



GHILD MINERS SPEAK

Key Findings on Children and Artisanal Mining in Kambove DRC World Vision is a Christian relief, development and advocacy organisation dedicated to working with children, families and communities to overcome poverty and injustice. As followers of Jesus, we are motivated by God's love to serve all people regardless of religion, race, ethnicity or gender.

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Overview, Limitations, and Acknowledgments

This report summarizes the key findings of research undertaken in Kambove, southern Katanga, Democratic Republic of the Congo (DRC) in June 2012. Through interviews, child miners described their circumstances, the impacts and drivers of their work as miners, and possible solutions to the challenges they face. This report summarizes what we heard from the children, their parents, other community members, and mining stakeholders. A comprehensive and detailed internal paper was prepared for World Vision staff. This report, Child Miners Speak, is a summary of key findings on the situation of child miners in Kambove. DRC.

The findings of this report are intended to apply to the specific local context investigated in the research. This context is artisanal mining (AM) in Kambove in southern DRC. It is important to emphasize, however, that the report in no way claims that its findings, analysis, and recommendations may be generalized to other AM contexts, including other AM contexts in DRC. In particular, it should be made clear that the location of this research presents different issues than the much more publicized and conflict-implicated situation of AM in eastern DRC.

Nevertheless, the research contributes to broader knowledge on children working in AM in DRC. It

confirms for World Vision the realities in the Kambove community in which World Vision works and will help shape future World Vision development activities in that community and in other AM communities in Katanga. It is hoped that others interested in addressing the issues of child miners will also benefit from this report.

These results are the fruit of much dedicated work by the World Vision DRC and World Vision Canada research leadership team: Symphorien Mande, Patricia Kashala, Jean Dewey Mushitu, Patrick Shimba, Abigael Kabemba, Suzanne Cherry, Daniel Lavan, as well as Kambove World Vision DRC staff and community partners, with guidance and supervision from Jerry Kazadi, Vianney Dong, Harry Kits, Cheryl Hotchkiss and Tanis McKnight.

We are grateful to the participants who were willing to speak with the researchers and to the various authorities who supported and permitted the research to take place.

For more information, please contact: World Vision DRC.

Researchers wishing to consult about methodology and detailed results may contact World Vision DRC. Photography by World Vision DRC, with permission of authorities.



Jean, a child miner, speaks

Although he is only eight years old, Jean* puts in a full adult workday — and that is before he begins school. His day starts at 6:30 a.m. when he joins his mother at the artisanal mining site.

Jean has a few tasks at the site: helping care for his baby brother, collecting dusty clumps of rock and minerals from the ground, and helping transport those materials to the manmade pools where others — particularly girls and women — will wash and sieve them to remove valuable minerals. Some weeks he works a couple of days. Other weeks he works nearly every day, but his job continues all year round. When asked if he takes breaks to eat something during work hours, he says: "Rarely. Sometimes at the end when I'm leaving."

Jean's mother and father both have work, but their pay does not allow them to provide for the families' basic needs. Because of this, Jean's mother asked him to join her in working at the mine. Jean agreed that he should help his family in this way. The small pay that he earns goes to his parents, although he is allowed to use some of it to buy clothing. His parents also advise him to use the money to pay for his schooling.

Although she asked him to work, Jean's mother worries about him — and with good reason. We asked Jean if he had noticed any changes in his health since he started working in the mines. "Since working here, I have problems with my skin, body pains, and pain in my eyes," he tells us. He also suffers from a frequent cough. "These

* Jean's name and other personal details have been changed to protect his identity.

problems are frequent if I come to the mines. When I don't work here, I feel fine." When we asked Jean why he thinks these problems are caused by his work, he explains: "Because the products here are toxic. There is lots of dust here, and I'm staying in the same position." Occasionally Jean has even suffered minor injuries.

It is 2 p.m. when Jean finishes his work and heads to school. He is behind for his age, and has had to repeat a year. He misses at least some school every week, often because he is sick. At the same time, the work helps his family pay for his schooling.

Mining work is definitely not what Jean wants to do over the long term. "I would never want to do this," he declares. The only positive points he identifies are that the work lets him earn money and help his family. On the negative side, he calls the work dangerous and disturbing to his studies. In the future, he wants to complete an undergraduate degree and someday become a chauffeur. When we ask him if it will be possible for him to leave mining work and pursue his dream, he says: "Yes ... if I find someone to support me, because my parents can't."

CHILD MINERS SPEAK

Key Findings on Children and Artisanal Mining in Kambove DRC

Executive Summary

Background

Child labour is a highly complex problem interlinked with poverty, a lack of social services and alternative employment, education and health impacts, and exploitation. The challenge we have is to understand the specific circumstances and needs of working children and their families, in particular settings. From there, we can develop appropriate and effective solutions that address these circumstances and needs, and sustainably move children out of the worst forms of labour. Simplified calls to eradicate all child labour often ignore the complexity of the problem, the persistence of poverty, and the difficult choices children face.

Child miners in one community in the DRC's southern Katanga province speak to this reality throughout this report. A key objective for the research was the direct participation by children. They themselves described the circumstances, impacts and drivers of their work as miners, as well as possible solutions to the challenges they face. This was then compared to, and supplemented by, parents, other community members, and mining stakeholders.

By listening carefully, we heard that:

- Girls and boys are very much active as miners on the unofficial artisanal mining sites around Kambove. From an early age they participate in the full range of AM activities, from digging to washing and sorting.
- Child miners in Kambove are not forced to work but choose to work. They are taught by parents as a means of supporting the family's income in a situation of extreme poverty. Naturally, we recognize that children's choices may be so socially

- conditioned that they do not constitute "free choice." Nevertheless the research clearly shows that many children choose work in the context of choices about family and are not overly coerced. However, there was evidence of children being taken advantage of in terms of payment and the conditions under which they worked.
- Working in AM is intimately linked to participation in school. More than half of those child miners interviewed had dropped out of school, and those who were in school also participated in AM at least some of the time. The inability to pay school fees was a barrier to attendance. The exact cause and effect relationship between working in AM, school participation, and inability to pay school fees was not fully clear in the research.
- The health impacts of child mining are significant, including the immediate dangers of injury, as well as the long-term health impacts of high exposure to copper and cobalt minerals. Additional research and greater awareness among child miners and the community are needed.
- At the Kambove artisanal sites, the impact of conflict or sexual assault is very limited compared to other locations in DRC.
- Both child and adult miners consistently say they would prefer not to be working in AM. Children overwhelmingly preferred to be in school, and had high aspirations for the future, their career, and their contributions to the community.
- There is/has been limited capacity by government bodies, NGOs, and other stakeholders to sustainably

- and consistently create a better social and economic situation, to enforce regulations, or to develop alternative opportunities that would create the conditions for child miners to leave the mines.
- One of the key proposed ways to facilitate children's exit from AM is the opportunity for decent employment for adults. There were a variety of proposals for facilitating such alternative employment, from training to creating co-operatives to capital to financial skills.

Conclusions

The inevitable conclusion is that all children should be withdrawn from AM activity on Kambove sites. Unfortunately, getting to the point of withdrawal presents itself as a wicked problem. "Wicked" in this context is not meant in a moral sense denoting evil, but emphasizes that children working in AM is a complex problem that defies any sort of linear solution. It is too thoroughly embedded in the overall DRC development context to be dealt with in isolation. Programming and advocacy efforts that directly address those children involved in the worst forms of child labour are of course required, but they must be done with a view to the wider development challenges in DRC.

The voices of these child miners and other members of the Kambove community point to several key areas of intervention that warrant attention.

- For each area of DRC and each community, continue to listen to child miners speak and undertake additional research to understand the community's specific circumstances, impacts and drivers of the problem of child miners, as well as possible solutions.
- Build community and child miner awareness of the long-term health impacts, the dangers, and the lost opportunities from not attending school. This could also include understanding the mining code and DRC laws regarding the rights of women and children.

- Improve the capacity of various government agencies to understand and improve various laws and policies; and to regulate artisanal mining so that it can be a safer and sustainable part of the Congolese economy.
- 4. Improve local community socio-economic development. Sustainable poverty alleviation and development services and programs (livelihoods, health, water and sanitation, education, etc.) are first of all the responsibility of various levels of the DRC government and local service providers. International NGOs and mining companies can play their own role in supporting the capacity of the government and local communities to provide such services.
- 5. Create the conditions for a thriving, diverse, and sustainable local economy that includes alternatives to AM, but which also formalizes AM.
- Identify the role of mining companies, national and international, and other development actors in addressing the problem of child miners in DRC.
- Build in continuous learning and evaluation to all interventions. Wicked problems will not yield simple solutions. They need continuous evaluation. There are potentially new things to be tried and new connections to be made between interventions.

The challenge of child miners will require the long-term sustained engagement and participation of a variety of stakeholders. Solutions will not be found in short-term projects that address one or two factors during the life of that project. Solutions will be found with full engagement of government at all levels, with local community organizations and leaders, with supportive faith communities, NGOs, and other stakeholders. Most importantly, solutions will be found with the clear participation and engagement of those most affected: the children and their families.

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List of acronyms and terms

	ADP	Area Development Program ¹	GCM	Gécamines (shortened form of La Générale		
	AM	Artisanal Mining		des Carrières et des Mines). The state- owned, large-scale mining company, a		
	ASM	Artisanal and Small Scale mining		major employer and producer of copper		
	CMKK	Coopérative Minière Maadini kwa Kilimo		and cobalt in Katanga in earlier decades.		
		(an AM cooperative)	LSM	Large Scale Mining (or Industrial Mining)		
	Creusers	These are miners, more literally, diggers. They are primarily men between 20 and 60.	Négociants	These are middle men who buy minerals directly from AM sites and sell to processors (fondeurs or maisons d'achat).		
	CSR	Corporate Social Responsibility	NGO	Non-Government Organization		
	DRC	Democratic Republic of the Congo	NR	No Response (appears in tables)		
	FG	Focus Group	SAESSCAM	Service d'Assistance et d'Encadrement du		
FIP	FIP	at the school level, payment of which is required in order for children to attend		Small Scale Mining (Small-scale mining technical assistance and training service, a DRC government service)		
		school)	SSM	Small Scale Mining		
			STD	Sexually Transmitted Disease		
			WVC	World Vision Canada		
			WVDRC	World Vision DRC		

ADPs are World Vision's child-focused, sustainable development programs for between 15,000 to 100,000 people. As a model of community development, ADPs link villages that work together in regional clusters to help address the root causes of poverty. Generally, World Vision works with communities through ADPs for 10 to 15 years. Facilitators, who are usually from the region, are trained to build relationships, help the community to identify needs and possible solutions, provide training to local leaders and encourage networking among civil society and government groups (see: http://www.worldvision.ca/OURWORK/Community%20 Development/Pages/default.aspx).



I | Introduction

"We can't do our development work and ignore this phenomenon. If we do, we are building a house on sand."

— Jerry Kazadi, Deputy National Director, World Vision DRC.

I.I Listening to child miners speak

According to the International Labour Organization (ILO), hazardous labour is one of the worst forms of child labour. The ILO estimates that "53 per cent of the 215 million child labourers worldwide do hazardous work." The ILO calls its child labour statistics "estimates." This is because often the countries with large and visible numbers of child labourers do not collect detailed statistics. Even less is known about the specific circumstances of those children. We simply do not know enough about working children in the developing world.

Additionally, as we shall hear from child miners in this report, child labour is a highly complex problem, interlinked with poverty, with lack of social services

[&]quot;Children in hazardous work are in many respects the silent majority within child labour. Although they appear in photos, when it comes to action they are often eclipsed by forms of child labour that have captured the public eye, such as child soldiers or trafficked children, or they are subsumed within general child labour efforts. Still too few policies or programmes are geared to the special needs of children who do hazardous work."

^{2 (}ILO. 2011) p. xi.

³ Ibid.

"The city streets will be filled with boys and girls playing there."

— Zechariah 8:5

and alternative employment, with education and health impacts, and with exploitation. The challenge we have is to understand the specific circumstances and needs of working children and their families, in particular settings. From there, we can develop appropriate and effective solutions that address these circumstances and needs, and sustainably move children out of the worst forms of labour. Simplified calls to eradicate all child labour often ignore the complexity of the problem, the persistence of poverty, and the difficult choices which children face.

Child miners in one community in southern Katanga Province speak to this reality throughout this report. A key objective for the research was the direct participation by children. They described the circumstances, impacts and drivers of their work as miners, as well as possible solutions to the challenges they face. Their information was then compared to, and supplemented by, parents, other community members, and mining stakeholders. This report summarizes what we heard from children and the community itself.

1.2 Child miners in DRC

The Democratic Republic of the Congo (DRC) is one of the biggest countries in Africa and the second-most populous in sub-Saharan Africa, with an estimated population of 72 million. DRC's mineral wealth is estimated at an astounding \$24 trillion. However, only 46% of the population has access to improved drinking water and the under-five mortality rate is 168 per 1,000 live births, which is the second-highest worldwide. DRC ranks *last* in the 2012 Human Development Index.

Industrial mining has historically formed a centrepiece of formal employment and economic strength for DRC. However, the nation's economic decline in the early 1970s, coupled with changes in the mining code and regulatory structures, led to a decline in industrial mining. Currently it is estimated that 60-90% of mineral production is through artisanal and small-scale mining (ASM).⁴

Artisanal mining (AM) consists of literally digging, washing, and sorting minerals by hand. AM is considered an increasingly important livelihood source — both direct and indirect — for about 14% of the national population. It has been further suggested that up to 40% of workers in many of the country's AM sites are children.⁵

Mining in DRC is the subject of much study, disturbing media stories, and significant activist campaigning. These things reflect the realities of death, abuse, theft, and power struggles that are part of mining in DRC, and particularly eastern DRC. However, at the same time these exposés can easily distort the complexity of the situation. Some areas in DRC experience conflict and others do not. Some have industrial mines while others do not. Some areas have the so-called conflict minerals, others do not. Different regions of DRC and even different communities have different realities. So the situation of child miners is different in southern Katanga, in northern Katanga, and in eastern DRC.

World Vision recognizes that considerable analytical work on artisanal mining in DRC specifically, and in Africa more generally, has already begun. We are also aware that other organizations and initiatives are exploring this challenging and complex problem in DRC.

What is missing, with respect to child miners in DRC, is an adequate body of continuous careful research within specific communities and contexts. With limited research, too often realities in one community are generalized to a whole region or to the whole country of DRC. In particular for World Vision's needs, there has been very little systematic research about children in Katanga province who are engaged in mining and about the effects it has on them in the immediate and long-term.

^{4 (}Feeney, P. 2010.) p. 7.

The literature on Katanga and the DRC/Zambia Copperbelt has generally been in agreement in estimating that children (people under the age of 18) make up roughly 40% of the AM workforce in the region. (Tsurukawa. 2011) p. 32.

In Kambove specifically, we know of only one other study, which was done in 2008 by the Université de Lubumbashi/OCU (Université de Lubumbashi/OCU, 2008).

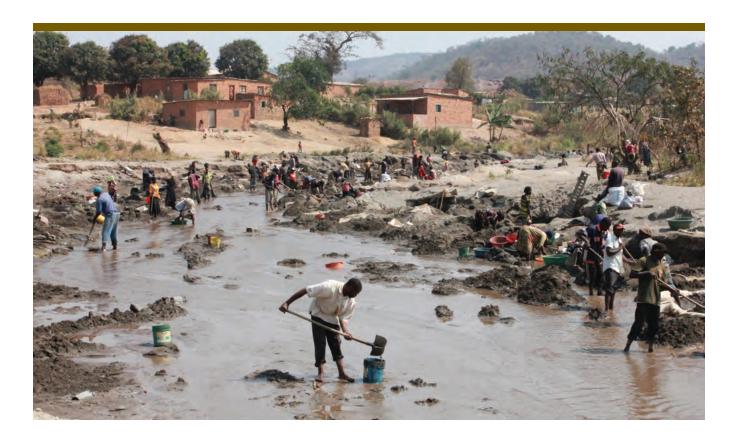
1.3 World Vision DRC and child miners

World Vision has been working in the DRC since 1960, and more formally since 1984. World Vision DRC (WVDRC) currently has more than 550 staff on the ground, with regional offices in Kinshasa, Lubumbashi, Gemena and Goma. The National Office is in Kinshasa.

In recent years, World Vision DRC's leadership has sought to understand and address the root causes and policy-related issues underlying poverty, child protection, and health. This has led to a renewed focus by World Vision's worldwide partnership on the DRC, and a commitment to determine how World Vision (working with other organizations) can make an even greater impact by addressing the negative effects of extractives on children's health and protection.

As part of its exploration of the specific realities of children in AM in Katanga, World Vision decided to listen to child miners speak in Kambove, where World Vision has been working since 2007. World Vision's programs in Kambove have been working to improve the education of the community's children, to reduce child and maternal morbidity and mortality, and to contribute to food security. With respect to AM, World Vision in Kambove has partnered with the Ministry of Education to undertake an awareness campaign with children, parents, churches, and local authorities. This awareness campaign encourages children to return to school and to be aware of the health risks of AM. World Vision has also been supporting the medical care of some children impacted by their AM work.

This research is a first step in our long-term commitment to addressing the root causes of the challenge of child miners in the many communities in Katanga in which we work.



2 | Overview of the research

This section outlines:

- Research objectives
- Major research themes and questions
- Methodology and number and gender of research participants for each method used
- Geographic context and limitations of the research

2.1 Research objectives

This project was World Vision's first effort to explore AM issues at the community level in DRC. In addition, funding for the research was only available during a part of 2012, and there was limited lead-time for design and planning. For these reasons, it was decided to limit the scope of the research. The objectives were identified as follows:

- To gain initial information from child miners about their experiences of being involved with AM, and its impact on their well-being;
- To inform program and advocacy responses by World Vision;
- ► To help World Vision develop methods for ongoing learning and engaging with children, since AM is found in several areas where we operate;

To inform appropriate and effective action by other stakeholders (e.g. governments in DRC, and other countries; corporations in DRC; civil society organizations; donors) to respond to the situation of children involved with AM.

The research was not designed to be a large "scientific" study with random sampling of children and families involved with or affected by AM. Instead, the results of this first initiative are intended to provide the foundation for some pilot interventions to address the needs of children involved with AM. It will also inform and help identify directions for further, more in-depth research on this subject by World Vision and other stakeholders in Katanga province.

2.2 Research themes and questions

Research themes

This report summarizes research on children's AM activity specifically in the *Kambove context* (see section 2.4 below). It explores:

- The nature of children's AM work
- Drivers behind children's AM work
- ▶ Health and education impacts of children's AM work
- Potential avenues of intervention to help children leave AM work

Research questions

Within these major themes, the research explored the following overall questions:

- What is the nature and intensity of children's work in AM? What tasks do they do, and how much of their time is spent working in AM (in a day, week, year?) How do they combine AM with other activities such as schooling?
- What is the relationship between children's work in AM and their ability to attend and complete schooling?
- What are some of the most obvious and immediate health impacts of this work, and this work environment, on children?
- What is the relationship between children working in AM and the livelihoods of their immediate

- families? How do children and parents understand the children's role in their immediate family's livelihood?
- What are the additional reasons behind children's involvement with AM work? What role do people apart from parents (e.g. peers, others) play in influencing children's involvement with this work?
- In attempting to address problems relating to children working in AM, what initiatives have been successful? What initiatives have not been successful? And why?

2.3 Methodology and research participants

A key objective for the research was the direct participation of children.

The following summarizes the methodology used for the research.

2.3.1 Interviews with child miners

Fifty-three child AM workers were selected as questionnaire respondents. Interviews took 45-60 minutes. Interviews took place directly on the AM sites, often in a quiet and slightly more private spot, such as under a tree. However, some children preferred to be interviewed while they continued working.

In order to ensure that we were truly hearing child miners speak, the child questionnaire was not administered as a multiple-choice questionnaire. Generally-speaking, we did *not* ask a child a question and then present them with a series of options for their answer. Instead, our answer categories, reported below, are based on the categories that children's responses themselves created. Our local interviewers were instructed only to provide potential answer options in cases where children were struggling to understand a question, and then, only after the interviewer had attempted first to rephrase the question.

Children were selected for participation according to the following criteria:

▶ They were between 8 and 17 years of age. The gender and age breakdown of these child miners is shown in Table 1. The percentage of children falling

into each of three age ranges is shown in Table 2.6 Although children younger than 8 are present on AM sites, 8 years was felt to be the minimum age necessary to confidently answer a questionnaire

Table I | Ages of child respondents, by gender

Age	9	10	Ш	12	13	14	15	16	17	Total
F	1	1	1	I	5	4	6	4	I	24
М	2		2	3	5	4	6	3	4	29
Total	3	1	3	4	10	8	12	7	5	53

covering a wide variety of topics. In fact, the youngest child who participated in the research was 9.

They lived within the geographic boundaries of World Vision's area development program (ADP). This is for ethical reasons, so that children who participate may benefit (directly or indirectly) from interventions we will undertake in response to the research results.

The approach to selecting child miners would be better described as convenience sampling, rather than random sampling. This was considered appropriate, given that this study was intended to be a first investigation of these issues, and limited in scope.

It is important to note that populations of child workers at AM sites can fluctuate significantly by day, by season, or even by factors such as the prices of minerals applied by négociants according to the world markets. This variability poses challenges when it comes to the degree to which research results can be generalized. Thus, this

Table 2 || Percentages of child respondents by age range

Age Range	% of sample
9-11	13.2%
12-14	41.5%
15-17	45.3%
Total	100.0%

kind of research may only provide a "snapshot" of the situation at a moment in time.

2.3.2 Adult focus groups

The focus group research included:

- ▶ 2 focus groups (FGs) with mothers of children who work in AM
- ▶ 2 focus groups with fathers of children who work in AM
- I focus group with 15 creuseurs (diggers)
 - These creuseurs were men ranging in age from their twenties to their fifties, some of whom had been digging in artisanal mines since 2002. They ranged from people who had not completed primary school to university graduates. Most had children who were also working or assisting them in AM, although this was not a criterion for their participation.
- ▶ I focus group with négotiants
 - Négotiants are middle men who buy minerals directly from AM sites and sell to processors (fondeurs or maisons d'achat). This focus group included four négotiants, and members of artisanal mining unions and co-operatives.

Focus groups were 1.5 to 2 hours long. Like the children who participated in this research, all adult focus group participants live within the geographic boundaries of World Vision's ADP. This was so that focus group participants, like child interview participants, could benefit from future World Vision interventions — and so that all research participants would be speaking about the same general population of working children. This is

These may be compared with the following percentages from the 2008 Université de Lubumbashi/OCU sample of 75 Kambove AM children: ages 6-8 (5.3%); ages 9-11 (26.7%); ages 12-14 (30.7%); ages 15-17 (37.3%) (Université de Lubumbashi/OCU, 2008). In neither our research nor Université de Lubumbashi's was a comprehensive census of local child AM workers available to confirm whether these age range percentages sampled were representative of the total population.

important given that the children's situations can vary quite significantly across different geographic areas.

2.3.3 Key informant interviews

The 11 key informants interviewed included:

- elected government officials
- civil servants
- religious leadership
- representatives of local and international NGOs, and
- representatives from the private (mining) sector

Key informants were working in the geographic area where the research took place. Interviews were 1 to 2.5 hours long.

2.3.4 Visits to mining sites

It was important for members of the research team, who were from outside the research area, to visit some AM sites where children work. They obtained permission from, and accompaniment by, authorities to visit four different AM sites and to observe a variety of tasks undertaken by both adult and child miners.

These visits were brief (a couple of hours). Although the team did not collect data at this time, the visits contributed significantly to their understanding of how these sites operate, and the potential challenges and dangers for children who are present.

2.3.5 Data analysis

At the end of the data collection activities and while still in the DRC, the research team reviewed the raw data and presented some preliminary observations from the research to a small group including World Vision staff and a couple of Kambove community members who are key World Vision partners. This exercise allowed for some clarifications, corrections, and confirmation of initial themes emerging from the raw data.

Table 3 | Total Number of Research Participants

Method	Number of Girls/Women	Number of Boys/Men	Total
Child interviews	24	29	53
Mothers' Focus Groups	16		16
Fathers' Focus Groups		30	30
Creuseurs' Focus Group		15	15
Négotiants' Focus Group		7	7
Key Informant Interviews	1	10	11
Totals	41	91	132

Most of the raw data from the child questionnaires was entered into an Excel spreadsheet, with the exception of data from the most open-ended questions where a longer response was anticipated. Primarily using Excel's pivot table function, results were examined for each question entered, sorted by gender or age (where most applicable). In addition, relationships were explored between responses to different questions on the child questionnaire (for example, with whom the child resided and whether or not the child was in school). The key findings of these results are presented in this report.

However, because of the limited sample size of this preliminary study, and our imperfect knowledge of the degree to which the sample is representative of the local child AM population, we have not taken the step of subjecting these relationships to tests of statistical significance. Furthermore, for numerical results like averages, confidence intervals have not been calculated because the sample of children was not selected randomly.

Children's more open-ended, sometimes longer responses — which were less amenable to straightforward quantitative manipulation within Excel — were recorded and coded separately. In some cases response categories were quantified manually for presentation in the report.

Qualitative data from focus groups and key informant interviews was assembled and analysed vis-à-vis the overall research questions.

A comprehensive and detailed internal paper with full data from the research was prepared for World Vision staff. This report, **Child Miners Speak**, is a summary version of key findings that support a wider set of stakeholders' understanding of the situation of child miners in Kambove, DRC.

2.4 Geographic context and limitations of the report

The findings of this report on child miners are intended to apply to the specific local context investigated in the research. This context is AM in Kambove within the *Gécamines* (GCM) tailings (dating back from the last 40-50 years) and the streams of water from the active GCM processing facility.

Much of the research has tended to reconfirm aspects of earlier analyses of child labour in AM from various African contexts. It also reconfirms general descriptions of the historical, social, and economic factors behind the prevalence of AM in DRC, as well as general patterns of AM's social and environmental impacts (Banchirigah & Hilson 2010; Hilson 2010; PACT 2010; Tsurukawa et al., 2011). It is important to emphasize, however, that the report in no way claims that its findings, analysis and recommendations may be generalized to any other AM contexts, including others in DRC.

In particular, we wish to emphasize that the location of this research presents different issues than the

much more publicized and conflict-implicated situation of AM in eastern DRC.

It is also essential at the outset to note the official distinction between AM sites that have been designated by government for approved AM activity, and those, such as the ones in which we did research at Kambove, within which AM activity is *not* officially approved.

As of 2009 there were 17 officially designated AM zones in Katanga (PACT 2010), which were established, as informants explained, in order to channel those working in AM into safer, more regulated, and better organized sites. AM on unofficial sites, such as those in Kambove, is still tolerated in practice both because of a lack of government enforcement capacity and to avoid the social unrest and economic livelihood consequences that closing all the sites would likely cause in the absence of alternative employment options Most people active in AM in Katanga still work on such unofficial sites. (See further discussion in 3.2.2.3 on page 24.)

Nevertheless, the research is a contribution to broader knowledge on children in AM in DRC. It particularly confirms for World Vision the realities present in the Kambove community and can help shape future activities in Katanga province DRC. It is hoped that other stakeholders interested in addressing the issues of child miners will also benefit from this report.

⁷ The process of officially designating AM zones is described in PACT (2010), section 4.5.

Artisanal exploitation of copper and cobalt in Katanga was first officially authorised in 1998 by then president L.D. Kabila after the collapse of *GCM* in order to help absorb its unemployed staff who were owed as many as 30 months' salary arrears. (Tsurukawa, 2011, p.16.)



3 || Child miners speak

This report summarizes the key findings of research undertaken in Kambove, southern Katanga, DRC, in June 2012.

3.1 Nature of children's work in AM

This section explores these questions:

- What is the nature and intensity of children's work in AM: what tasks do they do, and for how much of their time are they working in AM (in a day, week, year?)
- How do they combine AM with other activities, like schooling?

3.1.1 Rate of child work in Kambove

The literature on Katanga and the Copperbelt has generally been in agreement in estimating that children (people under the age of 18) make up roughly 40% of the AM workforce in the region (Tsurukawa 2011, p.32).

The scope of this research project did not permit a census of the total number of AM workers, or, more

specifically, of children, on the sites in Kambove from which child questionnaire respondents were selected. The only indication of the rate of child AM participation in Kambove as a whole came from a single key informant who estimated that a third of all children in Kambove work in AM. The informant stated that this figure included both children whose immediate families are originally from the area, and the children of new arrivals.

3.1.2 Children's AM tasks: Key findings from child miner interviews and mining site visits

The children we interviewed, who ranged in age from 9 to 17 years old, reported doing many different AM tasks. These included digging, gathering, transporting, washing, and sorting minerals (see definitions in Box I) — as well as vending items like food and drinks to other AM workers.

- Our research team observed children working directly on a variety of AM sites. Our team also observed that very young children (such as babies and children under five) are present on AM sites, even though they are not working. Adult informants confirmed this, and stated that their lack of childcare options contributes to this situation.
- Amongst the children we interviewed, there were some gender patterns related to AM tasks. In digging work, adolescent boys were predominant; boys were also predominant amongst gatherers and transporters; girls were predominant in the work of washing and sifting of minerals, and as vendors.
- Digging presents some of the most immediate and obvious dangers, due to the risks of collapsing pits and tunnels and other such accidents. While boys of age 12 and up primarily reported doing this work, two boys out of 29 (ages 9 and 11) reported doing digging and another task. Two others reported having started digging at ages 9 and 10.
- At the time of the research (in June, when school vacation had already started), the average number of hours children reported working per week was 34 hours (with no gender difference). Forty per cent of children (21 of 53) reported that their work varies in intensity according to seasons. For example, some children work more during school vacations. Some children's work varies depending on whether it is rainy or dry season.

- The average reported starting age for working in AM was 11 years for boys and 12 years for girls. Seven girls (of 24) reported having started when they were younger than 12, with two reporting that they started at age 7. Sixteen boys (of 29) reported starting when they were younger than 11, with two starting at age 6.
- When asked what activities they do when they are not working in AM, no girls (of 24) reported having time for leisure/sport, compared to 9 boys (of 29) who did report doing leisure/sports activities.
- When asked what domestic tasks they do, on average, girls reported nearly double the number of domestic tasks compared to the number reported by boys. Examples of tasks included childcare, cooking, laundry, sweeping, and water collection. (Note that we did not ask about chores outside the home such as helping parents with farming or other income-generating activities outside AM.)

3.1.3 Adults' contributions on the nature of child work in AM

- Focus groups acknowledged that many children are engaged in AM work at the Kambove sites, including those in the age range of 10 to 15, both with their parents and in independent peer groups.
- Adult statements also corroborated overall findings from the child questionnaire: a) the general ages

Box I | Children's AM tasks

Tasks mentioned by children surveyed in this study:

Digging (creusage): digging with picks and shovels, creating pits/wells and horizontal tunnels, removing "raw" material from these.

Gathering (ramassage): collecting materials (e.g., stones) that lie visibly exposed on the surface.

Transport: pertaining to children, "transport" can include lifting mined materials from the bottom of pits to the surface, and carrying basins of minerals (on

the head) to washing sites. Transport by bicycles was reported, and observed to be carried out by adults.

Washing (Nettoyage): rinsing the basins of mined or gathered materials. Performed knee- to waist-deep in water. This often involves the use of sieves in which case it is also referred to as "sifting" (tamissage).

Sorting (Triage): Separating the non-mineral-containing contents from washed mineral materials.

Vending: Selling food, drinks, and other items to other AM workers.

Table 4 | Number of times an AM task was reported, by gender

	F	М	Total
washer	17	8	25
digger	1	12	13
gatherer	2	11	13
transporter	2	3	5
sorter	ı	2	3
vendor	3	I	4
other	1	0	1
Total	27	37	64

- at which children work in AM; b) children's tasks, including gender patterns associated with some tasks (e.g. boys do digging, girls do washing).
- However, a couple of key informants (not parents of children working in AM) downplayed the extent to which children work as diggers (in one case outright denying that children do this task at all). This contrasted with our child questionnaire findings, where 12 boys of 29 reported doing digging work (some of them in combination with another task see Table 4). Key informants overall tended to give the impression of lower rates of digging among boys under 15 than we found through our child questionnaire data.
- Focus groups corroborated key informants in asserting generally that digging into subterranean galleries (*creusage*) in Kambove was carried out by boys 15 and up. When pressed on the subject, some FG participants stated that smaller children (e.g., age 11-12) are sometimes needed to enter into narrower galleries in mining pits. As we saw, this corresponds to several boy respondents, who stated that they were working or had worked as diggers at ages well under 15.

- Although key informants agreed that all child AM activity should be eliminated, some seemed to imply that digging was qualitatively worse than other tasks. No data from the child questionnaire indicated that children made this distinction. As we shall see, while digging is more immediately dangerous, gatherers and washers report more ongoing health impacts.
- Informants all confirmed that students work in AM, particularly when school is not in session, so that the numbers of children found on these sites are greater during vacations and on the weekends. One suggested that girl students engage particularly in prostitution on or around AM sites, but this claim was not made specifically in reference to Kambove.

3.1.4 Further observations on children's presence in mining sites

- When the research team made site visits at 4 p.m. on a weekday, we observed the largest numbers of children to be at the washing sites. (Some key informants may not have considered these to be located on the mining sites). However, we also saw many children on sites containing mining pits, and we observed children transporting materials from those areas. It is also within the mining pit areas that child gatherers actually gather materials.
- During our brief visit to some AM sites, the research team leaders did not observe tents or other makeshift shelters in which people appeared to be residing in "encampments" at the peripheries of the AM sites in Kambove. We did, however, observe vending stands set up at the peripheries, with families whose children are involved in selling water, bread, donuts, phone credits, cigarettes and other items.
- In parts of Katanga, women and girls are not permitted near the digging areas. However, in Kambove, women are not strictly limited to washing work at the observed sites. ¹⁰ Women and their small children, including infants on their mothers'

⁹ This may also be because of the pattern of work which sees digging and gathering occurring over the day and then washing and sorting at the end of the day.

¹⁰ This observation appeared at least partly to contradict an (adult) informant's assertion that women's presence on digging sites is taboo, because it is believed to cause mineral veins to disappear. See note 12 for further discussion of women's access to digging areas on AM sites in Katanga.

backs or laid in plastic basins, were observed to be present alongside men at the digging and gathering sites — although the length of the observation period did not allow us to determine the exact tasks women were doing in these cases. If We observed several such family groups working at shallow pits in close proximity to numerous much deeper pits that were being worked by adolescent boys and men, or that were in some cases abandoned. Whether these sites were exceptional for the presence of women was not something we could explore further in this research. Informants commented that this situation of deep pits presented significant danger for the toddlers and children accompanying their mothers.

3.2 Drivers behind children's involvement with AM

This section explores these questions:

- What is the relationship between child miners and the livelihoods of their immediate families? How do children and parents understand children's roles in their immediate family's livelihood?
- What are children and parents' aspirations for their (adult) working lives, and their understanding of alternatives to AM?
- To what extent are children and parents able to determine important conditions of their work in AM (such as their pay, the type of work available to them, or their treatment by others at the work site)?
- What are additional reasons behind children's involvement with AM work?
- What role do people other than parents (e.g. peers) play in influencing children's involvement with this work?

3.2.1 Key findings from child miners on the drivers behind their work in AM

The influence of families in promoting children's work in AM is evident in the following figures:

- 83% of children we interviewed reported that both their parents are alive, and 6% (3 of 53) reported that both parents were deceased — so among these children, being an orphan was not a major reason for entering AM work.
- When asked about the occupation of their father, and then the occupation of their mother, 36% of children reported that their father was working in AM, and 47% reported that their mother was working in AM. Twenty-six per cent of children reported that both parents were working in AM (see Tables 5 and 6). Higher percentages of boys had one or both parents working in AM.
- When children were asked who taught them how to do their AM task, 62% (33 of 53) mentioned a relation (mother, father, sibling or other relative). Of those 33 children, 18 had been trained by their mother (that's 34% of the 53 children interviewed).
- ▶ 19% of children had been taught how to do their AM task by a friend (10 of 53).
- When asked who proposed or demanded that they start AM work, 62% (33 out of 53) of children mentioned a relative (either both parents, father, mother, sibling, or another relative). 13% of children said they began the work on their own initiative (7 of 53); 21% said it was a friend's idea (11 out of 53).
- Of the 18 children who reported that starting AM work was their own idea or a friend's, 15 of them were 14 years old or older suggesting that older children (adolescents) are more likely to be influenced by friends, or to enter this work of their own initiative.
- Box 2 shows some of the reasons parents and siblings gave for asking children to start AM work: generally speaking, they needed children's help to earn family income.
- Box 3 shows reasons why children themselves agreed to start this work, when it was proposed to them. Similar to the reasons in Box 2, children expressed the need to help their families earn enough, and to meet their own basic needs.

II AWVDRC staff member later stated that women in these cases might be involved with the transport of minerals (for example, carrying minerals on their heads).

Table 5 | Fathers' occupations

	AM	services	agric	commerce	driver	LSM	other	deceased	NR	Total
F	6	5	5				1	6	- 1	24
M	13	3	4	2	I	2	I	3	0	29
Total	19	8	9	2	1	2	2	9	- 1	53

Table 6 | Mothers' occupations

	AM	agric	commerce	mason	other	none	deceased	Total
F	8	5	7		1	1	2	24
M	17	2	6	I	I	1	I	29
Total	25	7	13	1	2	2	3	53

- When asked for their parents' attitude toward their work in AM, 58% of children (31 of 53) said their parents approved of or encouraged their work (50% of girls and 66% of boys gave these answers); 25% of girls, compared to only 7% of boys, said their parents disapproved of their work.
- ▶ Of 42 children who reported being paid for their work, 50% of girls (9 of 18) reported that they keep their own pay, while only 17% of boys (4 of 24) reported keeping their pay. 62% of these boys (15 of 24) said their parents keep their pay. This finding was corroborated by results from related questions, and suggests that there are greater expectations of boys to contribute financially to their families.
- Also, 54% of girls were living with just their mother or another relative, compared to 21% of boys. This may have some bearing on the previous finding.
- Thirty-four children reported their most important priorities when it comes to spending their AM pay. Twenty-four children (13 girls, 11 boys), or 71% of this group, named clothing as their top priority.
- When asked about the positive aspects of working in AM, 89% of children's answers touched on the money earned or regular pay (40 of 53 answers) or what could be done with the money, such as paying school fees (7 of 53 of answers).

Box 2 || Examples of reasons parents and siblings gave when proposing that children enter AM work

"Mama said since she didn't have money to pay for my studies it would be better to go to the mines to get money." — boy, digger, age 15

"They threw us out of school, so my parents and brothers proposed that we work to help father."

— girl, cleaner, age 14

"Mama said that people who sell get lots of money."
— girl, vendor, age 13

"It started happening that sometimes we wouldn't eat. It was at that point that we began working here."

— boy, cleaner, age 13

"Mother encouraged me by saying, 'keep that for buying shoes.' "— girl, gatherer, age 11

"Big sister told me to start to accompany her so we could help each other." — girl, age 15

"[I should] help my big sister to have money to eat and buy clothes." — girl, vendor, age 13

"My big brother showed me the money he earns in the mines, and that motivated me too." — boy, digger, age 13

Box 3 | Examples of reasons why children agreed to start AM work (when proposed by another)

"Because my parents told me." — girl, cleaner, age 15

"To help father to pay for food." — boy, gatherer, age 14

"Because mother alone wouldn't be able to do it."
— girl, cleaner, age 15

"To get money to help my brothers study and to help the family." — girl, cleaner, age 14

"Because it helps me by paying for schooling."
— girl, transporter, age 10; girl, cleaner, age 15

"Because she's my sister and I have to help her."

— boy, cleaner, age 14

"So that we would no longer be without anything to eat." — boy, cleaner, age 13

"To have money and pay for what I need."

— boy, transporter, age 17

"For clothes — to dress well." — girl, cleaner, age 15

When asked about the <u>negative</u> aspects of working in AM, children had much more varied answers. Of 57 negative aspects children identified, they called AM work dangerous (18 times), exhausting (15 times), difficult (8 times), boring (8 times), disruptive to schooling (7 times), and also named treatment by adults as a negative aspect (1 time).

3.2.2 Adults' contributions on the drivers behind child miners

- Mothers and fathers asserted that they had introduced their children to AM work, but emphasized that the root cause was their own lack of other work. Adult miners we spoke to had varying levels of education, from having dropped out of primary school, to having completed undergraduate university degrees. Négotiants told us that their previous jobs ranged from being taxi drivers to school teachers.
- Adult miners all expressed the desire to pursue other kinds of work (e.g. mechanic, driver, administration, agronomy, dressmaking).
- When parents could not afford to pay fees to keep children in school, they brought children to the

mines to help the family earn enough to survive. However, they stressed that children's work, combined with theirs, earned barely enough to feed their families, and generally little else.

3.2.2.1 AM as the only livelihood option, and one requiring children's contribution

Focus group participants expressed mixed sentiments about the quality of life in Kambove, with comments that largely reflected their ambivalence toward AM. On one hand, when asked generally whether Kambove was a good place to live, many initially answered in the affirmative. Participants noted that Kambove at least offered AM as a source of income, and for this reason the area even attracts people who have found no livelihood opportunities in other areas (e.g., Lubumbashi). The fact that women could work in AM in Kambove, unlike in some other locations, was also noted as a reason for relocating there. 12 Some of those who had come from larger towns also stated that the cost of living was lower in Kambove. Yet at the same time AM was widely considered a livelihood of last resort and the only one available in Kambove. Some mothers stated that the living condi-

¹² A focus group mother reported that women could not work in AM in certain other locations in Katanga. Under DRC law, women have equal right to work in mining; however, in Katanga, women's access to some mines is forbidden by local law as well as by customary traditions. At many sites in Katanga the miners believe that women's presence will cause mineral veins to disappear (PACT 2010, p.93). (One key informant to our research reported this local belief and it was also mentioned to another WV staff person, before the research project began.) Women at those sites are therefore likely to be found digging only at sites that consist of tailings, low grade waste areas, or quarries. Even then women's activity is mostly concentrated in processing (especially washing) minerals, as well as in the provision of goods and services to other AM workers (PACT 2010, p.93).

tions make raising and educating children difficult, and that without the mines it would be impossible.

In terms of education levels achieved, the adult miners ranged from those who had dropped out of school at the primary level to those who had completed high school to those with an undergraduate university degree (*Graduat*). They all expressed the wish to pursue other lines of work (e.g., mechanic, driver, administration, agronomy). Focus group mothers included women who had been trained in dressmaking (*coupe & couture*), but who had no access to sewing machines for working, and hence were working in AM. Another mother was a trained teacher.

We also heard that even *négociants* have moved into their somewhat precarious line of work in AM after being unable to earn a living in other professions for which they had trained and which they earlier attempted to practice. These ranged from taxi drivers to school teachers.

Mothers and fathers both asserted that they originally introduced their children to AM work, emphasizing that the root cause was their own lack of other work. When they could not afford to pay school fees to keep children in school, they brought them to the mines to help the family earn enough to survive. They stated that in many cases, both parents figured in that decision, but there were also cases where one parent was more strongly in favour of it.

For example, one mother explained that she had overcome or defied her husband's initial resistance to bringing their children to the mine sites. (Note that the child questionnaire data presented previously also suggests that mothers may be somewhat more instrumental in children's initiation into AM in Kambove.) Some mothers also stated that certain children do not need to be asked, but rather volunteer their assistance to their parents because they understand the family's need.

Although parents at times described children's assistance in AM as making the work "lighter" or "easier" for them, it is essential to understand such terms in the context of their overall point: that children's work, when combined with adults' work, permits them to earn enough to feed the family, but generally little else. Some mothers stated that

at current food prices, properly feeding their family for a day would cost 10,000 Fc (an estimate that was judged reasonable by local World Vision staff).

However, women in focus groups also asserted that three basins full of mineral product would yield typical daily family earnings of only 7000-7500 Fc. Fathers in focus groups mentioned only 5000 Fc as earnings on a good day.

It must be noted, however, that certain other assertions of both parents and children complicate this general picture of the family pooling all daily revenues. Some mothers reported that even a small child (for example an eight-year-old) can himself sell the surface materials that he has gathered in a day for 300-1000 Fc, and then spend the money immediately on cookies (*biscuits*), before the mother can intervene.

The child questionnaire also provided evidence that a significant portion of children work with some connection to their families, yet they prioritize clothing as an expenditure — a trend that was not mentioned by parents. Conversely, some fathers noted that they had additional children who did not work with them in AM (some of whom must still be under 18).

3.2.2.2 Limited capacity for regulation of AM

As was stated earlier (Section 2.4), AM at Kambove is technically illegal. However, most of the people active in AM in Katanga still work on such unofficial sites.

The Service d'Assistance et d'Encadrement du Small Scale Mining (SAESSCAM), ¹³ formalized in 2003, is the government department responsible for supervising and organizing AM throughout DRC (PACT 2010, p.37). Well-placed informants to our research asserted that it is only on official AM sites in Katanga that SAESSCAM performs its mandated functions, which include supporting mining co-operatives. These informants named several specific initiatives (e.g., site cleaning, shelter building, health care, improved techniques and safety) that have been carried out by co-operatives at official sites in Katanga, with the support of SAESSCAM, and in some cases with the collaboration of GCM.

¹³ The English translation is Small Scale Mining Technical Assistance and Training Service.

We also were told about the agreements that AM cooperatives have apparently made with mining companies to excavate safe open pits using heavy machinery in order to expose mineral veins for AM. This is done in exchange for a monopoly on the purchase of the products. No evidence for any initiatives of either kind (i.e. improving work conditions or using more advanced technology) was found at the unofficial sites we researched in Kambove.

Concerning the overall level of organization, regulation, and monitoring at the researched sites in Kambove, an informant specified that SAESSCAM does not attempt to perform its full range of defined functions on these and other unofficial sites, limiting itself there to helping to ensure social peace. Parents and other adult miners were aware of the unofficial, virtually unregulated, and relatively unorganized nature of AM in Kambove, and stated that in this context they did not "need" an official miner's card to authorize them to work.

Allegations of corruption and predation have been common in the context of AM throughout DRC. In the present research, people asserted — specifically in relation to *unofficial* AM sites (where SAESSCAM does not support miners) — that there is a frequent problem whereby *fondeurs* (refining plants), especially those of mining enterprises, underestimate the mineral content in the product they buy. This is because the *fondeurs* need to secure political cover for their work by paying bribes. To recover these extra "operating costs" and maximize profits, *fondeurs*/companies therefore pay artificially low prices for minerals. Our research did not permit verification of these claims.

These findings would tend to indicate that systematically worse conditions and greater challenges to livelihood improvement exist at unofficial AM sites, compared to official sites. On the other hand, the resource and capacity gaps that severely limit SAESSCAM's ability to perform its mandated role throughout the country have been well documented (PACT 2010), and were reconfirmed by several informants to this study. Indeed, the overall literature on AM in DRC suggests that the constraints facing regulatory agents typically allow for few significant differences between official and unofficial AM sites in terms of support, supervision, and regulation of artisanal miners (PACT 2010; Tsurukawa 2011; Global Witness 2006).

3.2.2.3 Limited capacity for regulating child labour in AM

Specifically related to the issue of child work in AM, there is little in earlier research on DRC to suggest that SAESSCAM or any other agency is able to effectively enforce child work prohibition. Still, two informants to this research specifically claimed that children do not work within SAESSCAM-supervised (i.e. official) AM sites in Katanga, but rather only at encampments at the margins of these sites. These claims could not be verified by our research. Our research found children not only involved in washing and sorting processes in areas that might be considered the periphery of the AM sites, but also directly involved in digging, gathering, and transporting mineral products within the areas of the open mine pits.

When asked about the incidence of abuse and exploitation of children at the researched AM sites, parents stated that outright physical or sexual abuse of children was rare, but that their labour can be exploited by négociants. In the "ration system," négociants give children an advance sum of money in the morning, which obliges the child to work very hard in order to provide the minerals he owes by evening. Under these arrangements children were said to receive less than adults, and could even be offered cheap food (such as cookies or candies) in lieu of cash. When a négociant buys unfinished products directly from children, he will often need to enter into a direct relationship with other children, in order to have the products cleaned, sifted, and sorted.

Some négociants downplayed such exploitation and suggested that AM could still be profitable without child work. However, a range of informants contended that children indeed help to minimize labour costs in AM and that négociants take advantage of them to this end, since they are relatively easy to manipulate and mislead. Négociants' own financial position was explained to be quite fragile, as they risk loss from high transport costs and what they describe as the hard-line and exploitative purchasing practices of their buyers (the fondeurs referred to above).

These conditions create additional pressures for them to buy minerals at the lowest possible prices. One informant stated, for example, that a little packet of minerals worth 2000 Fc (in a sale between *négotiant* and

fondeur) could be purchased from a child for 500-1000 FC. He added that more dynamic co-operatives, on sites other than those we researched, received complaints about children being underpaid. Another informant suggested that both children and women are systematically paid very little for the tedious task of triage (sorting).

3.2.2.4 Organization and bargaining strength of adult AM workers

Parents and other adult AM workers explained that in general they have little or no negotiating power over the prices at which their products are purchased. Kambove artisanal miners are typically focused on just getting enough money to eat or to feed their families that same day; therefore, their work tends to be quite independent and collective organizing appears minimal.

A miners' co-operative was reported to nominally exist at the unofficial sites we researched at Kambove, but without any of the functionality that informants claimed for co-operatives such as COMIPAD, SEMAK, and CMKK¹⁵ at official AM sites. Moreover, Kambove AM workers must sell their product at the end of the day, as they have nowhere to secure it overnight. Thus, while a typical washed basin of minerals brings a standard, non-negotiable price of 2500 FC, mothers mentioned that they are at times upset at having to yield to time pressures near the end of the day to sell for even less. Négociants come and go quickly each day, mothers told us, taking advantage of the AM workers' need to remain constantly engaged in their independent activities, which preclude organization.

3.2.2.5 Child mining is not considered socially acceptable or a normal part of childhood

Parents affirmed unequivocally that they did not view their children's AM work as a normal or accepted part of childhood. While there was consensus among informants that children had a traditional responsibility to assist the household through domestic chores and family

agricultural work, fathers stated that in their generation children typically did not start *paid* work until at least 17 years of age. Indeed, AM did not even exist in Kambove until 2002 and began in other parts of Katanga in the late 1990s (Tsurukawa 2011). One mother explained that when she was a girl, she lived well with her parents who worked for *Gécamines*. They were paid well and the family ate well.

Reinforcing the sense that AM work was not normalized by parents, all mothers and fathers who expressed their view on the subject insisted that they wished for their children to continue studying, according to their aptitude, potentially all the way to university, and even to the graduate degree level. The greatest obstacle to this wish was families' lack of means to pay school fees.

The general consensus from focus groups, informants, and children's responses, which accords with literature on education in DRC (e.g., Mrsic-Garac 2009), was that children are forced out of school by teachers and headmasters when their families cannot pay the fees. When children are forced out of school, they work in AM to support the family, or else independently. As will be discussed in the next section on impacts, the great majority of children working in AM who are not currently in school wish to return to school and cling to the hope that they will be able to do so.

Parents also acknowledged what our child questionnaire data shows and what several informants stressed — namely that there are children still in school who work regularly in AM. However, none of the parents with whom we spoke stated that their own (minor) children were still in school. Parents agreed that children who are still in school can influence each other to focus more on AM work than on studies, at times even engaging in AM work without their parents' knowledge. As will be discussed in the following subsection, key informants widely confirmed that even for children still in school, the lure of regular spending money constitutes an additional pull factor toward AM work, particularly for older children.

¹⁴ Several informants conceded (and none refuted) that children work in the processing of minerals at the peripheries of official AM sites and even specified that négociants purchase raw materials and hire children for processing there.

¹⁵ COMIPAD = Cooperative minière du peuple en action pour le développement; SEMAK = Syndicat des exploitants artisanaux; CMKK = Coopérative minière Madini kwa kilimo.

One informant estimated that amongst children working in AM in Kambove, the majority are school-goers. He asserted that at the secondary level, children are more likely to do AM work to pay for school, while younger children more often use their earnings to buy biscuits and clothing. Elements of this characterization were contradicted by our child sample, and it is at any rate improbable that a *majority* of AM children would be school-goers, in light of the estimated primary cohort completion rate of 54% and secondary school enrollment rate of 35% (just 25% for girls) for DRC as a whole (UNESCO 2011).

3.2.2.6 More skeptical perspectives about parents and older children

The predominant message from key informants, as well as focus groups, was that parents enter AM out of economic necessity, indeed from a position of poverty and "misery." Even the key informant who expressed the least sympathy toward unofficial AM workers noted that the reality of poverty was an important barrier to enforcing laws that would remove them from the sites. However, several key informants rejected — in varying degrees and with varying nuances — the overall notion that parents have no choice but to bring their children to work in AM, or that parents cannot stop children from working because they cannot provide all that the children need.

One key informant offered historical background to the phenomenon of AM in DRC by describing the initial rush to artisanal diamond mining in Kasai Province in the 1980s, asserting that many students, attracted by the promise of fast money, simply abandoned school to pursue it. Another key informant suggested that for certain children and their families in Kambove (especially those who have migrated to the area) a similar attraction was at play when they made decisions between school and AM work. He stated that these families view schooling as carrying too great a cost since it interferes with children's full time AM work.

Three informants referred to the *irresponsibility* of parents and their failure to control their children as

reasons why children are in AM. Children whose parents take care of them "normally" would never go to the mines, one insisted. Indeed, these children would even be ashamed to do so. Furthermore, they asserted that if children are influenced by others to enter AM, it is only because they do not have a proper family upbringing. Interestingly, such informants made comparisons between their own "properly raised" children (as they put it) and those of parents who work for GCM.

One informant referred to parents' use of children in AM as "cheap labour", while another spoke of parents treating children as a "means" to adult ends, rather than as people.

Interviews with these informants did not yield a deep sense of their ideas on how otherwise unemployed AM parents could properly take charge of their children, pay for their schooling, or forbid them from having recourse to the only local source of earnings. ¹⁶

When asked what is directly driving children into AM work, informants generally agreed that some adolescents are attracted to, and then hooked by, the availability of fast, steady pocket cash. (Child miners confirmed to us that greater numbers of older children make independent and peer-based decisions to enter AM work.)

Once they've acquired a taste for money, one informant stated, they have difficulty returning to a life where they are regularly deprived of it. Some informants explicitly stated that the lack of any other available activities for youth (recreation, earning, training) also plays a role in some adolescents' choices, as does an appetite for adventure.

Informants with comprehensive knowledge of local populations and who expressed sympathy toward the plight of AM parents gave views that could usefully be explored further. In particular, some civil society informants raised issues of parents' "mentalities" and mindsets in ways that kept the harsh reality of their poverty fully in view and seemed to point to subtler critiques of parental choices, rather than describing them generally as irresponsible and exploitative.

¹⁶ Time limitations for interviewing did not permit us to probe the assumptions and background concepts behind these informants' critical views of parents of AM children. The data thus does not clearly reveal to whom these informants were specifically referring or what these informants believed to be the causes of the negative parental conduct they described.

These informants had concerns about parents' management of their (admittedly limited) money, and suggested that their poor management practices contribute to entrenching poverty. These informants' indepth views and arguments on this topic have, however, not clearly emerged from the data; further study would be required to understand them better.

3.3 Impacts of child miners' work upon their well-being

This section explores the following questions:

- What is the relationship between children's work in AM and their ability to attend and complete schooling?
- How do children and parents view education, in terms of its ability to provide future opportunities for children?
- What are some of the most obvious and immediate health impacts of this work, and this work environment, on children?
- What are some of the less immediate and less obvious risks to their health, due to this work and work environment?
- ▶ What are children's and parents' perceptions of these immediate and longer-term health impacts?

3.3.1 Child miners speak to the education impacts of their work in AM

- Of the 53 children we interviewed, 23 were in school and 30 had dropped out.
- Our sample suggested that girls working in AM in Kambove are significantly less likely than boys to still be in school only 33% of girls (8 of 24) were in school, compared to 52% of boys (15 out of 29). For children aged 9 to 14, the gender disparity was even more pronounced: 38% of girls were in school (5 of 13) compared to 69% of boys (11 of 16).
- Children who did not live with their mother or father were also more likely not to be in school, and girls were more likely than boys not to be living

- with either parent. Of 13 children living with another relative (rather than both parents, or their mother alone), 9 were not in school.¹⁷
- ▶ In studying the relationship between parents' occupation and whether or not children were in school, it was found that where both parents were employed in work other than AM, children were slightly more likely to be in school compared to cases where one or both parents worked in AM.
- Of the 23 children who were in school, 13 reported being absent at least once a week. 38% of this group (5 of 13) attributed their absences to work or work/illness.
- Children were asked what activities they had either stopped or reduced when they began working in AM. 55% (29 out of 53) identified school as one of those activities.
- When children not in school were later asked why they had dropped out, 97% (29 of 30) said it was because their families couldn't pay the fees.
- The relationship between child work in AM and school dropouts (or continuation) remains unclear. Of 23 children who were in school, I5 said that their AM work helped pay school fees. A different group 28 of 30 children who were not in school expressed their wish to return to school. It is unclear why AM work did not help them return to school given that it had helped children already in school by providing money for fees.
- Five children who were in school said that AM work made their studies more difficult; it stopped them from studying well and reviewing lessons, or it forced them to miss classes because they were waiting for their pay or because they had to keep on working to earn enough money for school fees.

The complexity of these results on AM work and schooling calls for caution in their interpretation and suggests that it would be helpful to further explore the relationship between AM work and school dropout rates, and the contribution of AM to paying school fees. Note that further findings on children's aspirations for

¹⁷ This point just explores only the relationship between children's living situation and whether or not they are in school; it does not illustrate relationships between these variables and children's AM work.

their future and the value they place on education are contained in Section 4.1.

Adult contributions on education

- In focus groups, many parents expressed the belief that children who try to combine AM work with school have difficulty studying well. Mothers in particular felt that AM work creates obstacles to children attending and completing school, although some fathers felt that children with sufficient academic aptitude could successfully combine school and AM work.
- Generally speaking, these somewhat contradictory views are similar to the responses given by children. Some in-school children pointed out the challenges their work posed to regular attendance and good study habits. Other in-school children said that AM facilitated their studies, although they specified that this was because of the money to help pay school fees.
- Many parents specified that their children were out of school because of their inability to pay school fees, which is consistent with what out-of-school children told us.
- ▶ Fathers asserted that since they themselves have no other employment options outside of AM, they cannot allow their out-of-school children to remain idle, and thus ask their children to assist with the family's subsistence through AM work.
- Key informants also reflected many of the (at times conflicting) themes listed above. Some stated that dropping out of school was mainly due to unaffordable school fees, and that AM work provided a means for some children to pay these fees. Others believed that the lure of regular pay from AM was a distraction from school and therefore a contributing factor toward poor academic performance, irregular attendance, and the eventual dropout of older students.

Despite the many contributions from children and adults, the exact relationship between child AM work and schooling (particularly school dropouts) remains unclear and requires further study.

3.3.2 Child miners speak to the health impacts of their work in AM

- When asked whether AM can create health problems for workers, 81% (43 of 53 child miners) said yes. When asked what those health problems were, the most common answers identified bodily pains (including in the back, hips, arms, and legs), cough, malaria, headaches, colds and skin irritation.
- When asked if they had noticed changes in their own health since they began working in AM, 47% of children (25 out of 53) said yes. The 25 children who said yes comprised 59% (17 of 29) of all the boys interviewed but only 33% (8 of 24) of the girls.
- Children were then asked if they experienced seven specific symptoms, all identified by research team leaders as being associated with high exposure to copper and cobalt, in the short to long term¹⁸. The results were as follows:
 - ♦ 34% overall (18 of 53) experienced skin irritations or illnesses. Tasks reporting the highest incidence were gatherers at 67% (8 of 12) and transporters at 67% (2 of 3).
 - ♦ 67% overall (35 of 53) experienced frequent or persistent cough. The task reporting the highest incidence was gatherers at 92% (11 of 12).
 - 25% overall (13 of 53) experienced eye pain or difficulties with vision. Once again, gatherers reported the highest incidence; 42% (5 out of 12) reported this symptom.
 - 87% overall (46 of 53) experienced body pain (back, arms, etc.) that they had not experienced prior to working in AM. At least 75% of children in each of the task groups (e.g. diggers, gatherers, washers, etc.) reported this symptom.
 - 30% overall (16 of 53) reported nausea (without vomiting). 38% of washers (8 out of 21), most of whom are girls, reported this more frequently than children doing other tasks. Noteworthy: 100% of children who reported nausea also reported frequent or persistent cough. Admittedly, persistent cough was said

^{18 (}Elenge-Molayi & DeBrouwer 2011; Banza et al. 2009; Stern et al. 2007; ATSDRC 2004).

by adult informants to be very prevalent in the Kambove population in general, with the high levels of dust in the area acting as an irritant. However, the cough-nausea correlation amongst these children is worth further consideration. ¹⁹

When asked whether they believed these symptoms were linked to their work in AM, 75% of children (40 of 53) said yes. Those who said yes comprised 86% (25 of 29) of the boys and 62% (15 of 24) of the girls.

- When asked why they believed that their symptoms were linked to their AM work, I2 children cited the arduous nature of the work and/or heavy loads carried, while 7 mentioned the need to maintain a posture bent at the waist. Only three children mentioned contact with toxic materials as a reason, suggesting low levels of knowledge about this risk.
- ▶ AM sites are extremely dangerous. The risks of fatal accidents include:
 - The presence of deep holes that children can fall into (especially given that very young children accompany parents to the sites)
 - ♦ Cave-ins of mine pits and underground galleries in which children dig
 - Steep slopes upon which children can slip while carrying heavy loads
 - ♦ Bodies of water in which children can drown
- ▶ 53% of child miners (28 of 53) reported having been injured at least once while doing AM work. Gatherers (75% or 9 of 12) and transporters (75% or 3 of 4), followed by diggers (67% or 6 of 9) had the highest "yes" responses to the question, "have you been injured at work?" The most common injury reported (by 20 children) was minor cuts. Three children reported having had serious bleeding wounds, and two reported fractures.

- 42% of children (22 of 53) reported having seen*20 other children injured at work. Twenty children reported seeing other children getting fractures, while 11 had witnessed cuts.
- ▶ 19% of children (10 of 53) reported having witnessed* the accidental death of another child on an AM site.
- ▶ 47% of children (25 of 53) also reported witnessing* adults being injured at work. When asked what types of injuries these had been, 21 children reported seeing fractures, eight children reported seeing bleeding, and three children reported seeing an adult die. Two children specified that adult injuries resulted from the collapse of a mining pit.

Adult contributions on health

- Parents were very anxious about the health impacts of AM work on their children. They named several symptoms also mentioned by children, but added a few more issues of concern. Some mothers expressed a clear understanding that their children's smaller, developing bodies were more vulnerable to these negative effects.
- ▶ Parents highlighted:
 - Dust as causing respiratory disease, diarrhea, vomiting
 - Health impacts from radiation exposure (uranium mixed in the copper and cobalt)²¹
 - Fevers resulting from ingesting dirty water (and from failure to wash hands)
- They also stated having noticed in their AM working children:
 - ♦ Anemia
 - ♦ Frequent coughs
 - ♦ Abdominal bloating

¹⁹ See "Further research required on health impacts" section below.

^{*} It is possible that some children reporting on these events (injuries, accidents and deaths of others) may have witnessed the same event. For example, five children reporting having witnessed a death may not mean that five different fatalities occurred. However, it does mean that five children experienced the trauma of witnessing the event.

²¹ Key informants were more reluctant, but also tended to admit the possibility that children were being exposed to radiation from uranium, and therefore, to long-term health risks. However, they expressed this tentatively, and in one case added that scientific studies were needed to confirm this. Government officials have confirmed to WVDRC that radiation exposure is a concern.

- ♦ Eye pain and irritation
- ♦ Skin irritation
- Mothers, in particular, expressed concern about the long-term impact of their children's contact with the "acidic" water in which minerals are washed. Girls and women of all ages who work waist-deep in water experience genital infections, which mothers often treat themselves with antibiotics.
- Parents were also well aware that children were exposed to a high risk of accidents, from shovels and picks, from the highly irregular terrain, and above all from the deep mining pits. Some mothers stated that when they are busy working, they can only advise their children to stay away from deep holes and pray for their safety.
- Several adult focus group participants reported accidents involving a relative or a fellow AM worker
 — similar to what we heard from children. One adult had a permanent injury from an accident.
- Mothers, in particular, also expressed disapproval of alcohol consumption at the mining sites. They stated that certain miners (men and boys) drink to give them strength to work. A key informant expressed similar concern about alcohol consumption amongst adolescents, stating that it sets a bad example for smaller children. ²²
- Parents did not express significant fear that their daughters could be sexually exploited or victimized at AM sites in Kambove, or be drawn into prostitution. Some mothers stated that they had heard of cases of attempted rape, but that it was rare. Other forms of abuse of children by adults were also considered rare.
- One key informant emphasized the health risks related to the living conditions in AM encampments, particularly typhoid and STDs (and the inconsistent use of condoms). Another mentioned widespread problems of prostitution (in "hotels" at some AM sites), as well as child abandonment. Focus group participants did not mention these issues.

Box 4 || Children are not little adults

- Children have thinner skin, so toxics are more easily absorbed.
- Children breathe faster and more deeply, so can inhale more airborne pathogens and dusts.
- Children dehydrate more easily due to their larger skin surface and because of their faster breathing.
- Children absorb and retain heavy metals (lead, mercury) in the brain more easily.
- Children's endocrine system (which plays a key role in growth and development) can be disrupted by chemicals.
- Children's enzyme systems are still developing so are less able to detoxify hazardous substances.
- Children use more energy when growing and so are at higher risk from metabolized toxins.
- Children require more sleep for proper development.
- Children's less-developed thermoregulatory systems make them more sensitive to heat and cold.

From ILO, (2011), p. 13.

- Key informants believed that parents were well aware of most health impacts but that families enter AM as a livelihood of last resort.
- There was consensus from key informants that the negative health effects on children in AM outweigh any benefits of their work and that measures should therefore be devised to remove them from AM.

World Vision DRC staff have also been told about the link between alcohol consumption and the dangers of mining. One informant pointed out that the danger of cave-ins is substantially greater at the GCM dumping grounds (which include some of the areas visited during this research), compared to sites where digging occurs in more stable natural rock formations. World Vision staff have been told that adolescents and adults drink prior to working to quell the fear of cave-ins working in the tailings.

Further research required on health impacts

From the experience of children and adults involved in mining in Kambove it is clearly hazardous labour, both because of the immediate physical dangers and impacts, but also because of the long-term health impacts.

As the International Labour Organization points out, "Hazardous work cannot be acceptable for children because of basic biology. Children are not simply smaller adults, they are physically and mentally different." (ILO, 2011, p. 13) (See Box 4.)

Minerals mined in Southern Katanga are hazardous to child miners' and the wider community's health. Cobalt, for example, can damage the heart, thyroid and lungs. (World Health Organization. 1999) In one study in Katanga, cobalt was found in 87% of children living close to a mining site. The study at this artisanal mine measured the levels of 17 different metals and nonmetals in 47 children younger than 14 working in or living at the mine. The study showed far higher levels of toxic metals in children compared to adults, even though they had less direct exposure to the metals. (Banza et al. 2009)

Local World Vision staff and research assistants informed us that persistent cough has also been described as a symptom that is highly prevalent among the general Kambove population in the dry season as the result of high dust levels, largely from unpaved roads. Copper dust has been clearly identified as a respiratory irritant, with inhalation causing cough, and, with long-term exposure, lung damage. Inhalation alone can also result in gastrointestinal effects such as nausea and diarrhea, as inhaled dust deposited in the nose and throat is gradually ingested (ATSDRC 2004).

When eating and drinking, AM workers in Kambove would of course likely be directly ingesting copper dust that has settled on their hands and on food, as well as in drinking water.

In light of the findings of Elenge et al. (2011) on the far greater copper levels in hair samples of AM workers versus control groups from surrounding populations, the strength of the AM children's cough-nausea correlation, mentioned earlier, needs further analysis.

The water used for washing and sorting minerals was not tested during this research (but should urgently be analyzed), for whether it is acidic, alkaline, or contains toxins or bacteria. The link between regular immersion in this water and genital infections appears plausible. Self-treatment with antibiotics is itself problematic, as it is well known to promote antibiotic resistance in many developing country contexts. We heard during the research that these kinds of drugs are conveniently available from less formal dispensaries, meaning that they are often purchased without a formal diagnosis. This may also mean that they come without careful dosage instructions, with all the attendant risks.

While there are few definitive studies linking the uranium content of the minerals being mined by children in Southern Katanga to health impacts, the connection is widely assumed by adults and various stakeholders. World Vision staff in Kambove have noticed an increase in reports on stillbirths and babies born with severe deformities.

If nothing else, the reflections of child miners and adults and of related studies suggest further health research is a critical requirement for determining responses in AM sites.

The findings of this research, viewed in the light of studies on human metal absorption, such as Banza et al. (2009) and Elenge et al. (2011), indicate that in Kambove the health consequences even of relatively light and limited AM work (e.g., gathering) are likely serious enough that its harm and risks outweigh any benefits to the child — even in the present circumstances where children's contributions help put a daily meal on the table.



4 | Solutions proposed for the problem of child miners

This section explores these questions:

- In attempting to address problems relating to child miners, what initiatives have been successful? What initiatives have not been successful? And why?
- What must be done to make AM a safe and sustainable livelihood for families (in the shortterm, medium-term, long-term)? What role might World Vision play, and with whom might World Vision partner? (other NGOs, local government)
- What do adults regard as the wider development potential and challenges of Kambove? How does AM contribute to or detract from Kambove's wider development? What other kinds of development work are happening in Kambove (not directly related to AM), that could (or do) help address the problem of child miners?

What is the role of companies (especially mining companies) in Kambove's development?

4.1 Child miners' aspirations for the future

Although this part of the report primarily contains adults' suggestions for solutions to child AM work, it is useful to highlight some key findings relating to children's aspirations for their future, their desire (for the most part) to leave AM work, and the value they place on education. These are very important to bear in mind, when considering solutions.

The value that children place on schooling was a strong theme across all interviews; of 30 children who were not in school, 28 said they wanted to return (93%); of 23 children who were in school, all but one wanted to complete high school and over

Box 5 || Sample answers from AM children not in school as to why they wish to return to school

- "To be educated, like the other children who go to school."
- "To be a person of value in society."
- "Education is very important in life."
- "I want to learn a trade in order to help my family."
- "Because after my studies I want to be a mechanic."
- "Because I prefer to work for a company to help my mother."
- "It's better to study than to do this work."

half (12 of 23, and more frequently boys) wanted to complete at least a university undergraduate or higher degree.

- Box 5 gives answers from children not in school on why they wanted to return; Box 6 gives answers from children in school on why they wanted to continue studying to a higher level.
- When children not in school were asked if they thought it would be possible for them to return, 87% (26 of 30) said yes, and expressed the hope that somehow parents, siblings, or others would come up with the means to pay for their schooling.
- When children in school were asked if it would be possible for them to achieve the level of education they aspire to, 87% (20 of 23) said yes; Box 7 records their ideas about how it will be possible for them to keep on studying to this level. Many of these answers reflect the ongoing need for the ability to pay school fees in addition to good study habits.
- Children were asked if they want to leave AM work and do something else. 77% (41 of 53) children said yes.

Box 6 | Sample answers from AM children in school as to why they wish to complete secondary or post-secondary studies

- ▶ To be intellectual
- To be respected
- To become wise
- To be the boss somewhere
- To read and write well
- To be a professor
- To work for a mining company
- Because I like to study a lot
- To get a good job
- When asked if it would be possible for them to leave this work, 79% (42 of 53) said yes; when asked how it would be possible, the predominant explanation rested on their hope that parents, siblings or others would come up with sufficient money.
- Among the seven children who believed it would not be possible for them to leave AM work, the main obstacles were the lack of money and of other livelihood options.
- ▶ Box 8 shows children's career goals, which vary from commerce to doctor to tailor/dressmaker to engineer to mechanic to nurse to teacher.

4.2 Adults' suggestions for solutions

Key informants and focus group participants were asked to suggest measures to help withdraw children from AM work, protect them from its dangers, and allow them to continue with education or training.

4.2.1 Costs of education and child care

Consistent with parents' and children's assertion that unaffordable school fees force children out of school

(leaving them available for full-time AM work), some parents proposed that someone (government or NGO) should pay all school and health costs for children. Some parents in fact judged the earlier Groupe One intervention²³ to have been successful in helping children and their families, since school fees were at least paid for one year (some parents said two years).

When asked if access to daycare centres would help families to keep smaller children off AM sites, mothers noted that in their present circumstances, their daily earnings would not permit them to pay for any such services. To be an effective strategy, daycare would also have to be free.

Given the above findings from children and parents on the prohibitive costs of children's education, it was interesting to find only one key informant emphasizing the urgency of suppressing all schools fees in order to make education truly free. A second informant suggested that NGOs should take responsibility for paying all children's school fees. Subsequently, in response to the question of what World Vision should do to help children leave AM and complete their education, this informant suggested that World Vision build a school where they would cover children's fees for a certain time.

4.2.2 Agriculture and other alternative livelihoods

Most often, parents' perspectives on what should be done to facilitate children's exit from AM turned directly back to the question of *decent employment for adults*. This included the responsibility of government to create such employment: if parents could earn a living allowing them to pay for their children's schooling, children would go to school, they insisted. This would at least keep them out of AM during school hours.

Mothers expressed their preparedness to take up many alternative kinds of work. Initially naming agriculture as an attractive alternative, some mothers agreed that

Box 7 | Sample explanations of how it will be possible for children to study to their desired educational level

- "Continuing to study would demand a lot of money from me and my family." (Boy, 17, transporter, goal: high school diploma)
- "You have to have money." (Boy, 15, gatherer, goal: undergrad degree)
- "If my parents have the will to pay." (Boy, 15, digger, goal: undergrad degree)
- "We're going to get the money." (Boy, 13, gatherer, goal: high school diploma)
- "If I have someone to support me." (Girl, 14, washer, goal: high school diploma)
- *Because I'm still in the care of my sister." (Girl, 16, washer, goal: high school diploma)
- "(I'll) study a lot." (Girls, 13 and 16, vendor and washer, goal: high school diploma)
- "(I'll) work hard." (Boy, 14, gatherer, goal: high school diploma)

it required a speculative, long-term investment before crops yield income, and that they therefore would prefer forms of small commerce including dressmaking, or trading in clothing, and food products. Mothers referred specifically to the conventional trading methods ("troc"), in which corn, clothes, etc. are purchased, then sold or traded in-kind in villages, and the items acquired in villages resold in the urban or peri-urban areas. Some mothers stated that the ideal would be for men to work in companies and for women to engage in such forms of commerce²⁴.

²³ This intervention included supporting children's school fees, and assisting parents and older children (17 years+) with training in alternative income-generating activities, and assistance in launching them.

Security is an additional factor that has been raised when discussing the challenges of developing exit strategies and alternative livelihoods for artisanal miners. Specifically, Perks (2011) has suggested that an additional attraction of AM sites has been their relative security in regions where conflict has been prevalent. However, with conflict not being a concern in Kambove at present, the presence of police or other security forces at mines sites was not cited by FG participants as an advantage or attraction of AM work. In fact, some mothers, aware of the health and safety risks to themselves and their children, asserted that work at home is generally safer and more secure than work in AM, giving them still another reason for preferring other options over AM.

Box 8 || Children's stated career goals

career goars		
• "anything"	-1	
b "boss"	-1	
commerce	10	
company worker	-1	
▶ doctor	7	
tailor/dressmaker	4	
▶ driver	2	
driver/mechanic	2	
electrician	-1	
engineer	4	
▶ housewife	-1	
▶ lawyer	-1	
▶ mechanic	4	
mines and agriculture	-1	
▶ nun	-1	
nurse	4	
pastor	-1	
▶ politician	-1	
professor	1	
teacher	3	
▶ NR	3	

The forms of employment suggested by fathers included agriculture, aquaculture, egg production, livestock, canning facilities (it was mentioned that there had previously been one in the area) and commerce in general. Fathers also suggested creating low-cost trade schools for employment training. Contrary to the assertion of one key informant, parents did not express any hopes or expectations of employment from *GCM*.

Key informants affirmed that agriculture had once been a significant livelihood in the peri-urban areas of Kambove and that there was potential to re-establish it, consistent with (they said) the governor's agriculture vision for the province as a whole. Based on the limited success of past interventions, one informant was pessimistic, stating that World Vision and others could try to encourage cultivation of corn, but since people have gotten used to the life of mining, its chances of success were limited.

Others agreed that people would need much support and orientation to make the transition to agriculture, and would have to overcome their habituation to instant money and their resistance to "rural work".

Informants also commented that agriculture would surely need to be modernized through the use of tractors. One informant spoke of an earlier (provincial) government program that had sought to promote agriculture by donating tractors to Kambove, but he lamented the program's inadequate local management and an absence of follow-up. He criticized government-run programs in general, which he viewed as less promising for effective management than privatization.

One informant suggested cultivation of orange and lemon trees in the area. Other suggestions for alternative livelihoods included aquaculture and poultry raising. More in the category of a business idea, one informant suggested that there was a niche in Kambove for a cyber café.

Both mothers and fathers emphasized the need for assistance in the form of materials and capital for launching any small commerce. Some mothers favorably viewed Groupe One's provision of goods to parents to begin selling. If some parents had failed to grow those inputs into a sustainable business, their own poor business management was partly to blame, some parents asserted.

4.2.3 Reforming and upgrading AM

Although the results of the child questionnaire suggested that mothers are more implicated than fathers in initiating children into AM activity, mothers did not profess any preferential attachment to AM, and did not make suggestions, as some fathers did, for improving the organization of AM or for bringing it to the level of small-scale mining in the ways purportedly being piloted

on official AM sites. These reported upgrades included more effective co-operatives and accessing excavators to expose mineral veins. Fathers also advocated for creating purchasing counters at AM sites in order to demand higher prices by eliminating the *négociants* as middle men.

For their part, *négociants* asserted that co-operatives are ineffective at present. They stated that AM could be improved for all if:

- There was one effective cooperative per site.
- Heavy machinery could expose minerals for artisanal miners.
- The various (government) structures and services that are reported to exist on official AM sites became more effective, making enforcement of all regulations more rigorous.

4.2.4 Law enforcement

Key informants unanimously stated that *all* child AM work is forbidden by law and that there are no AM tasks acceptable for them to be doing. Regarding both child labour in AM and AM work in general, it was acknowledged that government ministries and regulatory bodies, though present, lack the means to carry out their work. One informant stated that while the supervisors of AM children can officially be prosecuted and potentially imprisoned in the case of child accidents, in practice this has happened rarely if at all.

Therefore, one recommended action was to take more effective measures to enforce existing laws. However, no distinct recommendations were offered concerning resources and forms of capacity building that could be put toward this end. An emphasis on law enforcement as a means of withdrawing AM children or forbidding access to unofficial AM sites also seems to contradict informants' assertion that the law is difficult to apply where people have no other work options.

Négociant FG participants also spoke of an attempted International Labour Organization initiative, apparently not carried out in Kambove. In an unspecified area, community members had been given a "code of conduct" and officials had tried to forcibly restrict children's access to mining sites. The focus group participants reported that this initiative did not receive its full funding, and the planned activities to withdraw children from mining

were not implemented for lack of budget. Some of these participants also criticized these efforts to remove child workers as rendering mining work less profitable.

Participants of the *négociant* focus group also noted that another negative aspect of incomplete and unsuccessful initiatives to remove children from mining is that they have made the population skeptical about future similar actions.

4.2.5 Other government, co-operatives and mining company roles

One informant stated that an important form of government involvement has been to sign agreements with private mining enterprises to open some sites to AM and assist in exposing minerals with machinery. In these cases, however, the miners have been obligated to sell the minerals to these private enterprises, creating a monopoly that has withheld bargaining power from miners. In addition, négociants have lobbied against this approach in order to maintain the status quo in which they profit. One key informant asserted that négociants may even resist the removal of child workers out of concern for the loss of their profitability.

An informant offered very general reports of positive contributions from the co-operative CMKK on official AM sites elsewhere in Katanga, including cleaning up sites, increasing availability of health care, construction of shelters, and generally ensuring that AM was practised in accordance with technical and safety norms. Whether this entailed providing gloves, dust masks, or other equipment was not specified. It was also acknowledged that sites without effective co-operatives, such as most unofficial AM sites, had seen no such innovations or improvements.

Another crucial role of government, emphasized by one informant, is in negotiating and enforcing contracts with foreign mining companies to ensure that local employment is created. The informant pointed out that according to the provincial governor's decree, mining enterprises are supposed to cultivate fields of 500 hectares but many don't do it, because it was not part of their contract when it was negotiated with the national government. This informant commented: "... They come here for mineral extraction but what is in their contracts? [The DRC government] used to require them to do things in order to extract minerals. You can't make

them do this retroactively, if they've already signed a contract."

One informant stated that the government also had a role to play in making (government) schools more "attractive" through quality improvements. Another asserted that teachers have been partners in efforts to withdraw children from AM and re-enroll them, but without specifying how.

Two informants stressed that the issue of children in AM was clearly the responsibility of the government. One of these expressed the belief that decentralization offered hope for establishing the provincial and local administrative capacity to comprehensively study and respond to the situation. However, other informants, when asked about solutions, mainly spoke of the contributions NGOs could make through various strategies, with one explicitly stating that the government's role was to support NGOs logistically, partly by securing building plots for the creation of recreation facilities for youth.

4.2.6 NGOs' roles and livelihoods strategies

Many informants stated that there was much NGOs could do to keep children in school, as well as to facilitate parents' transitions from AM to other livelihoods.

Assessments of previous NGO interventions ranged from dismissive to thoughtful analysis that can inform future efforts. Two informants asserted that previous measures had hardly any results to show for them.

One stated: "NGOs who up until now have tried to do something have not succeeded because they did not attack the causes of children's presence in the mines, but rather only the consequences." Another explanation proposed for the lack of results was that there has simply not been enough financing of NGOs' direct interventions on the ground.

Concerning the lessons learned specifically from the Groupe One intervention²⁵, one key issue raised was the need for greater follow-up, monitoring, checks and balances, and safeguards to ensure that NGO-initiated processes remain on track. One informant offered more

detailed discussion along these lines, emphasizing the need to:

- Continue awareness-raising of parents (for example, about the importance of education and the law relating to child labour).
- Help parents make the most of their income.
- Retrain parents of children in AM, giving them other job options.
- Go beyond interventions only targeting individual families (for example, by creating associations with effective formal statutes and regulations).

All of these are intended to continually re-orient the livelihoods and priorities of parents. Indeed, this informant also stressed that in order to withdraw children from AM and ensure that they attend school, parents must be the focus of interventions. In his view, although parents strongly express commitment to their children's education, and though it is widely claimed that families are not in AM by choice, it is still necessary to continue working at the level of parents' mindsets, concepts, and money management skills. One should not give direct assistance to parents without awareness-raising, he argued. Good management begins in the mind.

One informant stated that in the case of the Groupe One intervention, some parents were set up in alternative trades or revenue-generating activities in which they had no experience or background, and therefore they did not succeed. A second informant also pointed out that one needs to match alternative livelihoods to the competencies and background of the individual. However, we also heard that parents who chose a trade that they knew well were in fact able to succeed and sustainably pay their children's school fees. (The percentage of such successful parents was not stated.)

When asked whether NGOs should prioritize interventions for any particular category of children working in AM (given limited resources), one informant argued for first selecting orphans and other children in the most vulnerable family and life circumstances, rather than first targeting children who undertake more

²⁵ We would like to emphasize that comments on the Groupe One intervention are those of our informants and that WV is unable to judge their accuracy.

(apparently or immediately) dangerous tasks in AM (such as diggers).

Our child questionnaire data arguably supports this approach (since child workers other than diggers were found to have higher rates of health complaints and children living without parents were most likely not to be in school).

We also heard about NGO-run professional training programs intended to transition both children and adults out of AM. There was local demand for these programs, which one informant saw as evidence of local people's commitment to education and training and their dissatisfaction with AM.

These training programs included skills such as tailoring and becoming a chauffeur/driver (and there was a report of graduates having secured employment as drivers). However, the attrition rate was said to be a problem, when the training ran over a period of months. Training costs were also a challenge — apparently, teenage miners had expressed interest in the chauffeur/driver training, but could not pay for it.

This information was provided during a discussion of the challenges posed by people's habituation to (and/or need for) daily pay from working in AM. The implication was that those learners who dropped out of training programs returned to AM. One informant suggested that the mindset of habituation to daily pay needs to be the target of awareness-raising among older children and adults.

One informant also mentioned that an NGO had created a school in 2004 near a former AM site. It could potentially be helpful to learn more about this experience.

4.2.7 Youth recreation facilities

Several informants pointed out that an additional causal factor behind children's work in AM is the absence of any recreational spaces or organized activities in which to spend their time. During a brief site visit, we observed that even the recreation facilities originally provided by GCM (exclusively for children of their employees) had been derelict for many years. Informants therefore recommended the creation of recreational spaces and activities for youth, ranging from soccer fields to vacation camps. One informant suggested that such initiatives

should involve the co-operation of the Ministry of Education and the Division of Social Affairs.

4.2.8 Addressing health impacts

While all informants expressed awareness of and concern about health impacts on AM workers, and especially children, there were relatively few suggestions for addressing this aspect of the issue (beyond the urgent removal of children from AM). In particular, there was no discussion of the ways in which NGOs might intervene to attenuate health and safety risks to children in the short term (before effective solutions for sustainably removing them are implemented).

However, one informant did recommend more awareness-raising on health risks, especially among children themselves, as well as the creation of health facilities closer to AM sites — although in our opinion, it could be difficult to establish public (government) health posts for unofficial AM sites. We would apply the same caveat to another informant's suggestion of an annual medical check-up for *creuseurs*. Could such a system be made functional for the majority of miners who do not hold official cards, not to mention all the children engaged in other AM tasks?

4.2.9 World Vision's potential role

Informants offered several concrete suggestions for our role in bringing solutions to the problem of child miners. As mentioned earlier, one suggestion was that World Vision build a school and pay its teachers and other operating costs (Section 4.2.1). This same informant somewhat doubtfully proposed that World Vision support corn cultivation. Another recommended that we support existing schools near AM sites.

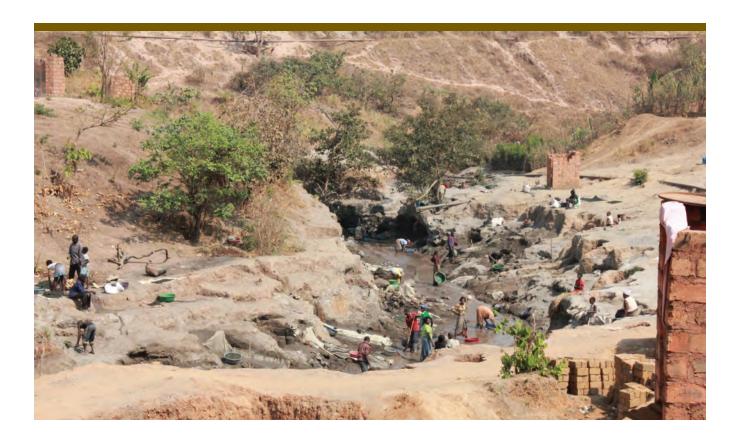
In one informant's view, World Vision should assist local NGOs with materials and equipment (e.g., sewing machines) and otherwise support them in their existing training programs for alternative revenue generating activities. An informant who seemed to believe that many children are in AM work as a result of having conflicts with their families proposed that World Vision support structures and activities related to fostering and reintegrating children who have been withdrawn from AM. (The idea here seemed to be that such children

would need preparation and support in order to reintegrate into their families).

Another suggestion from two separate informants was that World Vision should collaborate with government agencies on research into situations of child labour in AM. Others proposed that we partner with local administrative structures in their awareness-raising activities among parents, as well as in advocacy and lobbying to authorities for effective structures of child care and protection.

Several informants stated that there is a limit to the effectiveness of awareness-raising²⁶ among parents who presently have no other employment options and truly require the assistance of their children in AM in order to put food on the table. Yet there was also a range of respondents who clearly believe that awareness-raising among parents is still an important component of any strategy for withdrawing children from AM work.

²⁶ The Division of Social Affairs and the Division of Gender, Family, and Children were reported to conduct regular awareness-raising.



5 | Child miners: a wicked problem, a development challenge

5.1 Child miners speak

By listening carefully, we heard that:

- ▶ Girls and boys are very much active as miners on the unofficial artisanal mining sites around Kambove. From an early age they participate in the full range of AM activities, from digging to washing and sorting.
- Child miners in Kambove are not forced to work, but choose to work, and are taught how by parents as a means of supporting the family's income in a situation of extreme poverty. Naturally, we recognize that children's choices may be so socially conditioned that they do not constitute "free choice." Nevertheless the research clearly shows that many children choose work in the context of choices about family and are not overly coerced. However, there was evidence of children being taken
- advantage of in terms of payment and the conditions under which they worked.
- Working in AM is intimately linked to participation in school. Over half of those child miners interviewed had dropped out of school, and those in school also participated in AM at least some of the time. The inability to pay school fees was a barrier to school. The exact cause and effect relationship between working in AM, school participation, and inability to pay school fees was not fully clear in the research.

- The health impacts of child mining are significant: the immediate dangers of injury, as well as the longterm health impacts of high exposure to copper and cobalt minerals. Additional research and greater awareness among child miners and the community are needed.
- At the Kambove artisanal sites, the impact of conflict or sexual assault are very limited compared to other locations in DRC.
- Both child and adult miners consistently say they would prefer not to be working in AM. Children overwhelmingly preferred to be in school, and had high aspirations for the future, their career, and their contributions to the community.
- ▶ There is/has been limited capacity by government bodies, NGOs and other stakeholders to sustainably and consistently create a better social and economic situation, to enforce regulations, or to develop alternative opportunities that would create the conditions for child miners to leave the mines.
- One of the key proposed ways to facilitate children's exit from AM is the opportunity for decent employment for adults. There were a variety of proposals for facilitating such alternative employment, from training to creating co-operatives to capital to financial skills.

What is heartwarming is to observe the resilience and courage of child miners and their families confronted with the difficult choices that poverty presents. Child miners remain incredibly hopeful. They aspire to new opportunities for themselves, if only they could complete their schooling.

5.2 Hazardous labour

The findings contained in this report show quite convincingly that AM has significant impacts on the well-being of child miners, as well as on that of their parents and others who work in this setting.

Some authors, particularly Hilson (2010), have suggested that AM work in Africa can in fact be light work that is well adapted to a child's capacities, and that "going to the

mines" to support the family should be judged to be as harmless as "going to the fields." Hilson therefore argues that observers should avoid automatically assuming that AM work qualifies as one of the "worst forms of child labour" under ILO convention 182.

However, the findings of this research, viewed in the light of studies on human metal absorption, such as Banza et al. (2009) and Elenge et al. (2011), indicate that in Kambove the health consequences even of relatively light and limited AM work (e.g., gathering) are serious enough that its harm and risks likely outweigh any benefits to the child — even in the present circumstances where children's contributions help put a daily meal on the table.

As the International Labour Organization points out: "Hazardous work cannot be acceptable for children because of basic biology. Children are not simply smaller adults, they are physically and mentally different." (ILO, 2011, p. 13) The inevitable conclusion is that all children should be withdrawn from AM activity on Kambove AM sites.

5.3 A wicked problem

Unfortunately, being able to get to the point of withdrawal of child miners from artisanal sites in Kambove, presents itself as a wicked problem. "Wicked" in this context is not meant in a moral sense denoting evil, but emphasizes that children working in AM is a complex problem that defies any sort of linear solution.

Wicked problems are difficult to clearly define, they have interdependencies, and they are usually multicausal. Addressing them often lends to unforeseen consequences. Thus they do not tend toward easy solutions. They are socially complex, with the responsibility for the problem falling on multiple actors. Solutions require changing the individual behaviour of citizens and also often require external influence (regulation, etc.). ²⁷

As we have heard from child miners and the wider community in Kambove, the reality of children working in AM is a highly complex problem, interlinked with poverty, a lack of social services and alternative

²⁷ This list represents some of the common characteristics of wicked problems. "Tackling Wicked Problems: A Public Policy Perspective" Australian Public Service Commission, 2007. http://www.apsc.gov.au/_data/assets/pdf_file/0005/6386/wickedproblems.pdf

employment, limited education and health impacts, and exploitation. And, as we have seen in the Kambove community's own proposals, finding solutions to the problem of child miners are also many and complex. Sometimes those proposing them had doubts about their viability. Interventions already tried have tended to be narrowly defined and relatively short term.

5.4 Canary in the mine: a development challenge

Wicked problems are no surprise when it comes to aid and development. Development challenges and their solutions, particularly in fragile states like DRC, are often complex and multi-layered and require a variety of interventions and solutions.

In this sense, child miners in Kambove, DRC, are like the proverbial canary in the coal mine²⁸: they are a symbol of the overall development challenges in DRC. The unhealthy and unsafe AM conditions experienced by children need to be understood and addressed within the larger context of DRC.²⁹ The child mining problem is too thoroughly embedded in the overall context to be dealt with in isolation. Without a broader perspective, efforts to alleviate the problem are almost certainly doomed to failure. Programming and advocacy efforts that address directly those children involved in the worst forms of child labour are of course required, but they must be done with a view to the wider development challenges in DRC.

As one of our key informants stated, previous attempts at solutions "have not succeeded because they did not attack the causes of children's presence in the mines, but rather only the consequences."

5.5 Seeking solutions

In the face of the key findings articulated in this report and, and the findings of other research, World Vision DRC and its partners are beginning to develop specific recommendations and proposals for solutions to the problem of child miners, within the larger context of

development in DRC. These specific recommendations, in more detail, will be forthcoming in a future publication.

Our research in this report remains a snapshot of a particular community at a particular time. However, the voices of these child miners and the other members of the Kambove community point to several key areas of intervention that warrant attention.

- For each area of DRC and each community, continue to listen to child miners speak and undertake additional research to understand the community specific circumstances, impacts and drivers of the problem of child miners, as well as possible solutions.
- Build community and child miner awareness of the long-term health impacts, the dangers, the lost opportunities from not attending school. This could also include understanding the mining code and DRC law regarding the rights of women and children.
- Improve the capacity of various government agencies to understand and improve various laws and policies; and to regulate artisanal mining so that it can be a safer and sustainable part of the Congolese economy.
- 4. Improve local community socio-economic development. Sustainable poverty alleviation and development services and programs (livelihoods, health, water and sanitation, education, etc.) are first of all the responsibility of the various levels of the DRC government and local service providers. International NGOs and mining companies can play their own role in supporting the capacity of the government and local communities to provide such services.
- Create the conditions for a thriving, diverse, and sustainable local economy that includes alternatives to AM, but which also where possible formalizes AM so that it can be safer, sustainable and a contributing part of the Congolese economy.

²⁸ In the UK and the United States, canaries were carried into a coal mine in a cage. They functioned as early warning systems, because toxic gases such as carbon monoxide, methane or carbon dioxide in the mine would kill the bird before affecting the miners. Signs of distress from the bird indicated to the miners that conditions were unsafe.

²⁹ DRC ranks last in the 2012 Human Development Index.

- Identify the role of mining companies, national and international, and other development actors in addressing the problem of child miners in DRC..
- 7. Build in continuous learning and evaluation to all interventions. Wicked problems will not yield simple solutions. They need continuous evaluation, potentially new things to be tried and new connections to be made between interventions.

The challenge of child miners will require long-term and sustained engagement and participation of a variety of stakeholders. Solutions will not be found in short-term projects addressing one or two factors during the life of the funding of that project. Solutions will be found with full engagement of government at all levels, with local community organizations and leaders, with supportive faith communities, NGOs and other stakeholders. Most importantly, solutions will be found with clear participation and engagement of those most affected: the children and their families.

5.6 World Vision's commitment to address the challenge of child miners

As Jerry Kazadi, Deputy National Director of World Vision, has stated: "We can't do our development work and ignore this phenomenon; if we do we are building a house on sand."

World Vision's approach is based on the understanding that the progressive realization of child well-being requires transformation at the systems and structures level, as well as the community level, to address injustices and ensure sustainable solutions for lasting peace and development.

In order to more fully reduce the negative effects of extractives on children's health and protection, World Vision DRC is committed to the following in the near term:

- Ongoing research, assessments, and learning in the communities in which we work.
- Engaging with the government and its various agencies to identify the best ways of finding solutions to the challenge of child miners.
- Piloting initiatives in several Katanga communities, in partnership with local communities, civil society organizations, and the church to empower communities to be knowledgeable, to speak for their children, and to find solutions to the challenge of child miners.
- Exploring more deeply the role that World Vision DRC can play, along with partners, to create the conditions for a thriving, diverse, and sustainable local economy that includes alternatives to AM, but which also where possible formalizes AM so that it can be safer, sustainable, and a contributing part of the Congolese economy.

World Vision's on-the-ground presence in DRC communities (usually for 15 years or more), our focus on children, our experienced approach to long-term development, and our strengthening advocacy impact can, we believe, make a lasting contribution to this issue in DRC.

World Vision DRC looks forward to working with the government, and with all of the stakeholders mentioned above to ensure that the voices of child miners are heard and are addressed.

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