutuka Munene	16	66.7%	8	33.3%	24	100%
Kalemie	Muzarau	17	70.8%	7	29.2%	24	100%
Kalemie	Matete	18	69.2%	8	30.8%	26	100%
Mwenga	Carriere G3	15	65.2%	8	34.8%	23	100%
Mwenga	Carriere D18 Sud	15	62.5%	9	37.5%	24	100%
Mwenga	Carriere G7 Sud	17	70.8%	7	29.2%	24	100%
Mwenga	Misela Kasika	17	70.8%	7	29.2%	24	100%
Mwenga	Njolinjoli	15	62.5%	9	37.5%	24	100%
Mwenga	Poudriere	16	66.7%	8	33.3%	24	100%
Mwenga	Carriere G15	21	75.0%	7	25.0%	28	100%
Mwenga	Carriere G22	27	96.4%	1	3.6%	28	100%
Mwenga	Kibukila	25	89.3%	3	10.7%	28	100%
Mwenga	Misagi Butwa	25	89.3%	3	10.7%	28	100%
Mwenga	Carriere D3	25	86.2%	4	13.8%	29	100%
Mwenga	Mwana River	47	100.0%	0	0.0%	47	100%
Mwenga	Wenge	31	66.0%	16	34.0%	47	100%
Mwenga	Mine Mobale	39	69.6%	17	30.4%	56	100%
Mwenga	Calvaire	53	69.7%	23	30.3%	76	100%
Mwenga	Mwamba	59	70.2%	25	29.8%	84	100%
Nyunzu	Musebe	128	64.6%	70	35.4%	198	100%
Walungu	Mufa	17	73.9%	6	26.1%	23	100%
Walungu	Bushushu	21	87.5%	3	12.5%	24	100%
Walungu	Zolazola	15	62.5%	9	37.5%	24	100%
Walungu	Kilimankwale	19	70.4%	8	29.6%	27	100%
Walungu	Kadji	31	91.2%	3	8.8%	34	100%
Walungu	Nalubuze Ntula	43	84.3%	8	15.7%	51	100%
Walungu	Mukungwe	167	68.4%	77	31.6%	244	100%

Total		1,068	73.1%	393	26.9%	1,461	100%

Table B.2: Key Informant Interview Sample

Province	Town	Mining Site	Male/Female	Role of Interviewee
Katanga	Nyunzu	Musebe	Male	Chief of the village
Katanga	Nyunzu	Musebe	Male	Negociant/seller
Katanga	Nyunzu	Musebe	Male	Negociant/seller
Katanga	Nyunzu	Musebe	Female	Restaurant woman
Katanga	Nyunzu	Musebe	Male	Negociant/seller
Katanga	Nyunzu	Musebe	Male	Miner
Katanga	Kalemie	Matete	Male	Chief of the village
Katanga	Kalemie	Matete	Male	Negociant/seller
Katanga	Kalemie	Matete	Female	Restaurant woman/small trader
Katanga	Kalemie	Afrika	Male	Chief of the village
Katanga	Kalemie	Afrika	Male	Negociant and digger.
Katanga	Kalemie	Afrika	Female	Negociant/seller
Sud-Kivu	Luntukulu	Bushushu	Male	Miner
Sud-Kivu	Mushinga	Mukungwe	Female	Negociant/seller
Sud-Kivu	Mushinga	Mukungwe	Male	Negociant/seller
Sud-Kivu	Mushinga	Mukungwe	Female	*Commercante* / small business trader
Sud-Kivu	Mushinga	Mukungwe	Female	*Commercante* / small business trader
Sud-Kivu	Mushinga	Mukungwe	Male	Washer of minerals
Sud-Kivu	Mushinga	Mukungwe	Male	Commissionaire
Sud-Kivu	Mushinga	Mukungwe	Male	Miner
Sud-Kivu	Luntukulu	Bushushu	Male	Miner
Sud-Kivu	Luntukulu	Bushushu	Male	Miner
Sud-Kivu	Luntukulu	Bushushu	Male	Miner
Sud-Kivu	Luntukulu	Bushushu	Male	Miner

Annex C. ADDITIONAL TABLES AND FIGURES

Table C.1: Demographic and Household Information

Characteristic	Female, n=393		Male, n=1129		Total, n=1522	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Education						
None	93	24.4%	146	13.0%	239	15.7%
Primary incomplete	161	42.2%	263	23.4%	424	27.9%
Primary complete	50	13.1%	171	15.2%	221	14.5%
Secondary incomplete	70	18.3%	447	39.8%	517	34.0%
Secondary complete	7	1.8%	82	7.3%	89	5.9%
Higher than secondary	1	0.3%	15	1.3%	16	1.1%
Missing	7	1.8%	0	0.0%	7	0.5%
Other	4	1.0%	5	0.4%	9	0.6%
Religion						
Catholic	103	26.2%	505	44.7%	608	40.0%
Protestant	227	57.8%	477	42.3%	704	46.3%
Muslim	12	3.1%	37	3.3%	49	3.2%
Missing/no response	11	2.8%	8	9.0%	19	1.3%
Other	40	10.2%	102	0.7%	142	9.3%
Civil Status						
Married	231	58.8%	759	67.2%	990	65.1%
Single	40	10.2%	332	29.4%	372	24.4%
Widowed	44	11.2%	8	0.7%	52	3.4%
Separated/divorced	70	17.8%	24	2.1%	94	6.2%
Missing/no response	8	2.0%	1	0.1%	9	0.6%
Other	0	0.0%	5	0.4%	5	0.3%
Currently living with spouse	N=231	_	N=759	_	N=990	
Yes	207	89.6%	591	77.9%	798	80.6%
No	24	10.4%	168	22.1%	192	19.4%
Missing/not applicable	3	1.3%	0	0.0%	3	0.3%
Head of Household						
Yes	226	57.5%	777	68.8%	1003	65.9%
No	159	40.5%	352	31.2%	511	33.6%
Missing/no response	8	2.0%	0	0.0%	8	0.5%
Working in your place of origin?						
Yes	126	32.1%	448	39.7%	574	37.7%
No	260	66.2%	680	60.2%	940	61.8%
Missing/no response	7	1.8%	1	0.1%	8	0.5%

*Significant difference between female and males at the $p<0.05$ level

Table C.2: Continuous Demographic and Household Variables with Independent Samples t-tests

Characteristic	**Female**		**Male**		**Total**	
	Mean	Range	Mean	Range	Mean	Range
Age	30	15-80	30.1	15-68	30.7	15-80
Number of children	4.7	0-13	3.7***	0-25	4.5	0-25
Length living in mining site (years)	4.1	0-45	5.6**	0-54	5.2	0-54
Length working in job (years)	2.9	0-30	7.6***	0-49	6.4	0-49

* p<.05, ** p<.01, *** p<.001

Table C.3: Types of Employment in Mining Towns

Type of Job	**Female n=393**		**Male n=1129**		**Total n=1522**	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Miner	6	1.5%	744	65.9%	750	49.3%
Head of mining team	3	0.8%	61	5.4%	64	4.2%
Porter of minerals	23	5.9%	31	2.8%	54	3.5%
Cleaner of minerals	24	6.1%	52	4.6%	76	5.0%
Mineral buyer/trader *(Comptoire)*	2	0.5%	9	0.8%	11	0.7%
Local mineral buyer/trader *(Negociant)*	2	0.5%	28	2.5%	30	2.0%
Vendor/tradesperson	156	39.7%	104	9.2%	260	17.1%
Sex work	62	15.8%	0	0.0%	62	4.1%
Other mining support jobs	77	19.6%	72	6.4%	149	9.8%
Not currently working	16	4.1%	3	0.3%	19	1.2%
Missing/no response	22	5.6%	25	2.2%	47	3.1%

Figure C.1: Histogram of Income Distribution Disaggregated by Sex

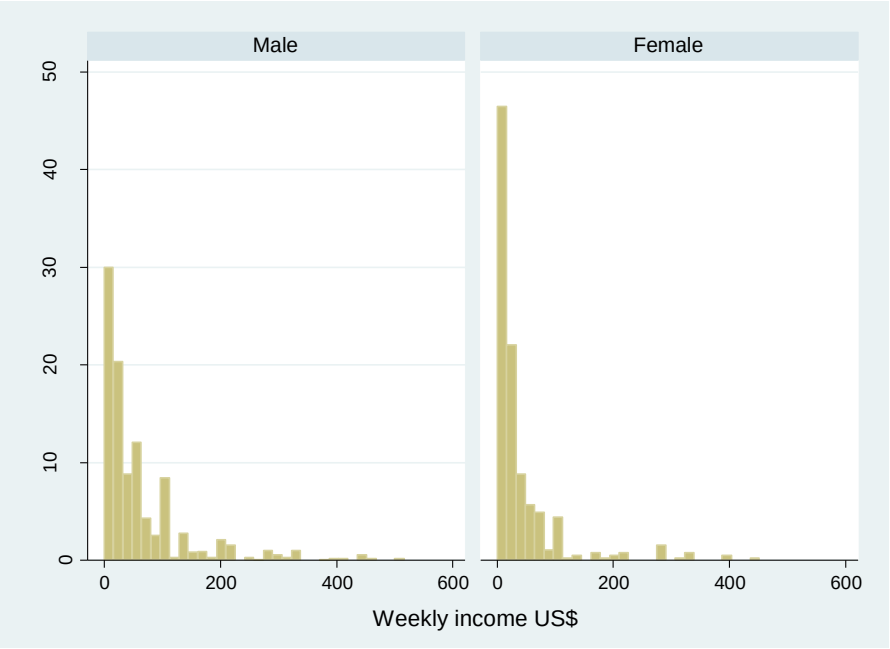

Figure C.2: Histogram of Secondary Income Sources

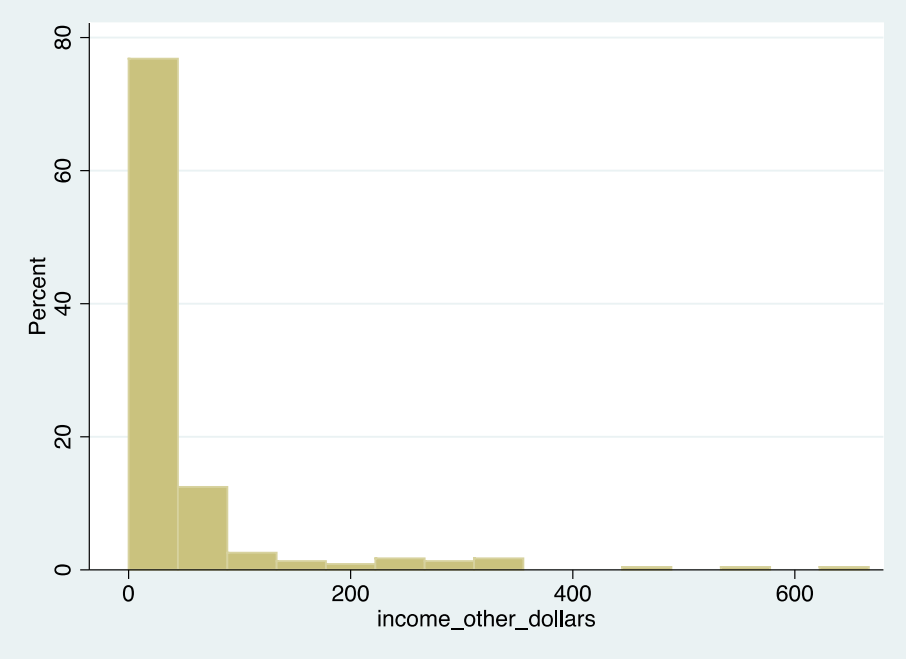

Table C.4: Unadjusted Associations Examining Conflict and Mineral Type Association with Key Variables

	Conflict	**Mineral type**
Children working at mine	No association	No association
Forced child labor	**	No association
Sex work ever	**	No association
Sex work regular	No association	No association
Exchange sex for food	**	No association
Exchange sex for protection	Sample too small	No association
Exchange sex for access to work	No association	No association
Sexual violence	No association	**
Witness forced marriage	** (Very small sample)	No association
Work for free	**	No association
Held against will	No association	No association
Sell mineral at low price	No association	No association
Work to pay off debt	No association	**

** Significant at p<0.05 level

Table C.5: Experiences with Sexual Violence and Exploitation Disaggregated by Sex

	Female		**Male**		**Total**	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Experienced sexual violence since working in mining	n=393		n=1129		n=1,522	
Yes	28	7.1%	13	1.2%	41	2.7%
No	357	90.8%	1110	98.3%	1467	96.4%
Other/No response	8	2.0%	6	0.5%	14	0.9%
Perpetrator of sexual violence	n=28		n=13		n=41	
Family member	0	0.0%	2	15.4%	2	5.0%
Friend/Acquaintance	13	48.2%	1	7.7%	14	35.0%
Stranger	1	3.7%	0	0.0%	1	2.5%
Armed group	2	7.4%	0	0.0%	2	5.0%
Miner	6	22.2%	3	23.1%	9	22.5%
Boss/superior	2	7.4%	2	15.4%	4	10.0%
Other	3	11.1%	5	38.5%	8	20.0%
Missing/No Response	0	0.0%	0	0.0%	0	0.0%
Had to trade sex for food since working in mining	n=393		n=1129		n=1,522	
Yes	94	23.9%	12	1.1%	106	7.0%
No	289	73.5%	1110	98.3%	1399	91.9%

Other/No response	10	2.5%	7	0.6%	17	1.1%
Who did you trade sex for food with	n=94		n=12		n=106	
Family member	1	1.1%	2	16.7%	3	2.8%
Friend/Acquaintance	21	22.3%	1	8.3%	22	20.8%
Stranger	8	8.5%	0	0.0%	8	7.6%
Miner	50	53.2%	0	0.0%	50	47.2%
Boss/superior	6	6.4%	0	0.0%	6	5.7%
Other	8	8.5%	9	75.0%	17	16.0%
Missing/No Response	0	0.0%	0	0.0%	0	0.0%
Had to trade sex for protection since working in mining	n=393		n=1129		n=1,522	
Yes						
No	56	14.3%	0	0.0%	56	3.7%
Other/No response	330	84.0%	1120	99.2%	1450	95.3%
	7	1.8%	9	0.8%	16	1.1%
Who did you trade sex for protection with	n=56		n=0		n=56	
Family member	1	1.8%	0	0.0%	1	1.8%
Friend/Acquaintance	9	16.4%	0	0.0%	9	16.4%
Stranger	1	1.8%	0	0.0%	1	1.8%
Armed group	2	3.6%	0	0.0%	2	3.6%
Miner	36	65.5%	0	0.0%	36	65.5%
Boss/superior	2	3.6%	0	0.0%	2	3.6%
Other	4	7.3%	0	0.0%	4	7.3%
Missing/No Response	1	1.8%	0	0.0%	1	1.8%

Table C.6: Experiences with Free or Forced Labor

	Female		**Male**		**Total**	
	Frequency	Percent (Yes)	Frequency	Percent (Yes)	Frequency	Percent (Yes)
Ever worked for free	**n=393**		**n=1129**		**n=1522**	
Yes	82	20.9%	245	21.7%	327	21.5%
No	298	75.8%	864	76.5%	1162	76.4%
Other/No response	13	3.3%	20	1.8%	33	2.2%
Reason for working for free	n=82		n=245		n=327	
Pay off debt	9	11.0%	71	29.0%	80	24.5%
Pay off fine	4	4.9%	9	3.7%	13	4.0%
Forced to	6	7.3%	24	9.8%	30	9.2%
Did not find minerals/ sell goods	56	68.3%	108	44.1%	164	50.2%
Not applicable/No response	7	8.5%	33	13.5%	40	12.2%

Ever forced to work under threat	**n=393**		**n=1129**		**n=1522**	
Yes	15	3.8%	86	7.6%	101	6.6%
No	364	92.6%	1031	91.3%	1395	91.7%
Other/No response	14	3.6%	12	1.1%	26	1.7%
Who forced you to work under threat	n=15		n=86		n=101	
Family member	4	26.7%	7	8.1%	11	10.9%
Mineral trader	4	26.7%	13	15.1%	17	16.8%
Friend	3	20.0%	14	16.3%	17	16.8%
Head of village	0	0.0%	16	18.6%	16	15.8%
Government official	0	0.0%	4	4.7%	4	4.0%
National Army	0	0.0%	8	9.3%	8	7.9%
Other armed group	1	6.67%-CNDP	1	1.16%-Interhamwe	2	2.0%
Other/No response	3	20.0%	23	26.7%	26	25.7%
Frequency of forced labor	n=15		n=86		n=101	
Daily	4	1.0%	7	8.1%	11	10.9%
Once a week or more	5	1.3%	23	26.7%	28	27.7%
Once a month or more	2	0.5%	27	31.4%	29	28.7%
Less than once a month	4	1.0%	19	22.1%	23	22.8%
Not applicable/No response	0	0.0%	10	11.6%	10	9.9%
Ever had to work in mines to pay off debt	**n=393**		**n=1129**		**n=1522**	
Yes	104	26.5%	461	40.8%	565	37.1%
No	278	70.7%	654	57.9%	932	61.2%
Other/No response	11	2.8%	14	1.2%	25	1.6%
Who did you owe money to?	n=104		n=461		n=565	
Family member	8	7.7%	36	7.8%	44	7.8%
Mineral trader	71	68.3%	139	30.2%	210	37.2%
Friend	18	17.3%	120	26.0%	138	24.4%
Head of village	0	0.0%	7	1.5%	7	1.2%
Government official	0	0.0%	0	0.0%	0	0.0%
National Army	0	0.0%	5	1.1%	5	0.9%
Other armed group	0	0.0%	1	0.2%	1	0.2%
Other/No response	7	6.7%	153	33.2%	160	28.3%
Feel free to leave mining work	**n=393**		**n=1129**		**n=1522**	
Yes	349	88.8%	1058	93.7%	1407	92.4%
No	31	7.9%	65	5.8%	96	6.3%
Other/No response	13	3.3%	6	0.5%	19	1.3%

Table C.7: Patterns and Scope of Forced Labor

Ever witnessed forced labor?			Ever experienced forced labor?		
	Frequency	Percent		Frequency	Percent
	325	21.9%		15	1.0%
Who perpetrated this? (n=303)			**Who perpetrated this? (n=15)**		
Mine owner/manger	150	49.5%46.2%	Mine owner/manager	2	13.3%
Other	71	23.4%21.9%	Other	8	53.3%
Family	63	20.8%19.4%	Family	5	33.3%
FARDC	12	4.0%3.7%	FARDC	0	0.0%
Police	5	1.7%1.5%	Police	0	0.0%
Armed group	2	0.7%0.6%	Armed group	0	0.0%

Table C.8: Labor Trafficking Risk Factors by Site

Territory	Site	Not at Risk		At Risk		Total	
		N	Percent	N	Percent	N	Percent
Mwenga	Carriere G15	19	67.9%	9	32.1%	28	100%
Mwenga	Njolinjoli	17	70.8%	7	29.2%	24	100%
Mwenga	Poudriere	17	70.8%	7	29.2%	24	100%
Mwenga	Mine Mobale	41	73.2%	15	26.8%	56	100%
Kalemie	Muzarau	18	75.0%	6	25.0%	24	100%
Mwenga	Carriere G7 Sud	18	75.0%	6	25.0%	24	100%
Mwenga	Carriere G22	21	75.0%	7	25.0%	28	100%
Walungu	Mukungwe	190	77.9%	54	22.1%	244	100%
Kalehe	Nkwiro	18	78.3%	5	21.7%	23	100%
Mwenga	Carriere G3	18	78.3%	5	21.7%	23	100%
Walungu	Mufa	18	78.3%	5	21.7%	23	100%
Mwenga	Carriere D3	23	79.3%	6	20.7%	29	100%
Mwenga	Mwamba	67	79.8%	17	20.2%	84	100%
Kalemie	Matete	21	80.8%	5	19.2%	26	100%
Mwenga	Kibukila	23	82.1%	5	17.9%	28	100%
Mwenga	Calvaire	62	82.7%	13	17.3%	75	100%
Mwenga	Wenge	39	83.0%	8	17.0%	47	100%
Kalemie	Mutuka Munene	20	83.3%	4	16.7%	24	100%
Mwenga	CarriereD18 Sud	20	83.3%	4	16.7%	24	100%
Walungu	Zolazola	20	83.3%	4	16.7%	24	100%
Kalehe	Nyabibwe	62	84.9%	11	15.1%	73	100%

Mwenga	Mwana River	41	87.2%	6	12.8%	47	100%
Walungu	Bushushu	21	87.5%	3	12.5%	24	100%
Nyunzu	Musebe	174	87.9%	24	12.1%	198	100%
Walungu	Kadji	83	88.3%	11	11.7%	94	100%
Kalehe	Biriki	22	91.7%	2	8.3%	24	100%
Kalehe	Kaitolea Cabangi	22	91.7%	2	8.35%	24	100%
Kalemie	Afrika	22	91.7%	2	8.3%	24	100%
Mwenga	Misagi Butwa	26	92.9%	2	7.1%	28	100%
Mwenga	Misela Kasika	23	95.8%	1	4.2%	24	100%
Walungu	Nalubuze Ntula	49	96.1%	2	3.9%	51	100%
Walungu	Kilimankwale	26	96.3%	1	3.7%	27	100%
Total		1,261	83.0%	259	17.0%	1,520	100%

Table C.9: Access to Information

Characteristic	**Female n=393**		**Male n=1,129**		**Total n=1,522**		**P-value**
	Frequency	Percent	Frequency	Percent	Frequency	Percent	
Access to mobile phone?							
Yes	97	24.7%	587	52.0%	684	44.9%	P=0.000*
Member of a community organization?							
Yes	67	17.1%	297	26.3%	364	23.9%	P=0.000*
Experienced mining dispute in past year?							
Yes	84	21.4%	218	19.3%	302	19.8%	P=0.281
Fair resolution to mining dispute in past year? N=84							
Yes	66	16.8%	153	13.6%	219	14.4%	P=0.082

Table C.10: Experiences with Threats to Security and Corruption

Threats	Female, n=393		Male, n=1129		Total, n=1522	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Armed theft	134	34.1%	386	34.2%	520	34.2%
Unarmed theft	96	24.4%	423	21.5%	339	22.3%
Assault with weapon*	30	7.6%	127	11.3%	157	10.3%
Assault without weapon*	39	9.9%	71	6.3%	110	7.2%
Bribery or corruption	104	26.5%	268	23.7%	372	24.4%

Table C.11: Drug and Alcohol Use

	Female n=393		Male n=1129		Total n=1522	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Alcohol Use						
Not at all	270	68.7%	418	37.0%	688	45.2%
A few times per week	2	0.5%	23	2.0%	653	42.9%
A few times per month	28	7.1%	107	9.5%	135	8.9%
Everyday	84	21.4%	569	50.4%	25	1.6%
Missing	9	2.3%	12	1.1%	21	1.4%
Drug Use						
Not at all	368	93.6%	939	83.2%	1307	85.9%
A few times per week	1	0.3%	19	1.7%	20	1.3%
A few times per month	5	1.3%	27	2.4%	32	2.1%
Everyday	11	2.8%	122	10.8%	133	8.7%
Other, explain	8	2.0%	22	1.2%	30	2.0%

Annex D. QUANTITATIVE AND QUALITATIVE INSTRUMENTS

Quantitative instrument

Question	Answer	
Have you replaced any sampled individual since your last interview?	0	Yes
	1	No
TOTAL number of persons DEFINITIVELY replaced since your last interview?		
Number of persons DEFINITIVELY replaced due to "Refusal"		
Number of persons DEFINITIVELY replaced due to "Absence"		
Number of persons DEFINITIVELY replaced due to "Other Reason"		
CONSENT STATEMENT		
Hello, my name is _(name of survey enumerator)_. I am a representative of IRED – an organization based in Bukavu that does research with communities in eastern Congo. We are here doing a project looking at people's work in mining towns. I would like to invite you to participate in a survey we are undertaking. The goal of the survey is to understand some of the benefits as well as the challenges of working in mining towns. Participation in this study will involve taking a survey that lasts about 40 minutes. We will give you a snack while you participate. However, we will not be able to offer you any money or other compensation beyond this. While this survey will not benefit you personally, we hope the information gathered here will help us create better programs to benefit people in mining towns in the future. There are few risks to participating – however, you may find some of the topics that we cover difficult. If you wish to be referred to a local NGO that provides psychosocial support after the completion of the survey, we are happy to provide this information. We will not register your name for this study; everything you say is completely confidential and anonymous. Participation in this study is completely		

voluntary.		
You are free to decline to participate, to end participation at any time for any reason. If you choose to skip questions or end the survey, there will be no penalty or loss of compensation. Only the researchers involved in this study will have access to the answers you provide. If you have any questions about this study, you may contact the researchers involved in this study: Jean Paul Zibika +243 99 46 80 342 Jocelyn Kelly (INSERT) Do you agree to proceed with the survey?	1	Yes, Consent
	2	No, I don't consent
Sex	0	Female
	1	Male
What is your age?		
What best describes your work?	0	I do not do work related to mining
	1	I do work related to mining
	2	I provide goods and services to miners
	99	No response
What is your highest level of education? If other, please specify	0	No School
	1	Primary incomplete
	2	Primary complete
	3	Secondary incomplete
	4	Secondary complete
	5	Higher than secondary
	88	Other, specify
	99	No Response
What is your marital status? If other, please specify	0	Married
	1	Living together like married persons
	2	Never married/Single
	3	Widowed
	4	Separated
	5	Divorced

	88	Other, specify
	99	No Response
Does your spouse live with you?	0	No
	1	Yes
	99	No Response
If not, why not? If other, please specify	1	I am only here temporarily
	2	S/he is away because of work
	88	Other, specify
	99	No Response
Where does your spouse live?	1	Other district, same territory
	2	Other territory, same province
	3	Other province
	4	Other country
	99	No Response
Please specify district		
Please specify territoire		
Please specify province		
Please specify country		
What is your spouse's age?		
What is your spouse's highest level of education? If other, please specify	0	No school
	1	Primary incomplete
	2	Primary complete
	3	Secondary incomplete
	4	Secondary complete
	5	Higher than secondary
	88	Other, specify
	99	No Response

Do you have another spouse or partner here in the mining town?	0	No
	1	Yes
	99	No Response
What is the age of this partner?		
How many children do you support in your household(s)?		
Is this your place of origin?	0	No
	1	Yes
	99	No Response
If not, how long have you lived here? (in years, months, and weeks)		
in years		
in months		
in weeks		
in days		
Where did you live prior to coming here?	1	Same village/territory
	2	Other territory, same district
	3	Other district, same province
	4	Other province
	5	Another country
	99	No Response
Please specify territoire		
Please specify district		
Please specify province		
Please specify country		

Why did you move? (check all that apply)	1	I did not have access to services (health, education) in my original community
	2	I did not have access to food in my original community
	3	I was feeling insecure / violence
	4	I did not have money / job in my original community
	5	I did not have land / access to land in my original community
	6	I was displaced by armed groups, specify which one
	7	Family, neighbors, clan moved here
	88	Other, specify
	99	No Response
Specify which group		
Please specify other reasons for move		
Where do you generally sleep? The mining site or nearby village?	1	mining site
	2	village
	99	No Response
Please tell which best describes your living quarters/arrangement.	1	Rent a Room of your own in a House
	2	Rent a whole house
	3	Share a rented room in a house
	88	Other, specify
	99	No response
If other, please specify		
Do you have access to or use a cellphone (mobile phone)?	0	No
	1	Yes
	99	No Response
If yes, how often do you use a cell phone?	1	Everyday
	2	A few times per week
	3	A few times per month
	88	Other, explain
	99	No Response
Please explain		

Could you rank the following, from "very good" to "very bad": Your level of information about local events	0	very bad
	1	bad
	2	good
	3	very good
	99	No Response
What is your main source of information about events here?	1	Radio, specify station
	2	Newspapers
	3	Television
	4	Friends, Family
	5	Religious leaders
	6	Local leaders/authorities
	7	Mobile Phone
	88	Other, specify
	99	No Response
If other, please specify		
On average, how often do you listen to a radio in week?	1	Everyday
	2	2 to 4 times/week
	3	Once/week
	4	Never/seldom
	99	No Response
What time of the day do you mainly listen to the radio?	1	Morning
	2	Mid-day
	3	Afternoon
	4	Evening
	5	Night
	6	No set time
	99	No Response
Could you tell me what are your 3 most important priorities or concerns in your life right now?		
First priority	1	Security/Safety
	2	Food
	3	Land
	4	Health
	5	Education
	6	Work/Jobs

	7	Water and Sanitation
	8	Electricity
	9	Roads
	10	Money
	11	Housing
	88	Other
	99	No Response
If other, please specify		
Second priority	1	Security/Safety
	2	Food
	3	Land
	4	Health
	5	Education
	6	Work/Jobs
	7	Water and Sanitation
	8	Electricity
	9	Roads
	10	Money
	11	Housing
	88	Other
	99	No Response
If other, please specify		
Third priority	1	Security/Safety
	2	Food
	3	Land
	4	Health
	5	Education
	6	Work/Jobs
	7	Water and Sanitation
	8	Electricity
	9	Roads
	10	Money
	11	Housing
	88	Other
	99	No Response
If other, please specify		

Now I would like to ask you questions about information on mining		
What is your level of information about government laws on artisanal mining?	0	Not Knowledgeable
	1	Somewhat Knowledgeable
	2	Knowledgeable
	3	Very Knowledgeable
	99	No Response
What is your main source of information about the government laws on artisanal mining?	1	Radio
	2	Newspapers
	3	Television
	4	Friends, Family
	5	Religious leaders
	6	Customary leaders
	7	Administrative leaders
	8	SAESSCAM
	9	Cooperative
	10	Chef d'equipe
	11	Other miners
	88	Other miners
	99	No response
If other, please specify		
Do you understand the information given about the laws?	0	No
	1	Yes
	99	No Response
What is your level of information about market prices for minerals?	0	Not Knowledgeable
	1	Somewhat knowledgeable
	2	Knowledgeable
	3	Very Knowledgeable
	99	No Response
What is your main source of information about mineral prices	1	Radio
	2	Newspapers
	3	Television
	4	Friends, Family

	5	Religious leaders
	6	Customary leaders
	7	Administrative leaders
	8	SAESSCAM
	9	Cooperative
	10	Chef d'equipe
	11	Other miners
	88	Other miners
	99	No response
If other, please specify		
Have you heard about the group SAEESCAM?	0	No
	1	Yes
	99	No Response
How effective do you think this group is in making miner's lives better?	0	Not effective
	1	effective
	2	very effective
	99	No Response
Are you a member of any association, organization or community group(s)?	0	No
	1	Yes
	99	No Response
If yes, what (types) of associations? (Mark all that apply)	1	Religious association
	2	Mining cooperative
	3	Women's association
	4	Youth association
	5	Worker association/cooperative
	6	Sport association
	7	Cultural/music association
	8	Savings and loan association
	88	Other, specify
	99	No Response
If other, please specify		
Were you involved in any sort of disputes related to mining over the last year?	0	No
	1	Yes
	99	No Response

If yes, how many?		
If yes, what were they about? (Mark all that apply)	1	Conflict over payment/salary
	2	Theft
	3	Alcohol
	4	Access to mines
	88	Other, specify
	99	No Response
If other, please specify		
Who do you go to resolve disputes? (Mark all that apply)	1	Nobody
	2	The other party
	3	Neighbors/peers
	4	Customary leaders
	5	Religious leaders
	6	Police
	7	Head of the mine
	8	The mayor
	9	The Courts
	10	FARDC
	11	Other armed group, specify
	88	Other, specify
	99	No Response
If other armed forces, please specify		
If other, please specify		
Did you feel your dispute was resolved fairly?	0	No
	1	Yes
	99	No Response
In your opinion, who provides safety from crimes here in the community?	1	Nobody
	2	The police
	3	The army (FARDC)
	4	The community itself
	5	Other armed group, specify
	88	Other, specify
	99	No Response
Please specify group		

If other, please specify		
What about the mining site? Who provides security there?	1	Nobody
	2	The police
	3	The army (FARDC)
	4	Other armed group, specify
	5	The community itself
	88	Other armed group, specify
	99	No Response
Please specify group		
If other, please specify		
I want to remind you that this survey is confidential and anonymous		
Have you experienced any of the following in the last year	1	Armed theft/burglary
	2	Unarmed theft/burglary
	3	Assault with weapon
	4	Assault without weapon
	5	Bribery or corruption
	88	Other criminal acts, specify
	99	No Response
Please specify other criminal acts		
At any point in the past, were you part of an armed group, or associated with an armed group?	0	No
	2	Yes
	99	No Response
Please specify which group		
You mentioned you work in the mining sector, what do you currently do related to mining?	0	None
	1	Creuseur
	2	Chef d'equipe
	3	Porter
	4	Cleaner
	5	Comptoir
	6	Negociante

	7	Food Vendor
	88	Other, specify
	99	No Response
If other, please specify		
Are you paid in cash or in-kind for this work?	1	Cash
	2	In-kind, please specify
	3	Both
	4	Not paid
Please specify, if in kind		
Does the money/goods go to you directly or someone else?	1	Paid Directly
	2	Paid to Mother/Father/Parent/Family
	3	Paid to someone else, specify
	88	Other, specify
	99	No Response
If paid to someone else, please specify who		
If other, please specify		
How long have you done this work? (in years, months, and weeks)		
In years		
In months		
In weeks		
In days		
On average, how many hours a week do you do this work?		
Why did you decide to do this work? Select up to 3 options	1	To earn money
	2	My family pressured me
	3	It was expected of me
	4	I have family who work in the mine
	5	I was forced, threatened, explain
	6	Someone recruited me, explain

	7	Someone tricked me, explain
	88	Other, specify
	99	No Response
If forced, please explain		
If recruited, please explain		
If tricked, please explain		
If other, please specify		
Do you have a fixed pay, or does your pay depend on production? (how many minerals you mine, how much food you sell)	1	Fixed
	2	Depends on production
	99	No Response
Did you ever have to work for free in the mines or at the mining site?	0	No
	1	Yes
	99	No Response
If yes, why?	1	To pay off debt
	2	To pay off fine
	3	Forced to
	4	Because we did not find anything
	88	Other, specify
	99	No Response
If other, please specify		
After you came to the mines, have you ever been forced under threat to work in the mines or at mining site?	0	No
	1	Yes
	99	No Response
If yes, by whom?	1	Father/mother
	2	Son/daughter
	3	Sibling
	4	Spouse
	5	Trader
	6	Friend
	7	Chief/Village Head

	8	Government Official
	9	FARDC
	10	Other armed group, specify
	88	Other, specify
	99	No Response
Please specify group		
If other, please specify		
How often does this happen?	1	Daily
	2	More than once a week
	3	Once a week
	4	More than once a month
	5	Once a month
	6	Less than once a month
	99	No Response
Did you ever have to work in the mines or at a mining site to pay off a debt?	0	No
	1	Yes
	99	No Response
If yes, who did you owe money to?	1	Father/mother
	2	Son/daughter
	3	Sibling
	4	Spouse
	5	Trader
	6	Friend
	7	Chief/Village Head
	8	Government Official
	9	FARDC
	10	Other armed group, specify
	88	Other, specify
	99	No Response
Please specify group		
If other, please specify		
Do you feel you are free to leave work in the mines, if you decided you no longer want to work here?	0	No

	1	Yes
	99	No Response
Please explain		
Before, you said you worked as a label[mining_job] related to mining		
Would you mind giving me an estimate of your individual weekly income (in a typical week)?		
Do you have other sources of income?	0	No
	1	Yes
	99	No Response
Please explain		
How much do you make from this other source of income in a typical week? Currency in Congolese Franc		
Would you mind giving me an estimate of your total household weekly income?		
Does your household income allow you to meet your household expenses?	0	Not at all
	1	Not usually - even if I keep my expenses low
	2	Yes - but I have to be careful of my expenses
	3	Yes - I can cover my expenses without difficulty
	99	No Response
Many people who work in the mining industry have to pay fees .		
Could you tell me if you ever had to pay a fee for any of the following:		
Fee to gain access to work at mining site?	0	No
	1	Yes
	99	No Response
If yes, how much did you have to pay? Response constrained to: 20000		
If yes, to whom did you have to pay? (Mark all that apply)	1	Concession Owner

	2	Chef d'equipe
	3	Trader/*Commercant*
	4	Traditional leader
	5	Religious leader
	6	Administrative leader
	7	Police
	8	FARDC
	9	Office of the mines
	10	SAESSCAM
	11	Cooperative
	88	Other, specify
	99	No Response
If other, please specify		
Is this a recurring fee?	0	No
	1	Yes
	99	No Response
If yes, how often do you have to pay it?	1	Daily
	2	Weekly
	3	Monthly
	4	Annually
	88	Other, specify
	99	No Response
If yes, how much did you have to pay? Response constrained to: 20000		
If yes, to whom did you have to pay? (Mark all that apply)	1	Concessions Owner
	2	Chef d'equipe
	3	Trader/*Commercant*
	4	Traditional leader
	5	Religious leader
	6	Administrative leader
	7	Police
	8	FARDC
	9	Office of the mines
	10	SAESSCAM
	11	Cooperative
	88	Other, specify
	99	No Response
If other, please specify		

Is this a recurring fee?	0	No
	1	Yes
	99	No Response
If yes, how often do you have to pay it?	1	Daily
	2	Weekly
	3	Monthly
	4	Annually
	88	Other, specify
	99	No Response
If other, please specify		
Fee for tools / equipment?	0	No
	1	Yes
	99	No Response
If yes, how much did you have to pay?	0	Concessions Owner
	1	Chef d'equipe
	2	Trader/*Commercant*
	3	Traditional leader
	4	Religious leader
	5	Administrative leader
	6	Police
	7	FARDC
	8	Office of the mines
	9	SAESSCAM
	10	Cooperative
	11	Cooperative
	88	Other, specify
	99	No Response
If other, please specify		
Is this a recurring fee?	0	No
	1	Yes
	99	No Response
If other, please specify		
Fee for cooperative membership?	0	No
	1	Yes
	99	No Response

If yes, how much did you have to pay? Response constrained to: 20000		
If yes, to whom did you have to pay? (Mark all that apply)	0	Concessions Owner
	1	Chef d'equipe
	2	Trader/*Commercant*
	3	Traditional leader
	4	Religious leader
	5	Administrative leader
	6	Police
	7	FARDC
	8	Office of the mines
	9	SAESSCAM
	10	Cooperative
	11	Cooperative
	88	Other, specify
	99	No Response
If other, please specify		
Is this a recurring fee?	0	No
	1	Yes
	99	No Response
If yes, how often do you have to pay it?	1	Daily
	2	Weekly
	3	Monthly
	4	Annually
	88	Other, specify
	99	No Response
If other, please specify		
Fee to be able to travel on the road?	0	No
	1	Yes
	99	No Response
If yes, how much did you have to pay? Response constrained to: 20000		
If yes, to whom did you have to pay? (Mark all that apply)	1	Concession Owner
	2	Chef d'equipe

	3	Trader/*Commercant*
	4	Traditional leader
	5	Religious leader
	6	Administrative leader
	7	Police
	8	FARDC
	9	Office of the mines
	10	SAESSCAM
	11	Cooperative
	88	Other, specify
	99	No Response
If other, please specify		
Is this a recurring fee?	0	No
	1	Yes
	99	No Response
If yes, how often do you have to pay it?	1	Daily
	2	Weekly
	3	Monthly
	4	Annually
	88	Other, specify
	99	No Response
If other, please specify		
Fee to buy minerals?	0	No
	1	Yes
	99	No Response
If yes, how much did you have to pay? Response constrained to: 20000		
If yes, to whom did you have to pay? (Mark all that apply)	1	Concession Owner
	2	Chef d'equipe
	3	Trader/*Commercant*
	4	Traditional leader
	5	Religious leader
	6	Administrative leader
	7	Police
	8	FARDC
	9	Office of the mines

	10	SAESSCAM
	11	Cooperative
	88	Other, specify
	99	No Response
If other, please specify		
Is this a recurring fee?	0	No
	1	Yes
	99	No Resource
If yes, how often do you have to pay it?	1	Daily
	2	Weekly
	3	Monthly
	4	Annually
	88	Other, specify
	99	No Response
If other, please specify		
Fee to sell minerals?	0	No
	1	Yes
	99	No Response
If yes, how much did you have to pay? Response constrained to: 2,000.00		
If yes, to whom did you have to pay? (Mark all that apply)	1	Concession Owner
	2	Chef d'equipe
	3	Trader/*Commercant*
	4	Traditional leader
	5	Religious leader
	6	Administrative leader
	7	Police
	8	FARDC
	9	Office of the mines
	10	SAESSCAM
	11	Cooperative
	88	Other, specify
	99	No Response
If other, please specify		
Is this a recurring fee?	0	No
	1	Yes

	99	No Response
If yes, how often do you have to pay it?	1	Daily
	2	Weekly
	3	Monthly
	4	Annually
	88	Other, specify
	99	No Response
If other, please specify		
Fee for mining license (SAESSCAM)?	0	No
	1	Yes
	99	No Response
If yes, how much did you have to pay? Response constrained to: 20000		
If yes, to whom did you have to pay? (Mark all that apply)	1	Concession Owner
	2	Chef d'equipe
	3	Trader/*Commercant*
	4	Traditional leader
	5	Religious leader
	6	Administrative leader
	7	Police
	8	FARDC
	9	Office of the mines
	10	SAESSCAM
	11	Cooperative
	88	Other, specify
	99	No Response
If other, please specify		
Is this a recurring fee?	0	No
	1	Yes
	99	No Response
If yes, how often do you have to pay it?	1	Daily
	2	Weekly
	3	Monthly
	4	Annually
	88	Other, specify

	99	No Response
If other, please specify		
In the past year, how many times have you had to borrow money?		
Response constrained to: 3		
Now, I would like you to think about the past 3 times you borrowed money		
Who did you borrow money from?	1	Traders at mining site/village
	2	Concession Owner
	3	Chef d'equipe
	4	Traditional leaders
	5	Bankers
	6	Comptoirs d'achats
	88	Other, specify
	99	No Response
If other, please specify		
What did you borrow money to buy?		
How much did you borrow?		
Do you have any written document that lists your debt?	0	No
	1	Yes
	99	No Response
What is the interest rate on the loan, if you know it?		
Specify in percent	1	Yearly
	2	Monthly
	3	Weekly
	88	Don't know
Do you know the timeframe in which you need to pay your debt?	0	No
	1	Yes, specify
	99	No Response
If yes, please specify		
On a scale from "very low" to "very high," what are the chances that you will be able to repay your debt(s)?	0	Very low

	1	Low
	2	Moderate
	3	High
	4	Very high
	99	No Response
What happens to people who don't repay their loans?	1	Have to work for free
	2	Wife or children have to work for free
	3	Jailed
	4	Violence
	5	No further access to credit
	6	Nothing
	88	Other, specify
	99	No Response
If other, please specify		
In this part of the survey, we would like to learn about things that may have happened to you or to others in this town. The questions are sensitive, but all of your answers are completely confidential, and you can skip any question you don't feel comfortable answering		
At any point since working in the mining sector, have you been forced to have sex with someone or perform a sexual act against your will?	0	No
	1	Yes
	99	No Response
By whom?	1	Family member
	2	Friend/Acquaintance
	3	Stranger
	4	Armed actor, specify group
	5	Miner
	6	Boss/superior
	7	other, specify
	99	No Response
Please specify:		
Would you please describe this to me?		
Has this happen more than once?	0	No
	1	Yes

	99	No Response
At any point since working in the mining sector, have you exchanged sex or sexual favors in order to get access to other types of work?	0	No
	1	Yes
	99	No Response
By whom?	1	Family member
	2	Friend/Acquaintance
	3	Stranger
	4	Armed actor, specify group
	5	Miner
	6	Boss/superior
	7	other, specify
	99	No Response
Please specify:		
Would you please describe this to me?		
Has this happen more than once?	0	No
	1	Yes
	99	No Response
At any point since working in the mining sector, have you exchanged sex or sexual favors for goods or food?	0	No
	1	Yes
	99	No Response
By whom?	1	Family member
	2	Friend/Acquaintance
	3	Stranger
	4	Armed actor, specify group
	5	Miner
	6	Boss/superior
	7	other, specify
	99	No Response
Please specify:		
Would you please describe this to me?		
Has this happened more than once?	0	No

	1	Yes
	99	No Response
At any point since working in the mining sector, have you exchanged sex or sexual favors in order to gain protection from a person or group?	1	Yes
	99	No Response
By whom?		
	1	Family member
	2	Friend/Acquaintance
	3	Stranger
	4	Armed actor, specify group
	5	Miner
	6	Boss/superior
	7	other, specify
	99	No Response
Please specify:		
Would you please describe this to me?		
Has this happen more than once?	0	No
	1	Yes
	99	No Response
At any point since working in the mining sector, have you exchanged sex or sexual favors for money?	0	No
	1	Yes
	99	No Response
Do you consider yourself a sex worker?	0	No
	1	Yes
	99	No Response
Do you have a boss/manager or do you work by yourself?	0	I work by myself
	1	I'm part of an association or group for sex workers
	2	I have a boss/manager
	99	No Response
What percent of your salary do you pay to this group or association?		

What percent of your salary do you pay to this manager?		
If you wanted to leave your job, would your manager allow to you leave?	0	No
	1	Yes
	99	No Response
If you wanted to leave your job, would your association allow you to leave?	0	No
	1	Yes
	99	No Response
What do you think would happen to you if you tried to leave?	1	I would have to work for free (if I were caught)
	2	My family would be punished
	3	Jailed
	4	Violence
	5	No further access to credit
	6	Nothing
	88	Other, specify
	99	No response
Please specify:		
At any point since working in the mining sector, has anyone held you somewhere against your will, or restricted your freedom of movement?	0	No
	1	Yes
	99	No Response
By whom?	1	Family member
	2	Friend/Acquaintance
	3	Stranger
	4	Armed actor, specify group
	5	Miner
	6	Boss/superior
	7	other, specify
	99	No Response
Would you please describe this to me?		

Has this happen more than once?	0	No
	1	Yearly
	99	No Response
	2	Monthly
	3	Weekly
	88	Don't know
At any point since working in the mining sector, have you been forced to give minerals to someone for free?	0	No
	1	Yes
	99	No Response
Who forced you to do this?	1	Family member
	2	Friend/Acquaintance
	3	Stranger
	4	Armed actor, specify group
	5	Miner
	6	Boss/superior
	7	other, specify
	99	No Response
Please specify:		
Has this happen more than once?	1	Yearly
	2	Monthly
	3	Weekly
	88	Don't know
Now I would like to ask you specifically about what happens in mining areas		
Have you ever witnessed any of the following in the past year:		
In the past year, have you seen children under the age of 18 working in the mines?	0	No
	1	Witnessed
	99	No Response
If yes, do you think it was forced?	0	No
	1	Yes
	99	No Response
If yes, specify by whom		

If yes, describe why you think it was forced		
Please specify which group	1	FARDC
	2	Other armed group
	3	Chef d'equipe
	4	Mine owner
	5	Police
	88	Other, specify
	99	No Response
If other, please specify		
In the past year, have you seen people being forced to work in the mines?	0	No
	1	Witnessed
	2	Experienced
	99	No Response
If yes, by whom? Please specify which group	1	FARDC
	2	Other armed group
	3	Chef d'equipe
	4	Mine owner
	5	Police
	88	Other, specify
	99	No Response
If other, please specify		
In the past year, have you seen people having to work for free?	0	No
	1	Witnessed
	2	Experienced
	99	No response
If yes, who do you think they were working for? Please specify which group	1	FARDC
	2	Other armed group
	3	Chef d'equipe
	4	Mine owner
	5	Police
	88	Other, specify
	99	No Response
If other, please specify		

In the past year, have you seen people being forced into marriage	0	No
	1	Witnessed
	2	Experienced
If yes, by whom? Please specify which group	1	FARDC
	2	Other armed group
	3	Chef d'equipe
	4	Mine owner
	5	Police
	88	Other, specify
	99	No Response
In the past year, have you seen abduction/kidnapping?	0	No
	1	Witnessed
	2	Experienced
	99	No response
If yes, by whom? Please specify which group	1	FARDC
	2	Other armed group
	3	Chef d'equipe
	4	Mine owner
	5	Police
	88	Other, specify
	99	No Response
If other, please specify		
In the past year, have you seen someone being forced to have sex against their will?	0	No
	1	Witnessed
	2	Experienced
	99	No response
If yes, by whom? Please specify which group	1	FARDC
	2	Other armed group
	3	Chef d'equipe
	4	Mine owner
	5	Police

	88	Other, specify
	99	No Response
If other, please specify		
How many times a week do you drink alcohol?	1	Everyday
	2	A few times per week
	3	A few times per month
	0	not at all
	88	Other, explain
How many times a week do you take drugs?	1	Everyday
	2	A few times per week
	3	A few times per month
	0	not at all
	88	Other, explain
We have heard some discussion recently about what some people refer to as Human Trafficking, or forced labor/slavery		
Have you heard anything about this?	0	No
	1	Yes
	99	No Response
On a scale from "not at all informed" to "very informed," how informed would you say you are about trafficking in the DRC?	0	not at all
	1	somewhat informed
	2	informed
	3	very informed
	99	No response
Where have you heard about human trafficking in DRC? [MARK ALL THAT APPLY]	1	TV
	2	Radio
	3	friends and relatives
	4	community leaders
	5	newspapers/magazines
	6	leaflets/publications on the issue
	7	internet
	8	personal experience
	88	Other, please specify
	99	No response

If other, please specify		
How would you define trafficking?		
There are different ideas about what Human Trafficking or Slavery/forced labor is and is not. For each of the following situations please tell us whether you consider it to be an example of Human Trafficking or Not Human Trafficking.		
A woman is recruited to work in a restaurant but upon arrival is forced to do sex work.	0	Not Trafficking
	1	Trafficking
	98	Don't know
	99	No Response
A woman comes to the mines to work as a prostitute to make money for her family	0	Not Trafficking
	1	Trafficking
	98	Don't know
	99	No Response
A man leaves his home to travel to the mines for work but is kidnapped by an armed group and is forced to work for them.	0	Not Trafficking
	1	Trafficking
	98	Don't know
	99	No Response
A person is recruited to work in the mines but the cost of room and board means he is in debt to the employer and is forbidden from leaving without paying.	0	Not Trafficking
	1	Trafficking
	98	Don't know
	99	No Response
What do you think is the principal reason that people become victims of trafficking for forced labor?	1	Lack of information/lack of education
	2	Poor wages
	3	Unemployment
	4	Reckless behavior by the victims
	5	Weak laws/law enforcement
	6	Gender discrimination
	7	Armed groups

	8	Ethnic discrimination
	9	Family pressure to earn money
	88	Other, please specify
	99	No Response
If other, please specify		
Children doing light household work at home	0	No
	1	Yes
	99	No Response
Children doing heavy lifting work? Carrying loads of crops and/or minerals, for example.	0	No
	1	Yes
	99	No Response
Children working in mines	0	No
	1	Yes
	99	No Response
Women working in mines	0	No
	1	Yes
	99	No Response
Pregnant women working in mines	0	No
	1	Yes
	99	No Response
Prostitution	0	No
	1	Yes
	99	No Response
Forced prostitution	0	No
	1	Yes
	99	No Response
Marriage under the age of 18	0	No
	1	Yes
	99	No Response
Forced marriage	0	No
	1	Yes

	99	No Response
On a scale from 0 to 4 with 0 being "not at all informed" and 4 being "very informed," how informed would you say you are about sex trafficking in the DRC?	0	Not at all
	1	a little
	2	somewhat
	3	informed
	4	very informed
	99	No Response
Where have you gotten most of your information about sex trafficking in DRC? [MARK ALL THAT APPLY]	1	TV
	2	Radio
	3	friends and relatives
	4	community leaders
	5	newspapers/magazines
	6	leaflets/publications on the issue
	7	internet
	8	personal experience
	88	Other, please specify
	99	No response
If other, please specify		
How would you define sex trafficking?		
Do you think that sex trafficking is a big problem here in this community?	0	No
	1	Yes
	99	No Response
What do you think is the principal reason people become victims of sex trafficking?	1	Lack of information/lack of education
	2	Poor wages
	3	Unemployment
	4	Reckless behavior by the victims
	5	Weak laws
	6	Weak law enforcement
	7	Gender discrimination
	8	Armed groups
	9	Ethnic discrimination
	10	Family pressure to earn money

	88	Other, please specify
	99	No Response
If other, please specify		
Finally, would you mind telling me what is your tribe/ ethnicity?	1	Alur
	2	Banyamulenge
	3	Bavira
	4	Bembe
	5	Fulero
	6	Hema
	7	Hunde
	8	Hutu
	9	Kakwa
	10	Lega
	11	Lendu
	12	Lugbara
	13	Nande
	14	Shi
	15	Tutsi
	88	Other, please specify
	99	No Response
If other, please specify		
And your religion?	1	Catholic
	2	Protestant
	3	Muslim
	88	Other, please specify
	99	No Response
If other, please specify		
Do you have any last notes to add?		
Thank you for agreeing to participate in the work. We appreciate your time. *If the participant seemed distressed, remember to give them a referral card*		

Site survey

Question	Answer	
What is your name? Enumerator name		
Province:		
Territory:		
Collective:		
Mining Site:		
Minerals mined at the site	0	Gold
	1	Cassiterite
	2	Coltan
	3	Tungstan
What is your estimate of production of gold in the past month?		
How much do you get paid for this mineral?		
What is your estimate of production of Cassiterite in the past month?		
How much do you get paid for this mineral?		
What is your estimate of production of Coltan in the past month?		
How much do you get paid for this mineral?		
What is your estimate of production of Tungsten in the past month?		
How much do you get paid for this mineral?		
Now I would like to ask you about the people who work here.		
Do Miners work here?	0	No
	1	Yes
	99	No Response
Who is the head of this group of people?		
Number of MALE miners:		
Number of FEMALE miners:		
Is there a list of people that already exists?	0	No
	1	Yes
	99	No Response
In what year was this list last updated?		

Could the head of this group help us make a list?	0	No
	1	Yes
	99	No Response
Do local traders (Negociantes) work here?	0	No
	1	Yes
	99	No response
Who is the head of this group of people?		
Number of MALE Negociantes:		
Number of FEMALE Negociantes:		
Is there a list of people that already exists?	0	No
	1	Yes
	99	No Response
In what year was this list last updated?		
Could the head of this group help us make a list?	0	No
	1	Yes
	99	No Response
Do restaurant owners (Restauranteurs) work here?	0	No
	1	Yes
	99	No Response
Who is the head of this group of people?		
Number of MALE Restauranteurs:		
Number of FEMALE Restauranteurs:		
Is there a list of people that already exists?	0	No
	1	Yes
	99	No Response
In what year was this last updated?		
Could the head of this group help us make a list?	0	No
	1	Yes
	99	No Response

Do buyers (Acheteurs) work here?	0	No
	1	Yes
	99	No Response
Who is the head of this group of people?		
Number of MALE Acheteurs:		
Number of FEMALE Acheteurs:		
Is there a list of people that already exists?		
In what year was this list last updated?		
Could the head of this group help us make a list?	0	No
	1	Yes
	99	No Response
Do transporters (Transporteurs) work here?	0	No
	1	Yes
	99	No Response
Who is the head of this group of people?		
Number of MALE Trasporteurs:		
Number of FEMALE Transporteurs:		
Is there a list of people that already exists?	0	No
	1	Yes
	99	No Response
In what year was this list last updated?		
Could the head of this group help us make a list?	0	No
	1	Yes
	99	No Response
Do sex workers (Femmes libres) work here?	0	No
	1	Yes
	99	No Response
Who is the head of this group of people?		

Number of Femmes Libres:		
Is there a list of people that already exists?	0	No
	1	Yes
	99	No Response
In what year was this list last updated?		
Could the head of this group help us make a list?	0	No
	1	Yes
	99	No Response
Do Pilleurs (workers who pound and grind) work here?	0	No
	1	Yes
	99	No Response
Who is the head of this group of people?		
Number of MALE pilleurs:		
Number of FEMALE pilleurs:		
Is there a list of people that already exists?	0	No
	1	Yes
	99	No Response
In what year was this list last updated?		
Could the head of this group help us make a list?	0	No
	1	Yes
	99	No Response
Does SEASSACAM work in this community?	0	No
	1	Yes
	99	No Response
Since when? (year)		
Are there mining cooperatives in this community?	0	No
	1	Yes
	99	No Response
Since when? (year)		
Do most of the miners sleep here at the site, or in the nearest town?	0	Sleep here at the site

	1	Sleep in town
	3	Other, specify
	99	No Response
If other, please specify:		
How far is the nearest town? (in kilometers)		
Are most of the people who work here displaced or from here originally?	0	From here originally
	1	Displaced
	3	Other, specify
	99	No Response
If other, please specify:		
Collect the GPS coordinates of this mining site		

Qualitative Questionnaire

General questions	
	(Warm up question) 1. How do people usually come to seek out work in mining towns? a. Do the people who work in the mines come from this town, or do they migrate here? Can you tell me about this? b. What about people who work *around* the mines
	2. Have you ever heard of cases where people are forced to work in the mines against their will? Could you tell me about this? a. Probe: What people are most vulnerable to being forced to work? b. What happens to them if they try to leave or stop working in mining towns?
	3. Is it common for people to fall into debt in mining towns? Could you tell me about this? a. Can debt become a tool to force people to work even when they don't want to? Can you tell me about this? b. What people are most vulnerable to falling into debt? c. What happens if someone can't pay their debts?
	4. Could you tell me about efforts to regulate mining in this town? a. What changes do you see in your community related to these efforts? Could you tell me about positive changes? Could you tell me about negative changes? b. (*If SAESSCAM is active in the community*) Could you tell me about the role of SAESSCAM here? What changes have you seen related to their work here?
	5. Are there conflicts or disputes that arise in this community? Can you tell me about these? a. Probe: What are these about? How are they resolved?
Armed group control	
	6. Sometimes armed groups work in and near mining towns. Is this the case in this community? a. If yes: Could you explain to me how the (fill in name of group) is involved in mining activities in this community? b. Probe (if needed) There are a number of ways armed groups can be involved in mining: by asking for taxes on the road, by asking for profits from the mine or by directly controlling the mine. What are the ways the (fill in name of group) is involved with mining here? c. If no: Could you tell me about how you've heard armed groups are involved

	in mining in other communities? Why do you believe there are not armed groups here in this community?
	7. Have you ever heard of armed groups forcing people to work in the mines? Could you tell me about this?
Gendered issues	
	8. Why do you think women come to undertake work in mining towns? What kind of work do they do here? a. Probe: Do women also exchange sex for goods or money here? Can you tell me about this? b. For the women who work as "femmes libres," is there someone who organizes or controls this work? If yes, can you tell me about this?
	9. Have you heard of cases where women are brought to work as prostitutes against their will? Can you tell me about this? a. Probe: Who is responsible for this? What kinds of women are most vulnerable? How are they forced to stay? Where do these women come from and how are they recruited?
Supply chain issues	
	10. Once the minerals are mined from the tunnels, what is the process to get the minerals to market? a. Probe: Who buys and sells the minerals at each stage? What kinds of minerals are mined here? If there is more than one kind, are the supply chains different for each? What kind of taxes are levied at each stage of the process and by whom?
Closing question	
	11. What changes would you like to see related to mining in this community?