



Pathways and Experiences of Children and Adolescents Who Engage in Artisanal and Small-Scale Gold Mining-Related Activities in Tanzania

USAID Kizazi Kipya Project
November 2017



USAID Kizazi Kipya aims to enable more Tanzanian orphans and vulnerable children (OVC)—children, adolescents, and young people orphaned and made vulnerable by HIV and other adversities—to use age-appropriate HIV and AIDS-related and other services for improved care, health, nutrition, education, protection, livelihoods, and psycho-social wellbeing.

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Abbreviations and Acronyms

AIDS	acquired immunodeficiency syndrome
ALWHIV	adolescents living with HIV
ART	anti-retroviral treatment
ASM	artisanal and small-scale mining
CIM	children in mining
CSO	civil society organization
FGD	focus group discussion
GEREMA	Geita Region Mining Association
HIV	human immunodeficiency virus
IDI	in-depth interview
ILO	International Labor Organisation
KII	key informant interview
km	kilometer(s)
LSM	large-scale mining
MBEREMA	Mbeya Region Mining Association
OVC	orphans and vulnerable children
STI	sexually transmitted infection
TASAF	Tanzania Social Action Fund
USAID	United States Agency for International Development
VSLA	village saving and lending association
WFCL	worst forms of child labor

Executive Summary

Background

This report presents the findings from a formative assessment to define a service model for one specific sub-group of beneficiaries under the USAID Kizazi Kipya project: children in mining (CIM). Child labor is illegal in Tanzania, yet an estimated 31,000 children work in artisanal and small-scale mining (ASM), including gold mining. ASM is characterized by the use of rudimentary tools and techniques and low yield. Health and social risks for children working in mining are wide ranging and severe and can have long-term impact on their health and development.

This formative assessment had two main objectives:

1. To assess pathways to children's engagement in mining-related activities and the characteristics shaping the situation in the community
2. To use the study findings from objective 1 to articulate an appropriate and realistic intervention model for improved health and social service delivery for CIM

Data were collected through focus group discussions (FGDs), key informant interviews (KIIs), and in-depth interviews (IDIs) were done engaging a total of 164 participants in Bukombe (Geita), Chunya (Mbeya), and Songwe (Songwe) districts between May and July 2017. Participants included children and adolescents working in mining, other children and adolescents living in mining communities, parents/caregivers of child miners, teachers, mine owners, foremen, local government leaders, and other stakeholders. Analysis of findings were discussed with government and consortium stakeholders and shared with community members for validation to help develop the intervention model.

Key findings

- A mix of organized and informal ASM operations exist in the study sites, with stakeholders ranging from those who own the mine pits or the stone processing areas, those owning and working in services around mining sites, to child and adult laborers and their families. However, anyone with a sack of ore-containing stones can be considered a miner and potential employer of children.
- The mining communities define being a child in terms of economic independence rather than age or being part of a family structure.
- There is a widely shared opinion that parents are responsible to care and provide for their children, that children have the right to go to school, and that child labor beyond light work helping in the household should not be condoned.
- The main reasons mentioned for children working in mining and being absent from school were household poverty caused by high rates of broken marriage and an unstable (mining) income pattern, low prioritization of schooling because of the temporary and mobile residency in mining areas, peer influence, the local societal context with expectations that life trajectories lead into mining, the lure of fast cash, and very limited parental supervision.
- Child miners are both girls and boys and are reported to start working in the mines from the age of 7 years. Children younger than that accompany their mothers. CIM include orphans, children from single parent households, and those with both of their parents alive.
- Working in mining is widely said to be a main cause of school drop-out, absenteeism, and low school performance.
- Hours of work depend on whether children work alone or for/with their family or a third person and may be very long.
- Payment is highly variable. Children are taken advantage of because of their weak negotiation position. Sometimes agreed on pay is paid out late or not at all or childrens mining yield is stolen from them.
- Several instances and forms of sexual and physical abuse of children were reported from all study sites.
- Percieved and reported health problems of CIM range from those specific to the mining activities (injuries, consequences of mercury and sulphuric acid exposure), related to the living circumstances (stomach and bowel disease, malaria, pneumonia), and related to the poor and dangerous social environment (HIV, sexual/physical trauma, alcohol and drug abuse consequences).

- HIV is perceived to be common in the sites, and protective behavior is low. HIV services are available within 15 km of the sites, but distance challenges their accessibility. Limited outreach services or structures for prevention, testing, care, and treatment exist in the sites and could be linked to/expanded upon.
- Existing community structures that USAID Kizazi Kipya could work with include active ward education committees, community by-laws against child labor, savings and lending groups in some areas, children and youth development small basket funds, which are 5% of a district council's revenue.

Key recommendations

- Raise awareness on the health and development risks associated with children working in mining.
- Facilitate economic strengthening and alternative sources of income for (families of) CIM, through savings and lending groups, vocational training, small start-up capital, and training in personal financial management and entrepreneurship.
- Provide parental skills training to help parents understand the consequences of child labor in mines, help keep families intact, and reduce child marriage.
- Support establishment of day care centers for children of mothers working in mines.
- Engage communities in developing and/or enforcing child labor by-laws, e.g., through ward executive committees.
- Link sexually or physically abused children and adolescents to legal and social support services.
- Encourage parents and communities to support children to stay in school and complete their studies successfully. School development committees should also include community leaders, mining stakeholders, and child miner parents.
- The school environment should be made attractive for students, for example through establishing sports programs and strengthening the school feeding program to encourage and motivate students to be at school.
- Provide continuous health education on the prevention and treatment of infectious diseases, including HIV and other sexually transmitted infections (STIs), and address the specific risks of mining. Programs like the distribution of bednets should also target communities in the mining areas, and considerations should be taken to improve the water and sanitation situation in the mines.
- Outreach services on HIV testing and counselling, anti-retroviral treatment (ART) provision, and/or the linkages to support (education, transport, accompanying, follow-up) on accessing HIV services should be strengthened.
- Allow HIV testing and counselling services for sexually active children/adolescents under 18 years of age without parental/guardian consent.

1. Introduction

1.1. Artisanal and small-scale mining

In contrast to industrial large scale-mining (LSM), artisanal and small-scale mining (ASM) uses rudimentary tools and techniques, mainly through manual labor, to extract, transport, process, and trade minerals. ASM often has negative environmental and social impacts because it mostly happens in poor and dangerous working conditions. Because miners lack technical resources and knowledge, production efficiency is often low, leading to a poor capture rate for benefits. Nevertheless, ASM is an important livelihood for millions of men and women. Income from ASM may be much higher than that gained from other occupations and, in contrast to some other income-generating activities, such as farming, can be an immediate source of cash.¹

ASM was the major producer of minerals in Tanzania between 1987 and 1997 and, despite the increase in industrial LSM, continues to provide an important livelihood for people in mining communities. The 2014 Tanzania Integrated Labor Force Survey² estimated 614,103 Tanzanians to be working in mining and quarrying, with the majority being informally employed, including 30,827 children aged 5–17 years. ASM occurs throughout Tanzania, producing gold, diamonds, gemstones, tin, salt, limestone, dimension stone, gypsum, sand, and gravel. Mining operations in Tanzania typically involve people who control the mine, pit holders (who lease pits from the people who control the mine), supervisors, and workers. In addition to direct mining activities, service activities in mining sites include food preparation and serving, entertainment, and sex work. Children are involved both in direct mining activities and services.

In 2013, Pact conducted a baseline survey among 849 adult miners/pit owners, 46 mine owners, and 647 heads of households in three gold mining blocks of Tanzania (Chunya, Geita, and Tarime), focusing on current production statistics, average individual and household incomes of miners, and valuation of mining assets. It showed that mine workers have low levels of education, with women having a lower mean level of education than men. The majority of miners reported to be taught by their mining peers within the mining site. Mining was the sole source of livelihood for 50% of miners, and most work more than 13 hours per day. Levels of food insecurity were similar between mining and non-mining households, but mining households spent a higher proportion of their income on health care costs. Though no health data was collected in this survey, the majority of miners reported using hazardous materials, such as explosives and mercury, while some reported use of cyanide.³

Scoping visits conducted to USAID Kizazi Kipya project sites show that ASM activities occur both legally and illegally.

1.1.1. Formal/legal mining

To conduct legal mining, prospective miners apply for mining license from the Regional mining department which has the primary responsibility to regulate all mining activities in the region and assuming mining licenses. The Online Mining Cadastre Transactional Portal, run by the regional mining department, creates a public gateway to acquire licensing information, lodge applications, and make payments. Once applicants complete the application process, processing of the mining license takes 1–7 days.

There are two types of licenses that artisanal and small-scale miners can obtain: a yearly renewable primary mining license and a five-year renewable license; only Tanzanians are eligible for these types of licenses. To qualify, one needs to own the land where the gold ore is to be extracted, know the coordinates of the prospective mining area, and submit the required documents for the license application. The mining technician from the regional mining department verifies the application documents before approving the license. The license application for small-scale mining costs 50,000 TSH as a registration fee and 50,000 TSH as a processing fee. The mining license fees are charged at

¹ H. Poole Hahn, K. Hayes, and A. Kacapor. 2014. *Breaking the Chain: Ending the supply of child-mined minerals*. Washington, DC: Pact.

² Tanzania National Bureau of Statistics. 2014. *Tanzania Integrated Labour Force Survey 2014*. Dar es Salaam, Tanzania: National Bureau of Statistics.

³ G. Protace. 2014. *Artisanal and Small-Scale Mining. Baseline Survey Report*. Washington, DC: Pact.

80,000 TSH per hectare and the miner can own a maximum of 10 hectares. Once the license is issued, the owner becomes legally responsible for all activities happening on his/her site, including compliance with the mining, environmental, and safety regulations. The mining regulations prohibit the license holders from engaging children and adolescents under 18 years of age in their mining sites.

The regional mining department is also responsible for curbing all illegal mining and trading activities in the region, addressing environmental effects, assisting small-scale miners to operate in a more organized manner, providing formal small-scale miners with technical support, and promoting viable small-scale mining activities.

According to regional mining officials, there are 1,000–1,200 registered small-scale miners in Geita region (to which Bukombe district belongs) and 800 in Mbeya region (to which Chunya district belongs; at the time of research Songwe district still fell under the Mbeya regional mining office). The registered miners receive technical and other related support, whenever needed, from the department to smoothen their mining activities. The licensed small-scale miners also have their association known as *GEREMA* (Geita Region Mining Association) and *MBEREMA* (Mbeya Region Mining Association).

1.1.2. Informal/illegal mining

Informal small-scale miners are perceived as perpetuating problems in the mines and largely violating the mining rules and regulations. This could be because they are less skilled, as they have neither received training on mining processes nor on their consequences. In most cases, the informal miners operate in unlicensed mines and the nature of their activities are just temporary and dependent on gold rushes. Being subsistence miners, their activities are highly unregulated, resulting in dangerous mining practices and considerable environmental destruction, not the least of which is increased mercury pollution and extensive deforestation. They do not have their own mining association and are not eligible to become members of *GEREMA*/*MBEREMA* because of the requirement of holding a mining license. Children and women are mostly employed in these informal small-scale mines.

1.2. Children in mining

The International Labor Organisation (ILO) deems mining to be one of the worst forms of child labor (WFCL) because of the risks to health and well-being inherent in the work. Miners of any age are typically unskilled, use little or no protective gear, and extract minerals with their bare hands or with simple tools. Their health is at risk through exposure to dust and other minerals, explosives, mercury, cyanide, and other chemicals. They are exposed to accidents and falling rubble and often carry heavy loads. Environmental, food, and water contamination and poor sanitation increase the risk of disease within communities in the mining areas. Drug and alcohol abuse are common in mining camps and can affect surrounding communities. ASM communities are largely made up of makeshift settlements of single, male migrants with some disposable income, contributing to high levels of sexual exploitation of children and adult sex workers, with its associated health and social risks.

The perilous working conditions in which ASM is carried out have a particularly negative impact on children who work in the mines. As the ILO explains, children face “the same risks as adults—cave-ins, rock falls, mercury poisoning, asphyxiation—but, because their bodies and judgment are still developing, injuries are more likely ... and [children] are more likely to fall victim to the free-wheeling lifestyle common in mining camps. Those who do not work directly in the pits provide services to those that do. A considerable proportion of children in mining areas are already trapped in prostitution. Virtually none get a decent education.”⁴

Mercury exposure is often proportionally higher for children, given their lower body weight and childhood behaviors that increase their level of exposure (e.g., putting their hands in their mouths after direct contact with sand or soil).⁵ ASM children interviewed for a 2013 Human Rights Watch report in Chunya (Mbeya region) and Kahama and Shinyanga (Shinyanga region) suffered from fatigue,

⁴ International Programme on the Elimination of Child Labor. *Minors out of mining!*

<http://www.ilo.org/ipecinfo/product/download.do?type=document&id=2519>

⁵ Bose-O'Reilly et al. 2010. Mercury Exposure and Children's Health. *Current Problems in Pediatric Adolescent Health Care* 40 (8): 186–215.

headaches, muscular pain, blistering, and swelling. Research suggests that long-term problems might include respiratory diseases, musculoskeletal problems, and mercury poisoning.⁶

Pact's current programs in Colombia and the Democratic Republic of Congo (focusing on gold, tin, tantalum, tungsten, and coal) have emphasized the need to profile children to understand what "types" of children are present (e.g., children working alone, children working in family units, youths mining after school, and/or youths with their own children) to determine prioritization and appropriateness of responses.

1.3. National legal framework

Tanzania ratified a number of international conventions regarding child labor. These include the United Nations Convention on the Rights of the Child (UN CRC); UN CRC Optional Protocol on Armed Conflict; UN CRC Optional Protocol on the Sale of Children, Child Prostitution and Pornography; Palermo Protocol on Trafficking in Persons, especially women and children; ILO Convention No. 138 of 1973 on the minimum age for admission to employment and work; and ILO Convention No. 182 of 1999 on Worst Forms of Child Labor. Tanzania's Law of the Child Act, Employment and Labor Relations Act, and the Mining Regulations, prohibit children under age 18 years from engaging in hazardous work, including mining. Thus, under international and domestic law, the Tanzanian government is obligated to protect children from violations of their rights, including the WFCL such as mining and commercial sexual exploitation.

1.4. National response

Even though a number of child labor eradication policies and programs have been implemented⁷ and despite its illegality, insufficient government response and cultural and societal factors⁸ perpetuate child mining. The 2014 National Child Labor Survey showed that almost 31,000 children are involved in mining and quarrying for an average 20 hours per week, with slightly more girls than boys. Half of all children in this survey who were involved in any type of hazardous work (not just mining) reported injuries, illness, or poor health, and 20% reported poor grades in school. Although most parents interviewed as part of the Human Rights Watch assessment⁷ professed reluctance to send their children to the mines and most children did not wish to work there, poverty, insufficient oversight by labor officials, ignorance about health hazards, weak implementation of education policies, and inadequate support, especially to orphans, make child mining widespread throughout the community and difficult to stop.

1.5. USAID Kizazi Kipya project

Pact, with its stakeholders, will implement a broad program to improve health and social services for children in mining (CIM). The program design is informed by formative research results, the focus of this report.

This CIM program is part of the larger USAID Kizazi Kipya project (2016–2021), which aims to reach 1 million orphans and vulnerable children (OVC) in 350,000 households all over Tanzania, with economic strengthening, social, and health services. Consortium partners and their roles are Pact (economic strengthening and consortium management), Aga Khan Foundation (education and early child development), Restless Development (youth), Elizabeth Glaser Pediatric AIDS Foundation (pediatric HIV and clinic-based interventions), Railway Children of Africa (children living/working on the street), and Ifakara Health Institute (children in mining research).

⁶ Human Rights Watch. 2013. *Toxic Toil: Child Labor and Mercury Exposure*.
<http://www.hrw.org/reports/2013/08/28/toxic-toil-o>

⁷ International Labor Office, Fundamental Principles and Rights at Work (FUNDAMENTALS), and Tanzania National Bureau of Statistics. 2016. *Tanzania national child labor survey 2014: Analytical Report*. Geneva: ILO.

⁸ Human Rights Watch 2013.

1.6. Formative assessment research objectives

The formative assessment component of the study aimed to address two main research objectives.

1. To assess pathways to childrens engagement in mining related activities and the characteristics shaping the situation in the community. The specific objectives were:
 - i. To map key stakeholders and services in the study sites
 - ii. To explore prevailing perceptions and attitudes on child labor in mining and power relations
 - iii. To examine reasons, context, and the characteristics of children engaged in mining
 - iv. To explore risks and benefits associated with mining for children and adolescents
 - v. To understand key service needs of children in mining and their communities
2. To use the study findings on objective 1 to articulate an appropriate and realistic intervention model for improved health and social service delivery for CIM. The specific objectives were:
 - i. To discuss study findings with USAID Kizazi Kipya consortium partners and other stakeholders, including representatives from the study districts and wards, the Ministry of Health, Community Development, Elderly and Children Social Welfare Department, and President's Office – Regional Administration and Local Government, to formulate recommendations for action
 - ii. Conducting community feedback meetings for mapping of the available resources in the community and identifying household economic strengthening needs of parents and caregivers of CIM to inform the development of the intervention model

2. Research Methodology

2.1. Study sites

The research was conducted in Bukombe, Chunya, and Songwe districts. In each of the districts, the research activities were concentrated in one purposively selected ward: Igulwa (Bukombe), Matundasi (Chunya), and Saza (Songwe). The selection of the wards was informed by discussions with the district officials and the field reconnaissance visits earlier conducted by the study principal investigators prior to this assessment. Potential study districts were pre-identified by Kizazi Kipya. The final selection was based on the presence of ongoing small-scale mining activities and non-availability of any interventions specifically addressing CIM.

2.2. Study design

The formative assessment employed a case study design using a mix of qualitative data collection techniques, particularly key informant interviews (KIIs), focus group discussions (FGDs), and in-depth interviews (IDIs). This design ensured representation of ideas, opinions, experiences, suggestions, and recommendations across the different CIM stakeholders in the respective research sites. Getting multiple points of view on some of the same questions enabled triangulation of the opinions from the different information sources. Table 1 shows categories of participants by data collection method and the number of discussions/interviews per district under each method.

Table 1: Type of participants, interview methods, and number of interviews per research site

Participants and collection methods	Number of discussions per research site			Total discussions
	Bukombe	Chunya	Songwe	
In-depth interviews				
Child miners	6	5	4	15
Children out of mines	6	5	4	15
Miner parents	5	2	2	9
Mine owners	5	2	2	9
Health facility	2	1	2	5
Civil society organizations (CSOs)	4	0	0	4
Community leaders	4	2	2	8
District officials	2	2	1	5
School teacher	2	1	1	4
Key informant interviews				
Influential people	2	1	2	6
Focus group discussions				
Male	2	1	1	4
Female	2	1	1	4
Total number per site	42	23	22	88

2.2.1. Focus group discussions with members of the general community

Eight FGDs were held with members from the general community. To allow free expression of ideas and opinions on the emerging issues, FGDs were conducted separately for men and women. The number of participants in each group ranged 8–12, for a total of 84 participants. These discussions aimed to assess the broader community general perceptions, opinions, views, and attitudes about the engagement of children in mining-related activities. The FGDs provided rich information regarding community norms, ideas, and views towards child labor and the underlying reasons for child labor in the sites. Also, issues of power dynamics in relation to age and gender roles were explored.

Participants for the FGDs were purposively selected from members of the respective communities in the mining sites with the help of community leaders. Inclusion criteria were being knowledgeable about and familiar with the mining sites and having lived in the area for at least five years. These individuals were believed to have accumulated enough knowledge about not only the community and the activities carried out, but also the context shaping child labor in the mines.

2.2.2. Key informant interviews

Six KIIs were conducted with influential people in the community to discover and map the different activities, organizations, and development institutions available in the study settings and whose work related to CIM and the type of activities particularly performed. KII participants provided insights on the nature of child labor and the available social services in the study areas based on their position and their particular knowledge and understanding. A KII guide was developed for the interviews.

KII participants were purposively selected in consultation with the FGD participants, who suggested two people they thought were influential in the community and who they believed had in-depth knowledge of and familiarity with the community, its characteristics, and the ongoing activities in the sites. The suggested names were then shared with the village leaders, who helped the research team access the individuals. Two KIIs were conducted in each study site, for a total of six interviews.

2.2.3. In-depth interviews

In total, 74 IDIs were conducted with different individuals to get rich and detailed information regarding individuals' perceptions, thoughts, feelings, and experiences with child labor in mines. The dynamic nature of the IDIs and their responsiveness to the individual's language and concepts facilitated a deep understanding and greater exploration of individuals' lived experiences in the social context of a mining site, the nature of child labor, the life trajectories of children and their families involved in mining, and the decision-making structures in the mining communities.

The IDIs were conducted with distinct groups of individuals, as described in Table 2.

Children's ages ranged 12–18 years, and their education ranged from no education to form III secondary education. The non-child miners and adolescents were either currently in schooling, engaged in petty business, or staying at home.

Table 2: Breakdown of in-depth interviewees

IDI group	Number interviewed	Purpose for interviewing this group
Children engaged in mining activities	15	To gain a detailed understanding of the children/adolescents themselves regarding the pathways to working in the mines, mining activities performed, their experiences, and the perceived benefits and risks associated with mining-related activities in general
Children not working in the mines	15	
In-charges of the health facilities closest to and providing service to the mine community	5	To obtain in-depth knowledge about the available common health problems that are associated with mining activities in the community and the experiences in managing them, including on child labor, HIV, and adolescent pregnancies
Head teachers of the nearest schools to the mining sites	4	To gain insights on school teachers' perspectives on child labor in mines, its relations to children's school attendance, and how to address the issue
Mine owners/financiers	9	To gain a deeper understanding of the characteristics shaping child labor in mines, mining activities performed by children, mode of engagement, negotiations on child miner's payments, and decision-making on child miners' earnings
Parents of the child miners	9	
Community leaders	8	To elicit individual perceptions, opinions, and attitudes on child labor and its characteristics and on measures to address the situation
District officials	5	
NGO representatives	4	

Sampling for in-depth interviews

Snowball and purposive sampling techniques were used to recruit the IDI participants.

Snowball sampling

The snowball sampling technique was used to recruit children who are working in the mines. The first contact with a child/adolescent who is engaged in mining or mining-related activities was facilitated by community leaders. This child/adolescent was introduced to the research team and the team informed the child/adolescent about the study and its related activities. The interview started only after building rapport and informed consent.

After the interview, the child was asked to introduce the research team to one of his/her colleagues who is also engaged in mining-related work. When the child/adolescent miner introduced his/her colleague to the research team, the procedure was the same for introducing the child miner to the study and the study-related activities and for requesting his/her willingness to participate in the study and to link the research team to his/her other colleagues. This recruitment process continued until the required number of child miners was reached, or earlier if data saturation was realized.

The ability of snowball sampling to use the social network and trust relationships of the identified children ensured the availability of the child miners to the study. Only those children who had been engaged in mining activities for a period of at least six months at the time of the study were eligible for inclusion to ensure that they had had enough exposure and had accumulated experiences on the subject. To avoid recruiting children from one social network, different groups of children were approached during the recruitment process.

Purposive sampling

Purposive sampling for IDIs was conducted with the help of the village leaders to recruit:

- Children in the community not engaged in mining-related activities
- Representatives of CSOs/institutions working on OVC and HIV programs and the group of miners
- Miner parents/caretakers of children in the mining communities
- Health care workers from health facilities in the mining communities
- Mine financiers/owners of mining sites
- Community leaders who were selected by their position in the community, including village and ward executive officers, community health workers, and ward education coordinators

2.3. Data collection and analysis

2.3.1. Piloting of the data collection guides

The pilot of the data collection guides and data collection activities in general was conducted with a team of five experienced qualitative researchers in May 2017. Before the pilot study, the research team members were trained by the senior qualitative researcher on the project to ensure a detailed understanding of study objectives and output requirements for consistency and completeness. The research team members had already received several similar trainings in the past on other assignments within a range of institutions and organizations. However, they were re-trained on the general aspects related to conducting IDIs, FGDs, and KIIs, including being good listeners, note-taking, use of digital recorders, probing skills, and accurate transcribing. After the training, the research team piloted the data collection guides in Katente ward, a different ward from the three wards involved in the actual data collection activities. Piloting led to only minor changes in tools to do with the language used, not to changes in the content of tools. Therefore, during the analysis, we included results from the pilot research.

2.3.2. Actual data collection

All interviews were conducted between May and July 2017. The IDIs and KIIs were conducted as one-on-one interviews, while the FGDs were conducted with a facilitator of the discussion and a note taker. These interviews and discussions took place in an environment that allowed sufficient privacy and in which the participants felt comfortable in expressing their views. All data collection activities were conducted in Swahili, a language spoken by all study participants. To allow for detailed coverage of the information, all interviews and group discussions were audio-recorded with the verbal consent of the study participants. In addition, detailed notes were taken during the interviews and discussions to supplement the audio recordings. To protect their identity, the study participants were asked to use an

alias, not their real names. The audio-recorded versions were transcribed verbatim into electronic Word documents within 48 hours of their being generated. This allowed easy follow-up and clarification of issues as they emerged during the course of the data collection activities. The Swahili documents were then cross-checked against the audio records for their quality by the data collection team leader before embarking on data analysis.

2.3.3. Data analysis and validation

The analysis of the data was a continuous process by formulating tentative themes and sub-themes during and after the data collection. The data was coded according to sub-themes and finally grouped into main themes. This thematic analysis was conducted by identifying, analyzing, and reporting patterns (themes) within the data. This process was conducted deductively and inductively using the Swahili versions of the transcribed transcripts. Only the quotations that are used in this report were translated into English language. The analysis was carried out by two senior social scientists who were part of the data collection team and who reached a consensus on the meaning of the texts.

Next, as a validation strategy, the analysis results were fed back to parents/caretakers in the mining communities and to the ward development committee (Ward C) members. This was done in two separate meetings in each of the districts, in September 2017. A total of 48 individuals participated in the parents meetings (Chunya, 15; Bukombe, 18; and Songwe, 15).

Ward C members included all village/hamlet chairmen and professionals working in the ward, such as ward executive officers, ward education officers, ward livestock extension officers, village executive officers, council leaders, division secretary, religious leaders, and planning and community development officers from the respective districts. Forty-nine participants were involved in the Ward C feedback meetings (Chunya, 16; Bukombe, 18; and Songwe, 15).

The process started by the research team presenting the findings on specific themes. Participants were then asked to contribute and share their views, knowledge, and opinions on every single message delivered. Participants were also given chance to modify and confirm the key findings presented. All research findings presented were validated in the meetings and a very few new issues emerged, suggesting that initial data collection had been both thorough and valid. New issues that did emerge are included in Section 3.

2.4. Ethical issues

The study was given ethical approval by the Ifakara Health Institute Institutional Review Board and the National Tanzanian Medical Research Coordinating Committee of the National Institute for Medical Research. Permission to conduct the study in the study sites was sought from the district authorities and from ward and village executive officers in the respective study sites.

Written informed consent was obtained as follows: The information process addressed the right of potential interviewees to consent or refuse to be interviewed, the right to stop the interview at any point, an estimation of the length of the interview, non-payment terms for participation, and confidentiality of the information provided by the interviewee. Written consent to participate in the study was obtained from all study participants. In all cases, if the respondent was illiterate, he/she provided a thumbprint in the presence of an independent witness, who also signed for verification of the informed consent process.

Consent for child or adolescent participants was sought through their parents or guardians. In the absence of a parent or legal guardian, the government official or the community leaders in the study site where the child resided was requested to provide consent on behalf of parents/guardians. Apart from parents'/guardians' approval, children and adolescents themselves were asked for a written assent.

All data and the audio recording were de-identified from the outset with a unique identifier, and none of the interviews and discussions could be linked to the respective individuals.

3. Research Findings

This section provides a synthesis of research findings. Quotations from stakeholders/study respondents about the discussed ideas/results are provided in highlighted boxes to express respondents' own voices.

3.1. Stakeholders

The study observed several stakeholders in the community who are either directly or indirectly engaging children in undertaking the mining related activities. Those include:

- Miner owners: People who owns the mine pits, crushers, and mine washing areas and people who collect the earth leftover after the sand has been processed for gold using mercury
- Miner groups who join efforts together for doing mining activities, for example the *Washirika* group in Bukombe
- *Mama Lishe*: Those who own food stalls, cook, and send food for selling to the miners in the mining sites
- Bar owners: All people running bars and restaurants
- Child miners: Children who either work directly with the minerals or provide services to support mining activities
- General members of the community within the mine sites: It is seen in the study that any community member can be a potential child employer as long as he/she has *mzigo*, stones to be processed for gold.

3.2. Community definitions of a being child

Ideas, opinions, views, and attitudes on who is perceived as a child in the community were explored during the FGDs. In expressing their opinions, the discussants frequently made a reference to the Tanzanian government regulations or statutes that defines a child as anyone from age 0 to 18 years. However, they further said that the age of a person is not the only criteria used to consider someone a child in the setting. In elaborating on this, different ideas and views were expressed. The majority reported that a child is anyone from age 0 until he/she finishes school. Some said that a child is identified by his/her behavior (childlike behaviors) and/or when he/she is totally dependent on his/her parents or caretakers for basic needs and survival. As opposed to boys, it was pointed out that a girl is considered a child when she is 0 up to 13 years because girls are more likely to start bearing children at the age of 14 years. In general, in the study settings, persons aged 15–18 years who do not fall under the characteristics pointed above are not considered as children; they are perceived as a grown-up and are allowed to assume adult roles and responsibilities. In addition, being a student is an important characteristic for considering someone a child, while graduating from school is a sign of getting into maturity, thus no longer being considered a child.

The government's definition, that anyone below 18 years is a child, doesn't apply in this environment, in our setting one is considered a child based on whether he/she is schooling or not.
– Men's FGD, Songwe

In this community, one is considered a child when he/she is aged 0 to 13 years, it means a person who is not yet able to depend on him/herself, from there he/she is considered as an adult because he/she already started to engage him/herself with other social and economic activities such as mining and other engagements in relation to this environment.
– Women's FGD, Bukombe

The law says a child is any person aged 0 years up to 18 years, but now we fail to say this for sure ... in our settings here you find a girl of age 14 is already married, the same thing that you see for an 18 years old girl, as such we fail to understand, this is why we say at age 14 a person is already an adult.
– Men's FGD, Chunya

At Itumbi, it is okay to say children are those aged up to 14 years but you also find children of the same age category of 14 years already assuming adult roles like mining. – Women's FGD, Chunya

Because at age 14 the majority already have their own children thus you cannot call someone with a child a child.
– Men's FGD, Bukombe

3.3. Perceived rights and responsibilities for children

The study participants had a shared understanding of the appropriate activities for a child to do. It was spontaneously reported in the FGDs that children are required to attend school and thereafter to support their parents with doing some household chores. The same views were expressed by the community leaders involved in the IDIs, who reported that education is the primary responsibility of a child because they believe schooling could improve children's future. In addition, they said, after school hours and during weekends, children are required to help their parents in doing household activities, such as washing utensils, cleaning, washing clothes, taking care of their younger sisters and brothers, fetching water, and cooking. While education was perceived as a basic activity appropriate for a child to do and contributing to a child's own mental development, the involvement of adolescents in assisting their parents with household activities was perceived as a way of preparing them to be responsible adults

It is the child's right to attend school because education is his/her only inheritance.

– Women's FGD, Bukombe

They need to be in school to get skills to develop their mind, they need to grow mentally.

– Men's FGD, Songwe

When they are back from the school they have to assist their parents with the normal household activities such as washing utensils, washing clothes, cleanings, cooking, and taking care of younger siblings as well as other small activities at the household.

– Women's FGD, Chunya

The need for children to attend school was also expressed by the children themselves, especially those who are currently in school, who say that going to school and assisting parents with light duties are the appropriate activities for them to do.

A child needs education and time to do revision, they need to assist their parents with light duties and not the tough work in mines, mining work is a very tough job.

– Adolescent girl not working in mines, 14 years, Songwe

The fist priority is schooling because it does not harm a child rather it prepares someone to have good knowledge for his own future. I also think it is okay to help parents with the small activities at home because those activities do not disturb brain and are not that tiresome.

– Adolescent boy not working in mining, 15 years, Bukombe

It was mentioned that parents are obliged to ensure appropriate care and love to their children.

It is the parents' responsibility to take care of their children and not to let them work, they are kids they just need love and care.

– Women's FGD, Chunya

3.4. Community perceptions of child labor

Child labor in the study was perceived by the majority as any engagement of a school-aged child into activities with the intention of earning income.

It's when you find a child instead of going to school he/she engage into activities with the intention of earning money whether on her own decision or that of his/her parents.

– Women's FGD, Bukombe

Some participants mentioned child labor as any involvement of children into undertaking activities that will take them out of school.

Engagement of children into activities that will take them out of school or into income earning activities before reaching adult age.

– Men's FGD, Songwe

Participants reported that children are engaged in several activities that in one way or another affects their studies: animal-keeping (Bukombe), agriculture (Chunya), fishing (Songwe), and mining-related activities. The latter was reported as commonly practiced across the sites.

It was a common perception expressed in the group discussions that it is not okay to engage children into activities that will deprive them of their studies. Engaging children in doing tough and enduring activities, such as those related to mining, was also condemned. This is because children are perceived as less mature and very fragile, hence they can easily get hurt.

Despite such widespread belief on the dangers inherent in mining work to children, the engagement of children in mining-related activities was reported as a common phenomenon in Kerezia, Itumbi, and Saza communities. During FGDs and interviews with influential people and community leaders, it was asserted that child labor in mines is rampant in the study sites and children are engaged in a variety of activities. This was evident to the research team during the site viewing tour, where many children and adolescents were observed working on various mining activities.

Study participants pointed out that the on-going mining activities in the settings have negatively interfered with the majority of the children's decision to attend school. This is because, they said, when a child starts engaging in mining activities she/he becomes used to earning income and this makes going back to school of less priority to them.

After children getting used to these mining activities, they become motivated with the earnings and when parents try to discourage them on what they are doing and that they should go back to school the response is "EURO first, schooling later."

– Women's FGD, Bukombe

They don't listen to you even a little.

– Men's FGD, Chunya

Similar remarks were made by the out-of-mine children. After children and adolescents engage in mines, they said, they do not see the reason on why they should come back to school.

When they get used to earning income it becomes difficult to stop them from working and if you try to do that, you can hear them saying "why should I come back to school? ... There is money here."

– Adolescent boy not working in mining, 15 years, Songwe

Some of the child miners themselves had different opinions, though. Some find themselves doing mining activities because they do not have a choice. This was said explicitly by two of the child miners, who reported to work in the mines only because he is in need.

Nothing attracts me on this job, I just do it because I am in need. And what I dislike in mining activities is that situation of digging without getting the best interest, you are getting tired or sometimes you miss the gold, at times you are not paid or you're paid less than the work you did.

– Adolescent boy miner, 14 years, Chunya

I am just working but I am not satisfied with the payment, I only work because I am in need.

– Adolescent boy miner, 16 years, Bukombe

Opinions on whether the parents and the general community members approve of child labor in the study settings were mixed. Some participants in the interviews believe that there are parents in the community who approve of child labor. The participants said some of the parents actively send their children to work in the mines or tacitly approve.

Some parents are sending their children to work in the mines to earn them income.

–Community leader 1, Bukombe

They see their children going there [in the mines] but they say nothing, they don't bother.

– School teacher, Chunya

Some parents appreciate their children when they bring money home so it gives them a heart to continue.

– Influential person 6, Songwe

The miner parents believed child labor is not approved in the community; rather children are working in the mines without their parents' knowledge or consent.

Children ... they skip from home, parents do not know where they are.

– Miner parent 1, Songwe

I tried to stop him from going in the mines but he doesn't want to hear.

– Miner parent 2, Bukombe

3.5. Who are child miners?

3.5.1. Demographics

Child miners are both girls and boys and are reported to start working in the mines from the age of 7. Kids younger than that accompany their mothers. The household structure of children working in the mines varied and CIM included orphans, children from single parent households, and those with both of their parents alive. Group discussants mentioned that in the mine sites you find many young children. Some are just there playing waiting for their parents to finish work, while others are there helping their parents assembling stones.

You find a kid is busy carrying stones to the crushers, sometimes helping parents but also people do ask them to help ferrying their materials either to the crushers or washing areas for a small earning to just buy food, when you look at the kid it is almost more or less 7 years.

– Men's FGD, Bukombe

Most of the children who are doing mining related work starts from 10 years, however, you also find those less than 10 years working there—some of them are not there for anyone, they are not digging pits, but they are just there for themselves or accompanying their parents, and while there you see them also looking for stones and assisting parents ferrying the stones to cutting and or crushing machines. Finding a 7 years boy carrying a tin of stones for his parent or stones that he actually found himself is not a surprise here.

– Women's FGD, Chunya

The FGDs and KIIs with influential people revealed that some of these children were exposed to the mining activities at a tender age when going to the mines with their parents who are themselves doing mining activities. For example, in all sites, it was cited that some of the nursing mothers who are engaged in mining activities often bring with them their younger babies and the slightly older children to the mine sites. The older child is expected to assist the mother in taking care of the baby while she is working because they can't find someone to leave the baby with at home. The exposure of the child to such an environment was referred to as an orientation exercise to the child. This was reported to nudge some children into mining.

Some of these children you see today in the mines have been in such environment since they were very young... It is normal to see a woman with a baby on her back going to the mine sites under the escort of the older child who goes there to watch over the younger baby. When the baby is asleep, the older child starts moving around looking for the wasted stones that are suspected to have minerals. What the child finds also becomes a supplement to what the mother found and the earnings of the day. As such when a child grows up it becomes difficult to stop him from doing such activities because they have been doing it with their parents and of course, that is the only thing they knew it earns income to their family and supports their survival.

– Community leader 4, Bukombe

The practice of mothers taking their babies to the mine sites was mentioned as not only orienting their older children into the mining activities, but risking the health and lives of their babies, sometimes leading to terrible experiences.

There was one incident in which a mother went to the mining site with her baby. She placed the baby aside as she was sorting lucrative stones. As that mother became occupied with the activity, the child was slowly crawling, she reached the edge of a pit and she eventually fell in. The mother sensed something falling when she looked back to her child. She could not see her and did not hear the sound anymore. She started crying, when people came, they checked into the pits around, the baby was in one of those, the baby was found down in the pit already dead.

– Health care worker 2, Songwe

On the other hand, some of the miner parents said they involve their children in the mining activities so that they get help on what they, parents, cannot do. This practice was reported as a common trend in the study, especially among mothers.

When I leave home I normally leave with my child who is 10 years old. He helps me to ferry sand, I get into the pit myself and get the sand out, then he ferries the sand to the crushing machines. After crushing he helps me with the washing and amalgamating the gold with the mercury, because I do not know how to wash and amalgamate.

– Miner parent 1, Bukombe

3.5.2. Schooling

Working in the mines was reported to cause absenteeism, dropout from school or lack of enrolment altogether. School dropout was further detailed as being especially common among secondary school students. Also there are those who finished their primary school, but did not have opportunity for further studies. Children can be either working on their own or accompanying their parents.

Some children are as young as 7 years, you find them there—some of those were not even taken to school, others are even at standard two, or three but they don't go to school, they spend their day in the bushes, some are involving themselves into crushers mabowmel ... it is just like that they are there ... you find students there, those who finished school there... some of them they leave home dress as going to school but on the way they change and go to the mines ... they find school as delaying them to earn money... when people see them there, they do not bother, they see it like a normal thing.

– Men's FGD, Songwe

It was expressed in the study that many students skip classes and or stop going to school to do mining-related activities. The out-of-mine children who are currently in school mentioned that some of their friends are not attending school regularly and instead are working in the mines. The school teachers' interviews attested to this. Teachers bitterly condemned the practice of engaging children in mining activities. They said the ongoing mining activities in their surroundings are a major cause of child labor in the community and the main driver of absenteeism and dropout from schools. Mining was also reported to have negative consequences to the academic performance of the students because of inconsistent school attendance. It was added that even when the miner students come to school they are too tired to concentrate in their classes.

They cannot even listen to what you teach ... you find they are sleeping in the class ... I normally call them in the office and when you ask he/she starts saying teacher, yesterday I was in the mines, therefore that tiredness from working in the mines affects him not only on his health but also on his studies and school performance in general.

– School teacher, Songwe

The issue of student absenteeism from school to work in the mines was also reported by the child miners themselves. A 15 years boy, of standard seven, explained how he manages his time between school and mining activities.

After coming back from the school at 14:00 hours I come down here to work, at 19:00 pm I go home and I start doing my school work until 23:00 pm then I sleep ... I get tired, sometimes I can't work on my assignments, and some days I just don't go to school because I find myself too tired but this is life, I have to work and get some money to help myself and also my mother ... Today I did not go because the school is closed, now I do my work freely.

– Adolescent boy miner, 15 years, Songwe

School teachers also added that the students who are engaging in the mining activities develop unruly characters and attitudes, different from what is seen among other students, both toward their peers in school and the teachers.

The difference is that those students who work in the mines they develop a rough spirit, and they become very aggressive and cruel to their peers. Another thing is they develop confidence and because they have money they feel like they are equal to teachers.

– School teacher, Bukombe

3.6. Reasons for and context of child labor in mines

Poverty was the main reason for child labor in the mines. Several other underlying reasons were reported: divorce/broken marriage, less priority placed on education by parents, the social context in which children are raised, and parents working long hours and leaving their childrens to care for themselves.

3.6.1. Main reason: Household poverty

Household poverty was frequently cited across the sites as the reason why children work in the mines. It was reported that the household economic situation and life's hardships influence boys' and girls' decision to look for work in the mines.

The reason that children do the mining activities is due economic and life hardship, it is the prevailing household poverty that pushes them away from home, they want to earn money and live their life.

– Community leader 5, Chunya

They want to earn income to live their life.

– Women's FGD, Bukombe

Some parents fail to provide for their children leaving them to care for themselves as such making their children to stop school and work to augment family income.

– Community leader 8, Songwe

Study participants expressed that for the majority of the households, parents are unable to provide their children with basic needs and, as such, children are forced to work to earn income to support themselves. It was pointed out in the FGDs that many of the working children have poor access to food, clothes, school materials, and other necessities, a condition that pushes them to seek an earning job. That children are working to support their life was a common expression in the study. This was also confirmed during the interviews with the school teachers, who said that most of the working students in the schools are coming from poor households.

Some children here, when they go back home from school they find nothing there; no food, no what; then they decide to go in the mines at least to find some money to buy food. Yah that is the situation, most households here are poor.

– School teacher, Chunya

Most of the students in the school are working to get money to buy food and clothes.

– School teacher, Bukombe

The discussions with the child miners on why they decided to engage in mining activities were in line with what other study participants reported.

I decided to come and do this work in the mines because of poverty. We are poor, my father is sick, and I also live with my grandmother and my younger siblings. There is nobody who can assist the family, they rely on me. I had to search money for family needs that includes also treatment for my father ... He is epileptic.

– Adolescent boy miner, 17 years, Bukombe

I thought I should not disturb my parents asking for money. Let me go and work to assist them as they did not have enough to cover for my school expenses like purchasing shoes, uniforms and frequently at home we were going to bed with empty stomach.

– Adolescent girl miner, 13 years, Bukombe

3.6.2. Divorce and broken marriages

Divorce and/or broken marriage appeared in the study as one of the underlying reasons contributing to families' failure to provide their children with basic needs, thus shaping childrens' decisions to go into mining work.

My parents got divorced, I remained with my mother together with my two sisters. We had to go and live with my grandmother but there we did not stay long, we moved here. I started my primary school here. My mother had a business she was selling charcoal and rice burns and this enabled my schooling till when I reach standard 5 [age 12 years]. As you know sometimes business can shake and this is what happened to us, sometimes we were sleeping without eating anything. I couldn't tolerate to continue with the school. I saw my mother struggling a lot and still she would come back home with empty hands. I had to decide to work to support her and my sisters.

– Adolescent boy miner, 18 years, Bukombe

Cases like this are not unique; many children and adolescents working in the mines experience the same. During the discussion with the influential people in the community, it was learned that when there is gold depletion in the mine sites, the majority of men migrate in search of the new sites or to other places following the good news of a "gold rush." When they move, they leave their families

behind. They said that when men reach the new places, in most cases they establish new relationships and start families, forgetting about the wife and children they left behind. This was expressed to be the cause of most female-headed households in the study communities. Mothers struggle practically and psychologically to raise children on their own, and children experience socio-psychological consequences for not knowing their fathers. As such, it was said, because of the economic hardships it is not surprising to find a mother and all of her children looking for stones in the mines.

You find a man has abandoned a family with say six children, it is not easy, as such you find the mother with all her six children there.

– Influential person, Songwe

3.6.3. Education as a low priority

The majority of the discussions with the district officials, community leaders, school teachers, and influential people in the community suggested that taking children to school is less prioritized by the communities in the mining sites. This could be explained by the temporary and mobile nature of the mining communities and their activities. Most of the miners are mobile and their stays are always temporary as they move to new mine sites in the bushes, where services, including schools, are limited. Also, the mobile nature of this population group may make it difficult for them to make long-term commitments such as sending children to school.

Education is less prioritized here, everyone thinks about gold, sometimes you find a household where both parents are miners—morning to evening are in the bushes looking for gold, do not have time—children they are left to care for themselves.

– Mine owner 1, Chunya

Ideas that some parents in the mine sites discourage their children from performing better in schools were also raised. During the discussions with the school teachers and community members it was noted that parents tell their children to not do well in class, with the reasoning that if the child passes to join secondary school, the parents do not have money to support them. This kind of behavior demoralizes students from working hard in their studies and causes them to give lower priority to their schooling than to mining activities.

3.6.4. Children's social context

The small-scale mining activities are spread all over the study sites. The majority of the residents in the mining communities are reported as either currently engaging in mining activities or have at one time in their life been doing mining-related activities. In fact, it was mentioned that most of the communities surrounding the mines had evolved as people were migrating to the place to do mining activities. The FGD participants reported that mining is a valued undertaking and most of the community members believe that mining yields the best earning.

The community leaders' discussions noted that parents in the community are not surprised to see their children working in the mines because this is the life trajectory they also followed. Most of the community members were reported as being miners themselves. It was revealed that the small-scale mining activities are appreciated and rationalized in the study settings. During the FGDs and IDIs with the community leaders, school teachers, mine owners, and district officials and the KIIs with influential people, it was frequently suggested that the social context and the environment in which most of the children are raised plays a significant role in their decision to engage themselves in doing mining related work. The phrase "children copy from their parents and what they see other members of the community doing" was a common response.

The majority of the families in this community are involved in mining activities; this is the main activity here for both men and women. So, children learn from their parents and start practicing slowly. They copy what they see people doing in the community. It also surprises [me] that some of the parents do not question the whereabouts of the child, and other parents ask their children to go and help them with the mining activities; especially mothers, they do this without knowing they are psychologically preparing their children to undertake the same activities later in their lives.

– Mine owner 1, Songwe

To understand better the family context of the child miners in the study in relation to mining activities, children working in the mines were asked who else in their families do mining activities. The majority

of child miners had at least one family members currently or formerly engaged in mining-related work. Those children with parents and/or relatives currently engaged in mining-related activities either worked in the same mines as that family or in mines found in other communities.

On the other hand, it was interesting to learn that not all parents working in the mines wished for their children to become miners. In Kerezia, for example, one of the miner parents expressed that not only is mining work too tough for a child, but the mining environment and culture is not something beneficial to expose children to.

The same opinion was shared during the discussions with children who are not currently engaged in mines. Some of these children not working in mining reported that their parents completely forbade them to even visit the mine sites because the parent's believe that if children are allowed in the mines, it would not be easy for them to focus on their studies.

Both my step-mother and my father are working in the mines, but myself I have never been in the mines or even visiting them on their mining site. [Why?] Because my father doesn't want to see any of his children going or working in the mines. Yah because he says when a child starts doing the mining work it will be difficult for him/her to continue well with studies.

– Adolescent girl not working in mining, 16 years (in form 3 secondary school), Chunya

The findings from the community leader interviews suggested that household poverty in the study sites is shaped by the unreliable nature of household income earning. Small-scale mining activities were reported as the main source of income in all the three mining sites visited. Despite the available arable land, agricultural and farming activities are considered as supplementary activities and are conducted at minimal scale. This is because of the widespread perception in the community that one can earn more income within a short time from mining activities than from farming activities because farming activities takes long time to mature and good harvests are not guaranteed. When gold production seizes because mines get depleted, the consequences to the households are dire because they have little to fall back on. Children and adolescents become victims of this situation.

3.6.5. Parents being away from their children for a long time

Participants in the study believed the absence of parents from home to care and provide guidance to their children gives children freedom to do whatever they wish, including engaging in mining activities. Some of the child miners were reported to engage in mining activities following their peers simply because they had no one to question their practices. This was confirmed by one of the miner parents in Kerezia, who said that her child started running away from school to mining activities when she became too busy travelling to the other regions for business and that she had no time to stay home and care for her children.

When gold production here declined I started a business of buying and selling agricultural produce like maize, beans, Irish potatoes, tomatoes and cabbage from other villages to Tabora, [nearby region]; as a mother, I did not have time to be at home for almost three months. I didn't know that my son was then no longer going to school because he was leaving home dressed in school uniform as usual. It was only when teachers called me asking for him that I realized he is no longer going to school. We looked for him and we found that he was in one of the mwalo washing gold; we had to take him back to the school. I tried to talk to him because he was doing very well in class and I did not want him to stop school. I did a lot of counselling and advising him that he should first concentrate with the studies and plan to work in the mines at a later stage. He, however, continued skipping classes for mining activities and he kept changing the mwalos whenever he noticed we are following him—because he was so bright and doing well with the classes, his school teachers did not trust me that I don't know where he is, they thought I sent him to work, as a result they had me in lockup. I stayed there for one full day, and they were insisting that what they wanted is the student to be known where he is and seen. I was confused not only because of the teachers or because I was in lockup but also about my son, luckily, they found him in the nearby village. I had to stop the business to stay at home all the time. He is already in standard 6 now, hopefully he will settle his mind now and concentrate on his studies.

– Miner parent 2, Bukombe

3.6.6. Inspiration from peers

Inspiration from other child miners who are perceived as successful in life because of mining-related activities pushed some children to engage in mining work. Children admire possessions of their peers purchased with income from mining work and want to have that. It was further commented that some of these children are not necessarily from the very poor households, but they know for sure that their parents can't afford to provide them the things they want and admire.

Sometimes you find the economic situation in some households is not that bad but it is only because the child has seen his colleague with for example a smart phone, good dress and has money for free spending, he sees like the fellow has been very successful and wishes to be like him/her. As such you find one making a decision to also go and work in mines to earn his own money so that he become free to buy things he wants like those of his peers.

– Community leader 8, Songwe

It is like that, you find a child at school doesn't have money but h/she sees his colleagues purchasing and eating buns, sweets and such things, and h/she knows his own parents can't afford to provide h/her with money to buy such things. When he thinks of that he decides to join his peers in doing the mining related activities so that he also gets money. When h/she comes back to the school with money and shows that to the other children they also admire and follow the same chain. So, it goes like that for the majority and as a result you find many students are working in the mines.

– Adolescent girl not working in mining, 16 years (at form 3 secondary school), Chunya

Another thing we see here is the students desire to own smartphones, they want to buy phones for chatting with their friends, we have those cases here in school and are fighting them, so you find a student didn't come to school rather he goes to work in the mines so that he gets money to buy a smart phone and it cuts across even to girls; some of them work to get money for funny things like that.

– School teacher, Bukombe

3.7. Where child miners come from

The child miner population is perceived to be as mobile as the adult group. Participants reported that the working CIM include those who are coming from within the mining site communities; those from nearby villages, wards, and districts; and those who immigrate from near and far regions. It was said that the child miners migrate into the mine sites with their parents or come on their own to try their luck. However, none of the participants across the study sites mentioned presence of child miners from outside of the country.

Most of them are born and raised here.

– Influential person, Saza, Songwe

Also, there are those from nearby villages and wards are found here.

– Community leader 3 Kerezia, Bukombe

The children and adolescents who work here are coming from different parts of the country in search for a living.

– Community leader 4, Bukombe

In this place, you find people from all over, they come looking for fortune and so are the children and adolescents, some of them were born here, others come with their parents who are also miners and settle in this place. We also have those who come on their own to try their luck.

– Community leader 5, Chunya

Miners are very mobile, don't be surprised to learn these adolescents started their engagement in mining activities say in Itumbi now they are in Saza and tomorrow you find they are in Nyarlugusu, they move following where the prey is.

– Community leader 8, Songwe

It was further elaborated that the influx of miners, including adolescents, from other locations to the sites becomes so obvious when the mining sites experience gold rushes because word of mouth spreads fast. An example was given with reference to a newly established mining site in Bukombe district.

When the information spread about the availability of gold here in three weeks we had more than three thousand people on site, and in a month, they were more than five thousand and this included adolescents both boys and girls, many of them—you will be surprised—with the

telephones—it is just like a blink of the eye—information spreads so quickly and everyone will be rushing to come here, the site becomes so full.

– District official, Bukombe

When there is a gold rush you cannot find a place to pass in this street, it becomes too congested. People from all over the country are found here and so are the children and adolescents, this place becomes overloaded, it is when you see there is life here.

– Community leader 2, Bukombe

The community leaders added that some of the kids who arrive following the gold rush news are too young. They run away from home and can stay as much as a week without going back home, until their parents come looking for them.

Most of them are too young you can't even trust them to care for themselves but have already entered into mining activities, and can disappear from home for even a week and it is not known where they are, parents struggle to find them, sometimes they fail, just to find they are in the mines.

– Community leader 4, Bukombe

3.8. Where child miners stay

Where child miners stay in the mines depends on how they reached the mine site. Those children who live closer to the mining sites do not need shelter at the site; they normally go back home after work. These children stay with either their parents or caretakers who reside in the communities within or close to the mine sites. Most of the children coming from the distant villages or districts stay within their working area, such as gold flushing areas (*mwalonji*) or the areas surrounding the crushers or near the mine pits where adults also stay. Some adolescents are reported to stay with their friends or relatives who are either locals to the communities within the mine sites or have been residing in the mining areas for quite some time. Most of the girls from far areas are reported to stay where their bosses stay. Ideas that some child miners stay alone in rented rooms or in plastic made tents were also expressed. It appears that miners, including children and adolescents, always find somewhere to stay.

Some stay within the gold crushing areas if they are employed there, others stay within the surrounding environment near the mine pits, in general, they stay in their working areas ... those from nearby places commute from home to work but those from far areas it is a must to stay and they can stay anywhere depending on how they reached the mines.

– Men's FGD, Bukombe



Camps/tents where miners stay

3.9. Logistics of securing and participating in mining work

3.9.1. Types of work child miners do

Children and adolescents are reported to engage in a variety of mining-related activities, including digging and drilling in “short-base” (wide and shallow) or “long-base” (narrow and deep, sometimes unstable) pits, ferrying bags of gold ore extracts from the pit areas to drying and cutting areas, moving the smaller stone to the crushing machines, managing the crushing of the gold ore into powder, and flushing/washing the gold powder with water to concentrate the gold. After concentrating the gold, they further mix the concentrated gold powder with mercury and water, and the mercury extracts the gold particles, creating an amalgam. The older children are reported to also be involved in burning the

amalgam to evaporate mercury and recover gold. Furthermore, children are involved in selling different items including fruits and fetching water in the mine sites. Children are thus involved in all spheres of gold processing activities, the work termed by a 14-year-old adolescent girl in Songwe not working in mining as “tedious and draining work.”

My activity involves cutting of stones ... I start a by collecting stones, after collecting stones I fill them into a sack and when the sack is full I cut the big stones into small sizes. Thereafter I take the sand to crushing machines for crushing to get the powder, after getting the powder substance, I wash it with water and that mercury, and then I get the gold. I then sell it and get money.

– Adolescent girl miner, 13 years, Bukombe

Sometimes I take out stones from down, when I stand on the surface there is usually someone down in the pit who packs the sand into tins and I pull up and pour the sand down, I can pull like 50 or 200 tins, and these, after being crushed and washed one can get about 3.1 points of gold [0.3 grams] from each tin ... It is normally a pair or 3 people [who work together] and together we can carry about 50–70 tins, from there we cut the big stones into small pieces before taking them to the crushers for crushing to release the powder. After that I mix the powder with water and mercury to make the amalgam; then I take a piece of cloth to squeeze the mercury out and get the gold. I burn this to release the vapor that goes out with the mercury and then we remain with the pure gold to sell and get money.

– Adolescent boy miner, 15 years, Songwe

Several heaps of earth leftovers were observed in all visited mine sites. These were reported as being sold to people with “plants” for further gold extraction, a process for which they use cyanide. It was mentioned in the study that mercury extracts only about 25% of the gold present in the stones, while with cyanide people one can extract the remaining 75% of the gold. Gold extraction with cyanide requires people with chemical skills and the process engages no children, though some mine owners do work in partnership with adolescent boys to collect the remaining earth onto trucks. “Plant” owners buy the earth remains and transport them with trucks to where the plants are located. There were few “plants” observed during the data collection activities and none was located within the mine sites.



Earth remaining being dried

3.9.2. Gender disparities in mining activities

Although both boys and girls are reported to work in the mine sites, there is some differentiation by gender. While boys can work in both underground and surface mining activities, girls are more engaged in surface mining, such as sorting of the lucrative stones, cutting stones into small sizes, and ferrying the materials for crushing and to the washing areas. In some occasions, girls involve themselves in short base mining activities. It was expressed that none of the employers engages girls in washing and amalgamating gold, and if girls perform these activities, they normally do that for themselves. The same was reported for grown-up women in the community.

The reasons for not engaging girls and women in washing, amalgamating, and burning of the amalgam were rarely expressed even after probing. “It is just like that” was the common response. However, some participants noted that some people in the mine sites perceive menstruation as something that can blind people from not seeing the gold mineral. And, because it is difficult to tell whether women and girls maybe menstruating, they thought it is better to not engage them at all.

In addition, it was reported that girls, but not boys, work in food stalls where they prepare and cook food, sell the food to either people within the communities surrounding the mines, or transporting the food to people who are working in the mine pits in the bush. Some of the girls are directly hired by mine owners to cook for the people who are working in their camps. Girls also work in the restaurants and bars as bar maids. It was reported that girls work as commercial sex workers in the mine sites. In most cases the adolescent girls who work as commercial sex workers were said to be from outside the

mine community and this was thought to be because they want to reduce the likelihood of being identified, thus facing stigma.

3.9.3. How long child miners work

There is no specific work duration reported for the children working in the mining sites. They are said to work at any time of the day, either after school hours or on the days that they skip going to school (for those still in school), and during weekends and holidays. Participants said that mining activities are conducted throughout the year. However, the intensity and magnitude of the activities is said to differ between the periods with gold rush and during heavy rains. It was mentioned in all study sites that during heavy rains, long base mining activities stop and miners concentrate more on doing short base and other gold processing activities.

Such works has no seasonality; they are there for the entire year... anytime you feel like, you just go and work.

– Women’s FGD, Songwe

During rainy season miners don’t go deep into the pits because the sand is soft and pits are filled with water thus it becomes more risky, but during dry season like now they go into long base pits and these produces more gold thus they earn more money.

– Women’s FGD, Chunya

The mining activities do not stop completely, you will always find people working there ... it is only the intensity of the activities that decrease but people do mining throughout the year—you get gold and money.

– Men’s FGD, Bukombe

Absenteeism thus follows the same pattern as expressed by school teachers and FGD members.

During dry season, it is when many children misses school because most of them go to work in the mines and we do experience the same when there are news about the gold rush.

– School teacher, Bukombe

Often children are tempted to run away from schools during dry season to work in the mines because during that season the probability of getting gold is high ... although there are those kids who are in the mine always but you also see many of the fresh faces during the gold rush.

– Men’s FGD, Songwe

Information on how long children are engaged in mining activities and whether they take any leave was also collected. It was mentioned that the hours of work depend on what the child is doing and for whom. For those children working with and for their parents and/or relatives, the parent/relative decides when they go to work and when to end the working day. If the child is working for his/her own gain, there is no one who controls the working schedule; it is the child’s own decision to go or not to go for the work and when to start and end the working day.

It was also mentioned that the time and duration of work for the child depends on when the child finds someone to offer him a task to do. Those who are working in the crushing machines work under a supervisor “foreman” who prepares a pre-determined working schedule. The normal routine of a working day in the crushers was reported to start at 8:00 am and ends at 6:00 pm. Working hours also depend on the gold production level. During high production gold rush seasons, children and adolescents endure longer working hours than during the low production season; they end the day when the work is done or it gets dark.



Sacks waiting to be ferried

Children's and adolescents' contractual working arrangement, similar to those of adults, are reported to be informal and organized at individual level. All the interviewed child miners reported to work on verbal agreements as casual laborers; none had entered into any formal contract with his/her employers. As such, a child is free to decide on the days he/she wants to work.

Group discussants expressed their concerns that there are children who work in the mines during the night, saying some children skip from their home at midnight to go work in the mines. With the use of flashlights, these children were reported to sort out lucrative stones from some people's short base pits and ferry them to either the crushing areas and or to hide them somewhere. When the pit owners come to their pits the next morning they find everything has been taken out. In explaining this, participants said that it is older adolescents (15 year and above) who normally do this. They are reported to steal the lucrative stones either for themselves or they are sent by other people to do it for them. The interviews with the district official in Chunya for example reported that because of their small body sizes, adults send children to steal stones from the pits of other people during the night and when these children are caught by the owners, they are punished severely.

3.9.4. How child miners secure jobs in the mines

It was reported that the children who work in the mines secured the job on their own, with their parents, or through friends. The majority of the mine owners said they frequently get requests from children who are looking for anything to do to earn money. Some of them come with their parents.

Sometimes a child comes asking Dad I am looking for work; when you look at him you feel that he can work so you just give him something to do.

– Mine owner 1, Bukombe

Some of these children came with their parents to assist them on what they are doing but with time they learned their way.

– Mine owner 2, Songwe

The majority of child miners said that they first entered mining by visiting the mines themselves and asking people if there is something that they can do.

I came here and ask people, 'Is there any work I can do?' ... then I was given stones to dry, I got money and went back home.

– Adolescent girl miner, 13 years, Bukombe

I came here and asked for a job to do.

– Adolescent girl miner, 15 years, Songwe

The practice of children, both boys and girls, acquiring their own jobs was commonly reported across the sites. Study participants also reported that some of the children enter the mines when they accompany their parents and/or friends who are also engaged in mining activities.

At first, I went with my friends, I started watching how they were doing ... then I started to go and to do it myself.

– Adolescent boy miner, 16 years, Bukombe

3.10. Payments for working in the mines

3.10.1. How child miners are paid

Payment is reported as being highly negotiable between the miner child and the person engaging him/her depending on the activity carried out. As explained earlier, the majority of the child miners are engaged on a piece-work basis as casual laborers on specific tasks. Payments are mostly done after a child finishes the assigned work in line with agreements and depend on the miners' fortune of the day. However, it was mentioned that when child miners work with their parents, the parent negotiates the price.

Similar to the payment for other mining activities, the payment to children working in the crushers varied depending with the person a child is working for. However, the payment arrangements are reported as daily, monthly, or anytime when the boss has the money and is willing to pay. It was also reported that there are children who collaborate with the people who own the washing/flushing areas. For example, they agree that an adolescent will be in charge of collecting remaining earth/sand to sell to "plant" owners on the condition that when the material is sold the adolescent will be paid a certain amount of money. The minimum duration for collecting the earth leftovers can be three months and

the waiting time for selling depends on the availability of a customer. During that time, the adolescents who collected the earth do not get any payment. These adolescents said they conduct other mining related activities, similar to those done by the other children, to earn income for their daily survival.

It was further noted that the verbal agreements between the child and his/her potential employer, organized on an individual basis, are not witnessed and as a result it becomes easier for the boss to go against the agreements made. This was evidenced during IDIs with the child miners who reported to frequently experience problems with their payments, such as being offered low payment, being paid less than what was agreed, delayed payment, or not being paid at all. Because of their young age, none of the child miners in the study mentioned that they report any of those practices to the authorities. Most of the children who experienced unfair practices reported just leaving the matter as it is.

There is so much of unfairness practices here especially on payments, it really depends with the heart of the person. Sometimes you get someone who gives you work to do but he offers you lower rate or pay you less than what you had agreed and sometimes you may end up not being paid at all. This has occurred to me several times, but you just leave it if he becomes unfair ... Sometimes bosses are good, they tell you categorically that they were not successful, meaning they did not get gold out of the work you did, but also there are those who pretend they did not get anything while they did, they just want to be unfair. Sometimes this year I washed 15 sacks of sand for a certain man that we agreed would pay me 1,000 per sack, making a total of Tsh 15,000, but he did not pay me to date, it is now like 6 months already and he hasn't said anything I am just looking at him what can I do he is older than me.

– Adolescent boy miner, 18 years, Bukombe

It is the boss who decides about payment, if he decides to give you a hundred thousand or two it is up to him to decide, I cannot object, sometimes he pays only 80000/= and can stay even five months without pay we cannot do anything.

– Adolescent boy miner, 17 years, Bukombe

A female miner parent confirmed that there is no specific payment offered to children; they basically share in the profit.

They are normally paid depending on what is earned though it is very little, there is are no fixed amounts on payment, if the person earns more the payment to the work will also be a little higher but if the boss earns less, then the child may not get very good pay. The payments children get depend with what the boss earned out of the work the child did, if there was no earning the child may also not get paid.

– Miner parent 2, Songwe

The unfair payment practices were also reported for girls who work in the restaurants.

Some mothers are very stubborn especially during payments, I am supposed to be paid 60,000 per month but she finds it difficult to give me the whole money at once, she gives it in portions and on the rate that she likes sometimes she pays me like Tshs 2,000 each day such a way that you cannot be sure you get it all because she also skips some days in between as such at the end of the month I find myself with nothing.

– Adolescent girl miner, 17 years, Chunya

3.10.2. Deciding how earnings are spent

It was reported that child miners who work for themselves are the sole owner of the money they earn and are free to decide on how to spend them.

I decide by myself on how to use the money because it is my money.

– Adolescent girl miner who works in a restaurant, 17 years, Chunya

It is me who make decisions on how to use the money.

– Adolescent boy miner, 16 years, Bukombe

When probed on how they spend the money, some mentioned buying food; clothes, like good jeans, nice t-shirts, dresses, and shoes; videos and football games; and items to support their families.

I am paid tshs 2000 each day ... like the payment of today my mother already asked me to buy buns for Tsh 1000 and sugar for Tshs 1000, I bought them already and gave her.

– Boy child miner, 12 years, Chunya

I always send money to my parents and I use the amount that remains to buy food and clothes for myself.

– Adolescent boy miner, 16 years, Bukombe

In addition, those who are still at school reported using their earnings to buy school requirements, including uniforms and exercise books.

I decide myself on how to use the money, I buy exercise books, shoes and school uniform.

– Adolescent girl miner, 13 years, Bukombe

Some of the working children have plans to use their earnings to construct permanent houses or as a stepping stone to more formal work, like creating a business.

I already bought a plot, now I am planning to make my own house.

– Adolescent boy miner, 14yrs, Chunya

I really wanted this money to get into business, but now I fail because I find myself earning too little amount that is enough only for a daily use; if I had parents perhaps I would have been able to keep some of the money because they could have assisted me with some things.

– Adolescent girl miner, 17 years, Songwe

On the other hand, when community members in the FGDs were asked how children spend their earnings, some said that children and adolescents use the money for drinking alcohol, smoking marijuana, playing pool, buying smartphones, watching cinema, TVs, and for buying other luxurious things. Girls are particularly reported to buy things for their own decoration.

Different from the child miners who work for themselves, those who work with their parents and relatives reported to have little say on how to spend the income earned. Some of them mentioned they not even know about the amount earned for the work they do. A 15 year old female miner who shifted from her parents' domicile after completing her primary school education joined her sister who works in mines. She told us they work together, but she has no control over the income. Although her sister spends the money to buy food for the family, she thinks it would be fair if her sister gave her part of the payment.

3.11. Employers' reasons for hiring children

In the FGDs, the majority of employees who hire children for mining-related activities reported doing so because children are cheaper and easy to manage; they do not question. The majority of participants said that children are loyal, obedient, and less aggressive, so they're preferred by most of the employers. The community leaders and the influential people were of the opinion that people engage children because they are less skilled in negotiation, which leaves the employers with the power to dictate the price they want to pay, something that is impossible to do with adults.

It is easy to work with children because they do not know how to negotiate the deal and any amount that you offer to them it is money, so you are the boss and you can detect the price the way you want something that is different if you are to work with adults.

– Community leader 1, Bukombe

Wanting to maximize the profit margin was also cited as one of the reasons for employing children because children demand less pay and can work for a long time.

Those who work with children are looking for super profit because they know these children and adolescents are cheaper to engage and they can work for a long time with little pay ... as you know children do not think aloud and do not make calculations they just become happy with the amount they receive. For example, you find a child has worked for almost two years plus and he is paid something like eight hundred thousand only. Such an amount if divided over two years, you will find that the monthly pay is too little but since children are not judgmental, they are easily satisfied, so to a large percentage, these children are not benefitting anything, they are just creating wealth for the boss.

– Men's FGD, Chunya

Other participants thought that children are hired for mining-related activities because they are flexible and can do minor and repetitive activities.

You know when we work with children it becomes easy to send them to do the small things.... you know in the mining sites we also eat, so we need to cook and things like that, and if you have a child there to help it is easier to send him/her, for example, to bring water or bring this and that and if it is a girl, I can ask her to cook at least the source, wash dishes and things like that, this kind of stuff can't be easily done by adults.

– Miner parent 2, also a miner, Songwe

Contrary to what was reported in the FGDs and other interviews, none of mine owners interviewed confirmed to actively hire children for mining activities. They said that the children currently observed working in the mines are mainly brought there by their mothers to help them with the activities. They said, because of the difficult situation at home, when mothers get the tender to work in the mine areas they bring with them children to assist. An example was cited of a woman who was left by her husband. For the past three years, she has stayed with her six children and none of them has been to school. This mother and her children are reported to work in the mines.

It was a common response from the miners that the national law governing mining activities does not allow engaging anyone aged less than 18 years in mining activities and that they respect that law. Some mine owners said that those children and adolescents who are engaged in mining are not employed; rather they work on certain agreements between the mine owner and the child/adolescent.

Those who are employed are not employed directly; they are engaged on an agreement between the mine owner and the child. A boy may be contracted to collect water from the river and distribute in the mines at a price of Tshs 200 per tin, so if has five tins on a bicycle he gets Tsh 1000—that is the type of engagement between mine owners and children/adolescents ... in general in the mines there are no works fit for children, however, sometimes you may find child who came because of the difficult situation at home, he will, of course, get something to do to earn income such as being told to wash dishes where he can get 1000—then he goes back home that is it.

– Mine owner 1, Bukombe

Some mine owners also noted that when they engage children in their mining activities it is only out of sympathy that they want to help the child to at least earn something for food and or to get some necessities for school.

These kids are coming in the mines on their own, remember most of them are from this village, some are as young as 7 years or even with less age, they just start up slowly, they come asking of anything to do but if you look at the way they appear you feel sorry and become sympathetic to them, you see if you can have anything for them to do like asking them to take things there and here or bringing things closer... you do that just to be able to offer something for them to get food.

– Mine owner 2, Bukombe

You know also at times you can find a child struggling even to get food, he is just there, you decide to help by offering small jobs to do so that you give him/her food.

– Mine owner 1, Bukombe

Sometimes we give them work to do but it is just to help them to get their basic needs such as food, clothing and school requirements.

– Mine owner 7, Chunya

3.12. Risks related to working in the mines

Children who work in the mines face different risks, not only because they are working in unsafe and unprotected environments, but also because of their age.

3.12.1. Health risks

Digging pits, cutting stones, and transporting of the heavy sacks of stones and sand in poorly protected environments were the activities cited to increase physical risks to injury and pain to children. Participants said the work that children do increases their risks to injuries and accidents.

They are sometimes hurt and killed by the falling shafts, cut by stones, but they keep working.

– Adolescent girl miner, 13 years, Bukombe

Boys are reported to have higher risk of physical injury than girls.

Boys get deep into the pits; this carries with it the higher risks than cutting the stones ... boys are very courageous and because of the nature of the activities they do, they have higher risk for injury than girls.

– Adolescent boy miner, 15 years, Bukombe

The constant exposure to dust, high levels of noise, and the dirty environment were also cited as additional risks to child miner's physical health. And, child miners working in the mine shafts are at increased risks of shafts collapsing, falling rock, or slipping into the shafts during the work. Specific environmental risks were reported as follows. The limited use of toilets in the mining sites was reported to lead to stomach/bowel problems, urinary tract infections, and typhoid. Sleeping outside or under open-sided plastic tents was mentioned to increase the risk of contracting malaria and pneumonia. The use of heavy and sharp tools through long hours of work were cited to increase backache, skin diseases, coughing, pneumonia, and waist pain. It was also added that children working in the mines are at increased risks of getting tuberculosis because of the dusty environment they are working in. The child miner's constant exposure to the noises from the crushers was mentioned as something that can cause hearing problems later in life. These ideas about the health risks associated with the mining related activities were shared among the study participants and across the sites.

Boys are at the highest risk of accidents and injuries, they can hurt themselves with the hammer or get hurt by colleagues, or when in the pits they may be hit by stones and get injuries and or may be hit by broken shafts.

– Female miner parent 2, Chunya

All participants in the study, including the child miners themselves, perceived that mercury is a dangerous substance that carries a high risk for negative health effects. However, most of the participants, including children and adolescents, could not mention the specific pathways in which mercury effects health. The majority said that when an individual uses mercury for a long time, he/she may experience a backache, waist pain, and shaking hands when holding something. Because washing and amalgamation is mostly done by boys, it was reported that boys are at higher risks of experiencing health effects from mercury than girls.

Participants expressed awareness that the effects from the use of mercury develop in the human body slowly with time. The same opinion was shared by the healthcare workers who confirmed that effects of mercury are not immediate but cumulate over time; thus, the consequences of mercury use might be more severe to the individuals who were exposed to the substance at their younger age. The healthcare workers noted that mercury can damage key vital organs such as the brain, kidneys, heart and lungs.

Mercury is widely used in the study sites for amalgamating the concentrated gold particles. It was a common knowledge in the study that because of its effect, a person with a wound should not be allowed to sieve and amalgamate gold using mercury. This is because of the belief that mercury causes severe pains when it gets into a wound. Participants went on saying that the mercury can travel very fast through the open wound to the other parts of the body. They further said, when mercury enters the body, a person starts looking weak and does not grow well. Despite the common perceptions of the severe consequences of using mercury, the material is widely used. Participants said that mercury is more affordable and accessible than cyanide and that they do not have any other choice. When probed on how mercury is accessed in the sites, none of the study participants was willing to share the information.



A miner mixing the concentrated gold ore with water and mercury to make an amalgam

Another health risk reported is that related to the use of sulphuric acid. In Saza (Songwe), FGD participants expressed worries of not knowing what would happen to them as a consequence of using sulphuric acid. It was mentioned that the use of acid is high on the site and both adults and children use the material for cleaning dirty gold. When acid is burned, they said, it produces a lot of smoke and a strong odor. Because of this, participants suspect is that acid has more severe health consequences

than mercury, but none of them could cite what these consequences could be. FGD participants in Chunya believed that the material is highly carcinogenic and requires handling with extra care. It was added that when acid is exposed to skin it can cause serious burns and if it makes a direct contact with eyes it can cause permanent blindness. One of the Ward C FGD participants mentioned that if ingested, sulphuric acid can irreversibly harm internal organs and possibly lead to death of the individual. Despite the perceived danger inherent on the use of sulphuric acid, the material is used by both adolescents and adults in gold refinement in the site. There is limited evidence on the use of protective gear, such as gloves, boots, aprons, and face shields, when sulphuric acid is used.

3.12.2. Social risks

There was a common understanding among the study participants that work in the mine is not suitable for children not only because of their age and maturity level, but also because of the social risks entailed in the work. However, because of the reasons already mentioned in the previous sections, children and adolescents are forced to find a living in the mines. In so doing, children are exposed to difficult working conditions along with the adults and adopt particular lifestyles associated with mining camps.

The environment in the mining sites is frightening and tough and it is worse for children and adolescents; people in the mines live like they are not humans and children are forced to live like them, they are forced to live like adults.
– Miner parent 1, Bukombe

It was further elaborated that children and adolescents in the mines are exposed to the adult practices. Alcohol abuse, playing pool, and marijuana smoking is said to be common in the mine sites. The perceptions that smoking marijuana enables one to remain active and strong are commonly held and practiced in the mine sites. In all of the three sites visited, smoking marijuana and alcohol abuse were reportedly common among adolescents, which severely affects child miners and the surrounding communities in general. Male child miners were reported as more likely to partake in substance abuse; they can be influenced to believe that it can boost their strength and maintain working momentum.

Due to the circumstances and the living environment in the mining sites it becomes easy for the boys to copy bad behaviors like smoking marijuana and drinking alcohol from the adults or colleagues in the area.
– Miner parent 1, Chunya

The practices performed by miners in the community were also reported to influence children's behavior outside of the mine setting. In one of the schools, for example, a head teacher reported a case of a nursery school boy who used to come to class while drunk and another boy of standard two who used to smoke cigarettes. When these kids were asked how they learned about that and where they access substance, they all reported learning and getting it from home. These kinds of behaviors might have severe consequences to their morals and psychology and can pose a greater challenge for correction as the children and adolescents grow older.

3.12.3. Violence and sexual abuse

The study results indicate that sexual abuse does occur in the mines and in the mining communities, although the issue is not openly spoken about. When probed, the majority of FGD participants thought that with alcohol abuse and widespread marijuana smoking, sexual abuse is unavoidable. Adolescent girls were frequently thought to be at highest risks of violence and sexual exploitation, more so than boys. Girls are reported to experience abuse in their daily activities in the mines in terms of verbal harassments, physical abuse, or sexual abuse. In some cases, girls were reported to perform sexual favours to their boss' customers to help keep them. This was frequently mentioned as occurring among girls who work as bar maids and with *mama lishe*. It was further reported that when girls want to increase their earnings, they also may decide to have transactional sex. Each community shared a case of a girl who experienced sexual abuse. Each of the school teachers reported the presence of school-going children who had been raped. The discussions with the miner parents also confirmed that a girl child can be mistreated and abused in the mines. One of the miner parents in Itumbi said that the high risks of rape in the mines has led some parents to go with their female children to the mines and stay with them while working. She said that female child miners are raped in the mines while male children are beaten and their properties, such as lucrative stones and sand, are taken from them.

Harassments... I can't deny, it is not just to children even to the adult women we are restricted

from digging in some places, and sometimes our stones are grabbed, when we start a pit and they discover that it has stones they push us away, they know we are not able to do anything to them ... even children are harassed; actually I don't even know what to say, this environment we live in is dangerous, it is difficult, that is why we decide to go together with our female children, stay there with them and we come back together, many girls are raped and boys are beaten, and when a person discovers the stones might have gold they can be stolen or grabbed, and you cannot claim, all this we just leave to God.
– Miner parent 1, Chunya

When probed if they had ever witnessed sexual harassment, a few of the miner parents noted many occasions.

Yes, have witnessed many more [who were raped], not only girls but also men sexually abused by their fellow men. There was a time when they bought alcohol to one man and when he became drunk they did it to him. People contributed money to take him to the district hospital but he later died.
– Miner parent 2, Chunya

The FGDs noted that most rape cases are not reported to police. Even the few victims that are reported do not show up at court. The district officials and the community leaders were of the opinion that most rape cases are settled at the family level by either a perpetrator paying the parents and/or caretakers some amount or being forced to marry the child. In detailing the magnitude of the problem, the social welfare officer in Chunya mentioned that in a six-month period (January to June 2017), the district had already recorded in court 17 cases of girls who had been raped and five cases of boys who have been sodomized. Across the study sites, fear of discrimination and stigma was mentioned as a reason for not reporting rape cases into courts.

3.13. Service availability and access in the mine sites

Availability of social services in the mine sites is limited, and, where available, none of the services are specifically targeting children working in the mines. None of the sites had a police post, piped water, or toilets available. Rather, water is brought in in jerry cans and people defecate and urinate in the bushes surrounding the sites.

3.13.1. Access to schools

Physical access to schools varies across the sites. In Saza (Songwe), the primary and secondary school is located within the community reach. In Itumbi (Chunya), the primary school is located 2 km away from the mining community, and in Kerezia (Bukombe), it is 4 km away. Both Itumbi and Kerezia do not have a secondary school in the mining community.

The school teachers interviewed in the study reported participating in sensitizing community members and the school-aged children who are either in school or yet to enroll about the consequences of child labor in mines whenever the opportunity arises. In Itumbi, for example, a school teacher reported to attend village assembly meetings to create awareness on the problem of child labor and its longtime consequences among the children themselves and among the community in general. In addition, the ward education committees are reported to work in close collaboration with school teachers in the respective villages to address child labor issues.

The ward education officers involved in the study reported that when they notice a substantial number of absenteeism in schools, they organize ad hoc meetings in collaboration with the school teachers to discuss with the concerned parents the reasons why their children are not showing up in school. Although such efforts are cited as useful in reducing the problem of school absenteeism, the school teachers in the study were of the opinion that child labor in mines remains a critical ongoing social problem in the study sites.

3.13.2. Access to health services

Availability of health services is limited in the study sites; a health facility was available only in Saza (Songwe) community. The nearest health facility for Kerezia (Bukombe) and Itumbi (Chunya) was 13 km away.

Study participants reported physical access to the health facilities and its related transport costs as limits to community members' prompt health seeking, though physical access was not reported as a barrier to accessing services at the Songwe site.

Participants in all sites reported the costs for consultation, laboratory testing, and medical treatments as hindering the prompt and effective use of health care services. It was elaborated that in most cases the health facilities do not have medicines and the majority are dismissed with a prescription to buy medicine in the shops. It was noted that children over 5 years of age and adolescents are required to pay for their health services. The health care workers explained that this is only the case if they are not enrolled in health insurance. According to the health policy, only children under 5, pregnant women (for pregnancy-related illnesses), elderly people, and those with chronic conditions are exempted from paying for their health services. However, it was consistently noted that none of the community members are denied health services when in need if he/she cannot pay for the service. Instead, health care workers said, when one does not have money to promptly pay, they normally provide him/her with the health services to rescue their life and afterward discuss with the patient or relatives on how to mobilize resources to pay for the services.



The local drug shop

The use of medicines from the drug shops was commonly reported in the study as a first resort when illness is experienced. Participants, adults and children alike, mentioned that they consult health facilities only when the condition worsens. The shops are reported to stock pain killers and antibiotics, indicating a high use of antibiotics in the mine sites. Some shops are also reported to stock injections and that shop dispensers administer injections to patients on request. Regarding preventive services, participants mentioned buying condoms and mosquito nets from some of the available shops. It was mentioned that in most cases when a child miner gets sick, they pay for their own health care items if they can, or costs are paid by parents or relatives if the child has no money.

When I am sick I buy medicines myself if I have money. If I do not have any money, my uncle buys for me.

– Adolescent boy miner, 17 years, Bukombe

I had fever, after using Panadol from that shop I didn't get well, it is when my mother said that we go to Matundasi dispensary but when we reached there the doctor said we go to Chunya hospital, we went there and after testing they said I had typhoid and malaria, mama paid the cost and we came back here.

– Adolescent boy miner, 14 years, Chunya

In some cases, they said a boss pays for medical costs.

If one is employed and is lucky to have a boss who has a good heart the boss can pay for his medical costs if he gets sick. Yah this happened to my friend who works in the crushers, when he had malaria his boss bought him medicines.

– Adolescent boy miner, 17 years, Songwe

When a miner child who does not have parents or relatives gets sick and cannot afford the medical costs by him/herself, the miners in the area contribute for the child to be taken to the hospital.

It happens you find a child is sick but no one to take care of him. Recently there was a sick child... the age is almost 14 years, he got fever and was trembling himself. He said he had already used Panadol but was still feeling sick. People here had to contribute for him to go to the hospital ... All people who are working here [contributed], and there is a book where everyone who contributes registers his/her name and the amount contributed. That is how we found money and the child was taken to the hospital.

– Miner parent 1, Bukombe

Health care facility workers said that none of the health facilities provide services specific to children working in the mines. Health facility staff reported to attend to everyone who comes to the facility. Being located close to the mines, this includes people coming from the mining communities, but it is hard for health workers to recognize whether a patient is working in the mines. As such, no specific targeted prevention or treatment is done for children from mining communities.

3.13.3. Perceptions on HIV/AIDS and HIV testing and treatment

Most of the study participants reported that HIV/AIDS is prevalent in the study sites. The behavioral characteristics and practices of the people working in the mines were thought to be drivers of a perceived higher prevalence of HIV in the area. Adolescent girls are reported as particularly vulnerable to HIV, both during low and high gold production periods. Many adult men prefer dating young girls due to the prevailing perceptions that young girls are not infected with HIV. Adults are said to use their money to tempt adolescents and young girls to sex. In all sites, transactional sex was reported as a normal practice by girls who are both from within the mining communities and from other areas.

The high influx of people with different characteristics and backgrounds and the sexual business in the sites was thought to contribute to the spread of HIV in the mining communities. It was mentioned that some people who are diagnosed with HIV do not trust they are infected; rather they think they have another condition or have been bewitched. Ideas that people stop taking their ART treatments in favor of traditional medicines were also expressed. Such perceptions of associating HIV symptoms with witchcraft and the belief that the HIV condition could be managed from the use of traditional medicines was the other cited aspect shaping and perpetuating the spread of HIV infections.

Statistics on HIV and AIDS for the specific mining communities were not available during the study. The only available information was the combined HIV testing rate in the districts (from the government DHIS-2 system) that showed an HIV prevalence of 5.7% for Bukombe and 7.1% for Chunya and Songwe districts combined. This rate combines all HIV testing in any sub-population for all reasons and cannot be taken as a reliable indicator of HIV prevalence in the mining sites, let alone in the sub-population of children/adolescents in the sites. The mining site-specific information will be collected by the quantitative component of the project during the CIM intervention baseline data collection activities.

Probing on how people protect themselves from HIV infections revealed that there is a limited use of condoms in the settings. Some FGD participants noted that the majority of men are willing to offer more money for sex without a condom. This was attested by one of the miner parents who owns a shop in the community, when she said that at her shop condom is one of the slowest moving items.

The children and adolescents engaged in the study were probed on whether they have had exposure to HIV/AIDS messages and whether they have ever tested for HIV/AIDS. All reported to have heard about HIV, and some mentioned to have seen or known people with the condition, but none mentioned to have been him/herself tested for HIV. Inquiries on the reasons for not testing yielded no responses. Health care workers, on the other hand, reported that testing children and adolescents for HIV/AIDS is challenging. First, this age group is less knowledgeable about HIV risks and consequences and might not be able to initiate HIV testing themselves for fear of stigma. Second, they said, according to the ethical and legal considerations on the national standard operating procedures for HIV testing and counselling services, children under 18 years are eligible for HIV/AIDS testing if are accompanied by parents or legal guardians to provide consent. These aspects were expressed as likely to contribute to limiting HIV testing practices in adolescents.

Health facilities provide services for HIV counselling, care and treatment, and prevention of mother-to-child transmission in all three districts. To reduce physical access problems for HIV services and to encourage medication use and continuity, in Itumbi (Chunya), the district hospital provides outreach services for ART to the community around the mines. This was cited to facilitate access to the service by the majority in need. This is important because the mobile nature of the mining population, including children and adolescents, was cited as something that may complicate HIV treatment use and care continuity.

Adolescent support groups were also established in two of the sites. In Bukombe, there are groups for adolescents living with HIV (ALWHIV), where adolescents provide mutual social and moral support. The ALWHIV groups were also mentioned to facilitate adolescents to share their experiences on living with the condition and to encourage each other on medication use and continuity. The adolescent

group in Saza is not specific to those living with HIV; rather it focuses on reproductive health, where issues of self-awareness, early pregnancies, and prevention of sexually transmitted infections (STIs), including HIV and AIDS, are shared and discussed.

3.14. Existing initiatives/structures to address CIM

There are several initiatives or structures already in place to address child labor in mines, though due to weak reinforcement, the problem prevails.

3.14.1. Ward education committees

In each ward in the study sites, there is an existing ward education committee that collaborates with the school teachers to follow up on school absentees and dropouts in their respective areas. Study participants noted that when a child is frequently missing from school, the ward education committee through the school head teacher invites the students' parent for explanation on why the child misses school. This practice was reported to happen even in sites that do not have a school in close proximity.

As parents, we receive letters and sometimes phone messages from school teachers calling us for meetings if they notice a child is frequently missing at school. When you visit the school, you discuss with the teachers and ward officers on why your child is not attending school. The teachers and the officers thereafter advise you on how to stop the child from going to do the mining related activities.

– Miner parent 2, Bukombe

The committee was also reported to organize unannounced site visits to the mining areas when they notice high prevalence of absenteeism and dropout from school. During these visits, school-aged children are caught and taken back to school.

3.14.2. By-laws

Each site has existing by-laws sites prohibiting mine owners to engage pregnant women and children aged less than 18 years in their mining operations. Some mine owners put up sign posts on their sites stating that “it is strictly prohibited for children and pregnant women to get into the site.” Furthermore, the mining by-laws state clearly that appropriate actions will be taken against any mine owners who engage children and pregnant women and their mining licenses will be closed. However, poor enforcement of the existing by-laws was cited among the reasons for their poor implementation.

3.14.3. Financial protection arrangements

Children's/community support funds

It was reported that each district in the study allocates 5% of its total revenue collections to children and youth development basket. The fund is managed by the district through the community development office. It was expressed that it is the responsibility of the community development officers to create awareness in the respective districts on the availability of the fund and to mobilize people to join groups to access it. The individual groups can take a loan of up to Tsh 5 million and interest is charged at a rate of 5%.

Women ages 15–55 years and men ages 18–35 years are eligible to access the fund. Applications are channeled through the village and ward offices to the community development department at the district level. Eligibility of women starts from age 15 because frequently girls start bearing children at that age. Other conditions to access the fund include:

- Be in a group of five individuals that has a constitution, must have already started some kind of business before seeking the loan, and that can provide pictures of each group member
- Using minutes from the village meeting as proof, be approved by the village leaders
- Be permanent residents of the area and have fixed assets
- Approval from the Ward C after receiving approval from the village leaders, with the minutes from the Ward C discussion meeting(s) attached to the application
- Filled loan form and paid registration fees

Several challenges were reported as a barrier for the majority of community members, especially the poor, in accessing the district council loans. Those included limited funds to cover many groups because the fund depends on the council revenue collected, awareness to the majority on the availability of the existing opportunity, awareness on the benefits of joining groups, and entrepreneurial skills.

Private loans

Of the three sites, only Bukombe district had a private loan institution operating: BRAC. BRAC staff visited the village to mobilize community members to join in groups of 15 individuals for them to access BRAC loans with small interest rates. BRAC loans target women, and each woman in the community is eligible for the loan provided she meets the requirements:

- Be in a group of at least 15 members, though loans are given to individuals according to their needs
- Collateral from two people for each member: one person from outside the group and one person from within the group
- A declaration of assets (e.g., house, land)
- An existing running business, no matter the size
- Participation in training on business and financial management

BRAC is very new (three months). Participants said that almost 200 individuals expressed interest, but so far only 15 people have accessed the loans, because of:

- The long process it takes for the groups to get approval for loans
- Low awareness on the reasons as to why people should declare their fixed assets during the application process
- Most women being hesitant to join the groups to access the loans for fear of being liquidated
- Some husbands refuse to guarantee their wives permission to join the groups
- Prevailing community perceptions and the fear that BRAC money is associated with “freemasons”

Village saving and lending associations (VSLAs)

In each district, there are registered and active VSLAs and other small savings groups, like VICOPA. However, the availability of these groups in the study sites was limited. For example, there were no such groups in Kerezia (Bukombe), only one group in Itumbi (Chunya), and at least eight groups in Saza (Songwe). The official number of VSLAs and VICOPA groups in the respective districts could not be confirmed because most of this information is kept manually in hard copy.

The main reason raised for the low enrollment in VSLAs and VICOPA groups in the study communities was that the majority of the community members are not aware of the benefits for joining the groups to access loans and limited entrepreneurship and business innovation skills. Other reasons included limited or no skills or knowledge on forming and running the groups, poor management of the fund, little available income/lack of money to join groups, and lack of motivation.

Tanzania Social Action Fund (TASAF)

TASAF is one of the government social protection initiatives to support poor and vulnerable households in the country. TASAF gives social grants, both unconditional and conditional (e.g., upon child school attendance). TASAF activities are implemented in each of the study districts, but none of the villages or hamlets involved in the study qualified for TASAF consideration.

3.14.4. Programs for child protection

In Geita, neighboring Bukombe district, Plan International has collaborated with district authorities and local CSOs NELICO and CODERT to carry out a child protection program targeting CIM. Discussions with the program coordinator in Geita indicated that the program has been successful in reducing the magnitude of children working in the mines and in linking children with social services, like education and family re-integration. Some of the activities implemented include economic strengthening activities, vocational training for youth, awareness building on the consequences of engaging children in mining activities, a toll-free number to report cases of child labor and abuse, support to ward and district child protection systems, and established children’s voice councils where children are encouraged to voice any practice with regards to child labor in the mines and child abuse.

Considering the social and cultural context similarities among the mining sites, USAID Kizazi Kipya can learn from the Plan International activities that are already known to work well and contextualize them to fit the Kizazi Kipya sites.

4. Recommendations

The formative results were used in two steps to inform the design of the intervention package. As a first step, formative research results were discussed with Kizazi Kipya consortium members and government partners on 2 August 2017. As a second step, during FGDs, community members were asked to further specify the possible strategies for economic strengthening in their setting. The following recommendations emanated from this process.

4.1. Step 1: Recommendations for interventions

4.1.1. Community

- Study participants expressed the need for awareness creation programs that will target different mining stakeholders, children themselves, and the general community on the consequences of engaging children in mining-related activities.
- A program should create awareness on the health risks associated with exposure to mercury and sulphuric acid.
- Community members should be mobilized to facilitate the most vulnerable children's access to basic needs, such as by establishing VSLAs that will provide funds for children's needs.
- Community members should be supported to establish day care centers for children, and mothers should be discouraged from taking their young children to the mine sites.
- Households and individual adolescents/youth should be facilitated to establish alternative sources of income earning, such as petty trading, agricultural activities, and domestic animal keeping. Adolescents and youth should receive vocational skills and start-up capital.
- Engage communities in developing and enforcing child labor by-laws. This should involve defining actions to be taken for anyone who engages children in mining-related activities, including the employers, parents of the child miners, and the child miners themselves.
- Provide access to a toll-free number or any other confidential channel to anonymously report cases of children in mining-related activities or abuse.
- Parents should be educated and empowered to enforce the marriage act. Parents, specifically fathers, have to be responsible for their children and their families. Also, appropriate actions should be taken against parents/caregivers who marry off their daughters under 18 years of age, regardless of the child's willingness to marry.
- Children and adolescents should be provided with legal support and the for associated costs.
- Parents should be encouraged to send their children to school, to support children to stay in school, and to ensure that the enrolled children complete their studies successfully.

4.1.2. Service delivery

- Strengthen access to continuous health education on prevention and treatment of infectious diseases, including HIV and other STIs, and address the specific risks of mining.
- Programs like the distribution of bed-nets should also target communities in the mining areas, and considerations should be taken to improve the water and sanitation situation in the mines.
- Continuous awareness raising and education on the consequences of mercury and sulphuric acid exposure should be provided.
- Outreach services on HIV testing and counselling, ART provision, and linkages (education, transport, accompanying, follow-up) on accessing HIV services should be strengthened.
- Children should be re-integrated into formal education, e.g., by using a Whole School approach. School development committees should include community leaders, mining stakeholders, and child miner parents.
- The school environment should be made attractive for students, for example through establishing sports programs and strengthening the school feeding program, to encourage and motivate students to be at school.

- Para-social workers should be linked to access protection services and monitor cases of abuse, neglect, and child exploitation.
- Develop and/or support legal services at the district and regional levels.

4.1.3. Policy

- HIV testing and counselling services guidelines should allow for HIV testing for sexually active children under 18 years of age without parental/guardian consent.

4.2. Step 2: Parents and Ward development committee members recommendations for economic strengthening activities

The economic strengthening activities deemed most appropriate in the mining settings were modern agriculture; small- and medium-scale businesses, such as buying and selling crops; and vocational training, especially on carpentry, shoe repair, tailoring, masonry, and mechanical, like motorcycle repair. It was mentioned that start-up kits should be provided after vocational training, loans or start-up capital to start poultry farming, and training in entrepreneur skills, including money management at individual and household levels. Table 3 highlights these and additional key strategies to reduce CIM and improve health as suggested by parents and community leaders in the mining communities.

Table 3: Key strategies to reduce child labor in mining and improve health, as highlighted by parents and Ward development committee members

No	Strategies	Barriers	Ways to overcome barriers
1	Provision of necessary skills on modern farming to increase agricultural outputs Households supported with agricultural inputs	<ul style="list-style-type: none"> • A limited number of agricultural extension officers • Poor knowledge on modern agricultural activities • Late/delayed delivery of agricultural inputs from the government • High dependence on governments for the provision of agricultural inputs • Lack of capital to purchase necessary agricultural inputs and equipment 	<ul style="list-style-type: none"> • Governments must deliver the agricultural input on time. • Agricultural extension officers must be provided with necessary working equipment. • Local organizations, private institutions, and other NGOs should provide a small loan to facilitate small-scale farmers.
2	Provision of necessary skills on forming and managing lending VSLAs Provision of entrepreneurial skills to VSLAs to be able to manage small-scale businesses and other economic activities	<ul style="list-style-type: none"> • Lack of technical skills to establish and manage VSLAs • Lack of entrepreneurial skills • Poor money management skills • Low awareness on the importance of forming groups • Lack of common/shared goals among group members 	<ul style="list-style-type: none"> • Send experts to the community to capacitate the community leaders, groups, and households on establishing and managing the VSLAs and providing training in entrepreneurship skills.
3	Provision of loans with low interest to the formed groups or to poor households	<ul style="list-style-type: none"> • Lack of capital to start crop businesses • Most financial institutions targeting middle-income families • Institutions set difficult conditions that make it hard for poor families to secure loans 	<ul style="list-style-type: none"> • Government should encourage financial institutions to lower restrictions and conditions to secure loans, especially for poor families.

No	Strategies	Barriers	Ways to overcome barriers
4	Provision of education on parenting skills and risks associated with child involvement in mining activities	<ul style="list-style-type: none"> • Lack of experts on issues involving parental skills • Limited knowledge on social and health risks for CIM • Lack of financial resources or village leaders to support/provide health education to the community 	<ul style="list-style-type: none"> • Private institutions/NGOs and the district/community should development departments to provide parenting education to the mining communities. • Private institutions/NGOs, the district/community, and social welfare departments should provide education on health and social risks of CIM.
5	Provision of vocational skills, e.g., for tailoring, carpentry, masonry, and mechanical skills/motorcycle repair, especially to those children who finished primary education but never succeeded to go to secondary education	<ul style="list-style-type: none"> • Absence of vocational training institutions • Families who cannot afford to send their children to vocational training institutions away from the district 	<ul style="list-style-type: none"> • Encourage governments and other private institutions to establish vocational training institutions within mining communities. • Provide financial support to a number of students from poor households to partake in vocational training away from the mining area.
6	Provision of initial capital post-vocational training	<ul style="list-style-type: none"> • Lack of capital to buy working equipment post-vocational training, such as sewing machines 	<ul style="list-style-type: none"> • Empower those who previously completed any vocational training with working capital to open businesses. • Encourage children who finished school but never proceeded to higher grades to form groups and access funding to support initiation of business.
7	Provision of health and social services to the mining community, such as dispensaries and secondary schools	<ul style="list-style-type: none"> • No dispensary in the community • Long distances to the secondary school 	<ul style="list-style-type: none"> • Local leaders should initiate fundraising from the village and nearby areas to contribute money and other needed resources to initiate construction of the dispensary and schools. • Government and private institutions should provide support. • Local governments should include dispensaries and secondary schools in their budgeting and planning.
8	Village leader's establishment and enforcement of by-laws Supervision of existing by-laws that restrict children from working in WFCL, such as mining	<ul style="list-style-type: none"> • Existing laws not fully enforced by village leaders • Some are not fully aware of existing by-laws • Political issues when it comes to enforcing the by-laws 	<ul style="list-style-type: none"> • Create awareness on the existing by-laws to all stakeholders including politicians and establish mechanisms to reinforce them
9	Provision of necessary school items, such as pencils/pens, books, school uniforms, and exercise books	<ul style="list-style-type: none"> • Education is given low priority by parents • Poor families • Large family size/parents are incapable of providing school needs to all school-going children in their families 	<ul style="list-style-type: none"> • Community members should be informed on the importance of education to their children and encouraged to ensure attendance and school graduation/completion.
10	Making schools attractive	<ul style="list-style-type: none"> • Absence of sports equipment • Absence of sports awarding competitions 	<ul style="list-style-type: none"> • Establish sports and games with awards. • Provide sports equipment to the schools.
11	Provision of sexual and reproductive health education	<ul style="list-style-type: none"> • Cultural issues • Poor perception of the risks associated with using family planning methods 	<ul style="list-style-type: none"> • Increase sexual and reproductive health education, especially on family planning.