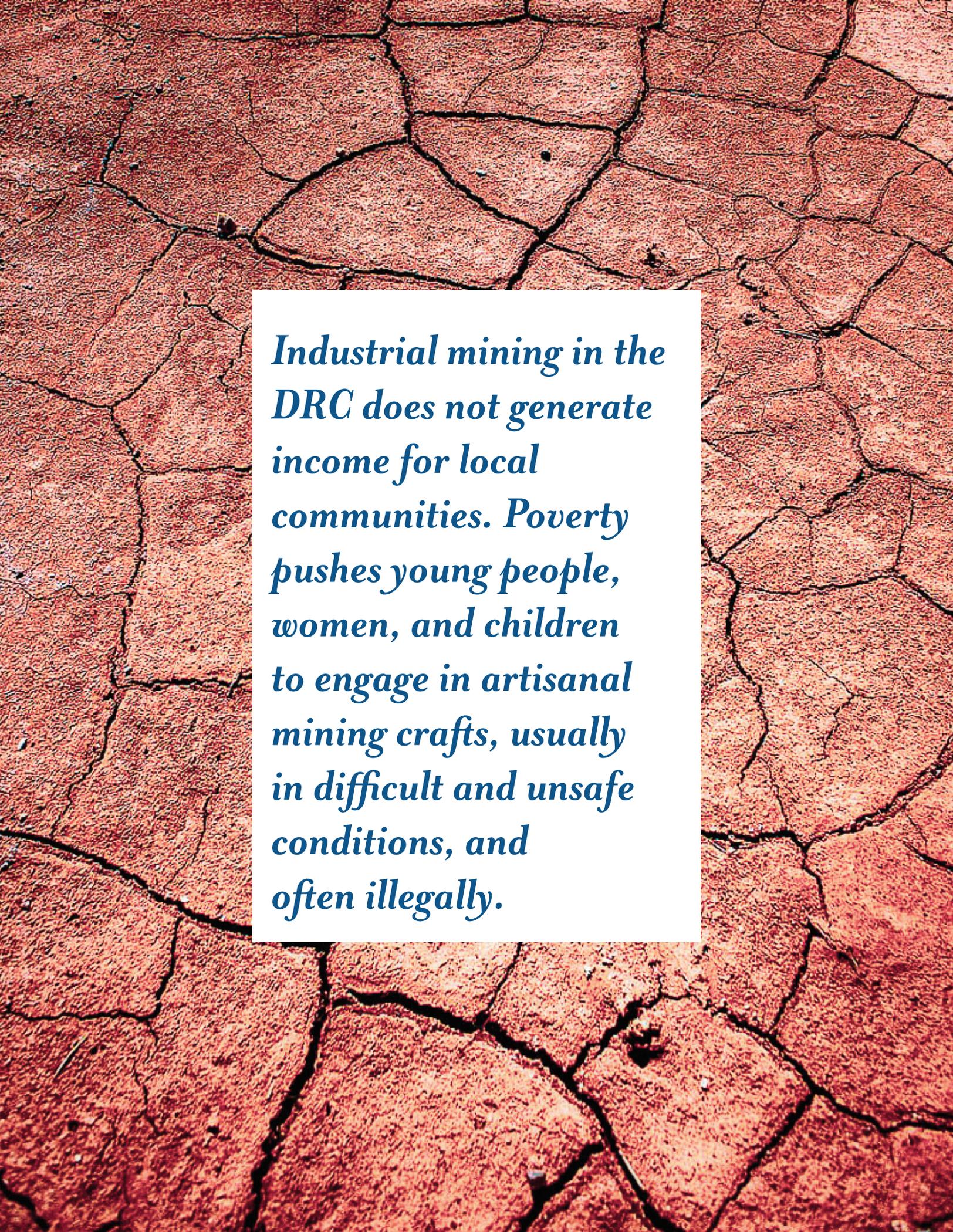


Mining Alternatives Project

Advancing Sustainable Livelihoods in the Democratic Republic of Congo



*by Fr. Jean Nyembo SJ, Fr. Jacques Nzumbu SJ, and Mr. Adrien Mutombo Lenge, CARF
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Design by Ricardo Cortez, Miller Center for Social Entrepreneurship*

The background of the image is a close-up photograph of dry, cracked red soil. The cracks form a complex, irregular pattern of polygons across the entire frame. The color is a rich, earthy red with some darker and lighter variations due to the texture and lighting.

Industrial mining in the DRC does not generate income for local communities. Poverty pushes young people, women, and children to engage in artisanal mining crafts, usually in difficult and unsafe conditions, and often illegally.

Executive Summary

The 2002 mining code in the Democratic Republic of Congo galvanized industrial investment and raised high hopes among local communities. However, “locals have seen few benefits. Congo remains one of the world’s least developed countries, plagued by corruption and poor governance”¹ – creating disillusionment among the population.

Indeed, some local mining communities believe that they have lost everything with the advent of industrial mining. To survive, communities illegally occupy unused land and extract minerals from mining parcels granted to industrial companies by the Congolese state. A parallel economy of survival through artisanal mining – small-scale, unlawful, and dangerous subsistent mining – is therefore underway.

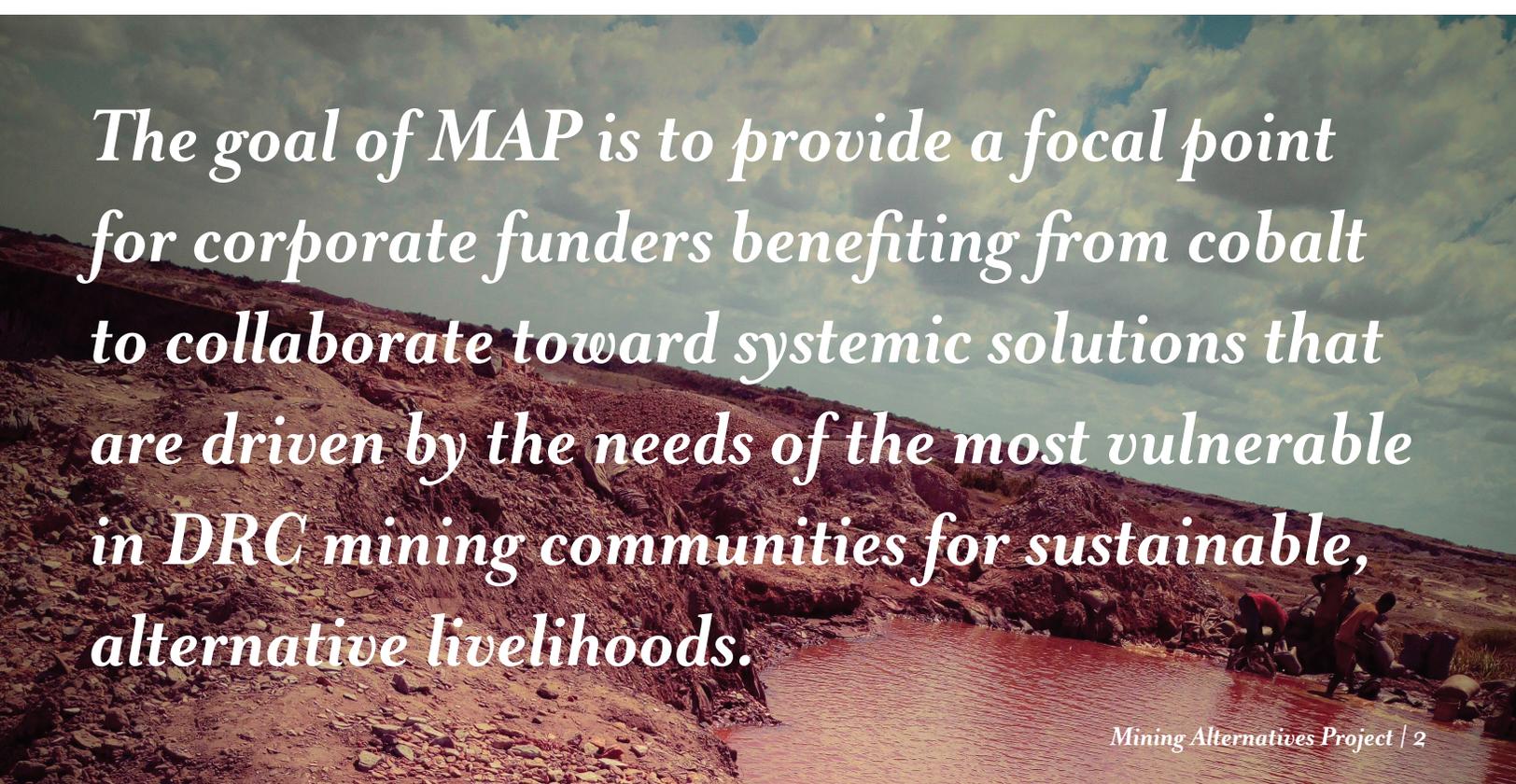
The Mining Alternatives Project (MAP) research study was conducted by DRC-based Centre Arrupe Pour La Recherche et La Formation (CARF) in partnership with Miller Center for Social Entrepreneurship at Santa Clara University.

MAP’s research focuses on the following objectives:

Phase I: Assess the social, economic, and environmental impact of industrial and artisanal mining on these key mining communities, as well as local perceptions of the effectiveness of responsible sourcing initiatives for cobalt, such as traceability and certification.

Phase II: Identify viable and effective alternatives to remove vulnerable women and children from industrial and artisanal mines and to improve family livelihoods in local mining communities in the DRC.

Phase III: Investigate and analyze existing and planned programs with similar goals in DRC mining regions.



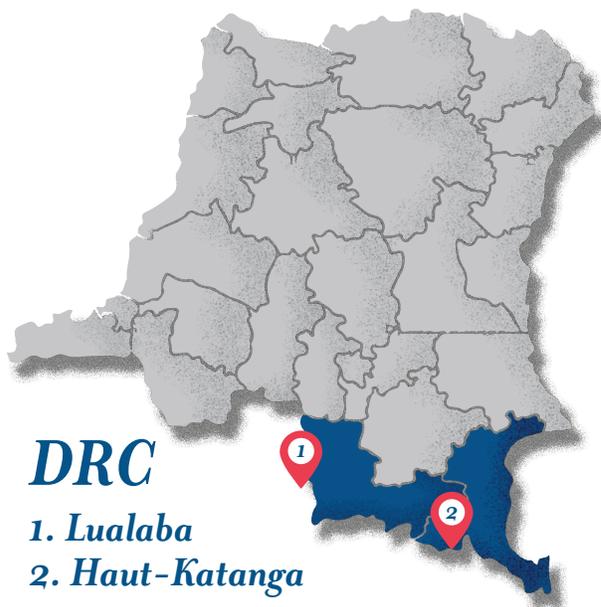
The goal of MAP is to provide a focal point for corporate funders benefiting from cobalt to collaborate toward systemic solutions that are driven by the needs of the most vulnerable in DRC mining communities for sustainable, alternative livelihoods.

Mining in the Democratic Republic of Congo

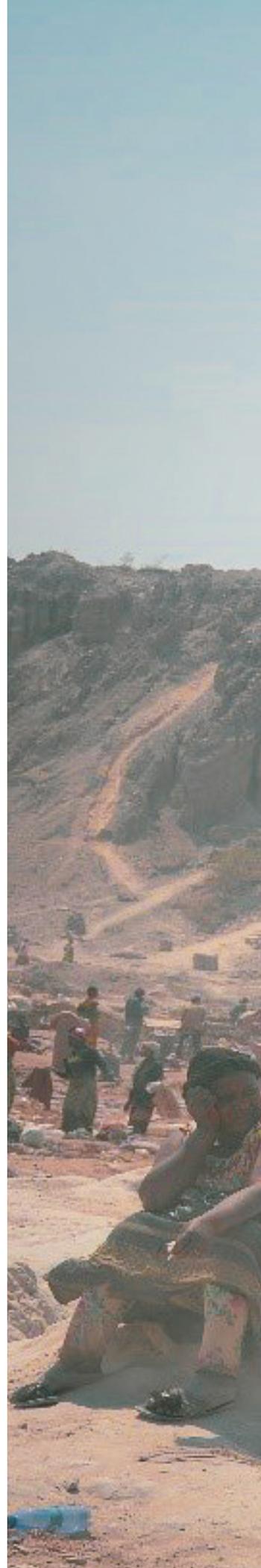
The Democratic Republic of Congo, a country the size of western Europe, holds approximately half of worldwide cobalt reserves and accounts for roughly 60% of global cobalt production. The DRC also has vast copper reserves, as well as gold, diamonds, zinc, tin, and a host of other minerals. Despite its wealth of resources, the World Bank estimates that 72% of the DRC's 80 million people live in extreme poverty, defined as living on less than \$1.90 per day.²

The proliferation of technologies requiring cobalt has led to rising demand for the mineral. It is a key ingredient in lithium-ion batteries widely used in electronics, including smartphones, tablets, and laptops, as well as electric vehicles, gas turbines, and jet engines. In 2017, demand for cobalt "rose above 100,000 metric tons for the first time [and] industry experts expect to see 2020 demand reach 120,000 tons per year."³ And that is just the beginning. A study by a team from MIT, with colleagues from Alfred University, UC Berkeley, and RIT, estimates the global demand to range from 235,000 to 430,000 metric tons in 2030, largely due to increased demand for electric vehicles.⁴

The DRC's cobalt deposits are concentrated in the provinces of Haut-Katanga and Lualaba, specifically in Lubumbashi, Lwisha, and Likasi in Haut-Katanga and Tenke-Fungurume, Kambove, and Kolwezi in Lualaba.



Hundreds of artisanal miners washing minerals at Kamilombe mining site near Kapala village, Kolwezi.



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Industrial and Artisanal Mining

With the liberalization of the mining sector in 2002, private foreign investment flooded into the DRC, with at least 25 multinational companies extracting copper and cobalt there by 2011. These companies – from China, Switzerland, the United Arab Emirates, Luxembourg, and other developed countries – are engaged in commercial-scale, industrial mining. Industrial mining accounts for 80% of cobalt production in the DRC. Yet there is a lack of supply chain transparency and some multinational mining companies are known to source from artisanal miners to balance their supply.⁵

Artisanal mining is characterized by small-scale, often illegal operations, conducted in sweltering heat under hazardous working conditions. Child labor and other human rights violations are rampant. According to Amnesty International, approximately one-fifth of the DRC's cobalt production is mined by hand by informal miners including children. "An estimated 35,000 children work in perilous conditions to extract cobalt from the ground in the Democratic Republic of Congo."⁶ The risks of artisanal mining to vulnerable populations and the meager livelihoods these miners eke out are cause for international concern.

Children sneaking into Ruashi mining site to collect mining waste in Lubumbashi, Haut-Katanga.









Recent Developments

The Responsible Cobalt Initiative is an international industry coalition established in 2016 to improve transparency and governance and “combat the social and environmental risks in the cobalt value chain.”⁷ Further, in 2018, the DRC passed into law revisions to its mining code, including improved environmental and social provisions, along with increased taxes on mining companies. While both promise benefits for the Congolese people, it is not yet known the extent to which these initiatives will be successful and whether there will be detrimental unintended consequences.

Félix Tshisekedi was elected president of the Democratic Republic of Congo in December 2018, marking the first peaceful transition of power in the DRC since its independence from Belgium in 1960. However, the current socio-political context is characterized by a weak central government following Tshisekedi’s contested election and militarization of mining concessions. In June 2019, Congolese authorities deployed the army to clear tens of thousands of artisanal miners from mines in Lualaba. Within days, local activists reported human rights violations near one site, including soldiers torching market stalls and dozens of homes.⁸ In July 2019, Amnesty International called for a withdrawal of troops from another site to avoid “unlawful killings.”⁹

In June 2019, the army was deployed to clear tens of thousands of artisanal miners from industrial mines.

Mining Alternatives Project Research Study

The Mining Alternatives Project research study focuses on effective and sustainable alternatives to mining; its social, economic, and environmental impact; and current projects targeting mining alternatives in the DRC. The overarching goal of this study is to provide the evidentiary basis for a follow-on project that would improve the quality of life for vulnerable populations in mining communities, particularly women and children. Ideally, a future project would have a transformative impact on families living in cobalt mining communities – generating income for women and youth, engendering new skills and self-sufficiency, and providing livelihood alternatives that will enable people in those communities to become architects of their own futures.

To achieve MAP's goals, CARF focused this study on the mining communities of Lubumbashi, Lwisha, Fungurume, and Kolwezi for two main reasons: (1) the large numbers of local people impacted by mining activities; and (2) the sheer number, size, and production capacity of the mining companies operating in these sites

The five largest mining companies operating in the DRC, which account for approximately 80% of national cobalt production (*see table on pg 10*), as well as a number of others, have mines in the sites CARF studied. Further, we estimate that the mining sites in our study area represent approximately 60% of total cobalt production in the DRC. Thus the interviews for each phase of this study were conducted with a majority of cobalt mining communities. This breadth of perspectives differentiates MAP's project proposals from other existing or planned projects that, in most cases, are located in just one community. In this way, we believe our approach to improving conditions has the potential to create an amplified impact in the mining communities, as well as to provide the basis for a scalable model for other regions.

The MAP study was completed by Fr. Jean Nyembo SJ and Fr. Jacques Nzumbu SJ. Fr. Jean is Managing Director of CARF (Centre Arrupe Pour La Recherche et La Formation) in Lubumbashi and Jacques is CARF's Director of Research. Both are highly-educated Jesuit priests who have lived and worked in DRC mining communities for many years and are trusted by the local communities. They have also conducted extensive research on artisanal mining and sustainable development. Both trained in social entrepreneurship at Santa Clara University's Miller Center for Social Entrepreneurship.



Laboring at Kamilombe mining site.



Woman carrying minerals from Kamilombe to sales points.

The MAP research complements and builds on other field and academic research, including the *Center for Effective Global Action (CEGA) Policy Report on Artisanal Mining, Livelihoods, and Child Labor in the Cobalt Supply Chain on the Democratic Republic of Congo*. The CEGA research focuses on child labor in the copper-cobalt belt and on the organization of the artisanal cobalt supply chain, providing invaluable insights in these areas. For instance, “the households of children [in mining] are on average poorer, have more children, are more likely to have an adult working in mining, have less education, experience greater anxiety, are more superstitious, demonstrate lower mental attention, and live closer to a mining site than the other households in the mining communities.”¹⁰

Another complementary study was sponsored by the Netherlands Enterprise Agency (RVO) in partnership with Fairphone, Signify, and Huayou Cobalt, and conducted by The Impact Facility for Sustainable Mining Communities. The resulting report, *Digging for Change: Towards a Responsible Cobalt Supply Chain* published in June 2020, profiles mining activities and challenges around child labor in the region and points toward the importance of addressing poverty as the root cause. The report notes that while artisanal mining of cobalt will likely be a feature of the sector for some time, now is the time to begin thinking about what a just transition for artisanal miners and their children could look like to avoid the shock of mass unemployment. Boosting entrepreneurship is a key component. However, local entrepreneurs are confronted with a multiplicity of challenges that make it difficult for them to start businesses that will provide the significant number of jobs needed in their communities.

Industrial Mining Companies Operating at MAP Sites

Mining Company	Percentage of National Cobalt Production 2017-2018	Community
Mutanda Mining Glencore, Switzerland	29%	Lualaba
Tenke Fungurume Mining China Molybdenum	21%	Fungurume
Congo Dongfang Mining China	18%	Lubumbashi
Ruashi Mining China	6%	Lubumbashi
Etoile Mine/Chemaf United Arab Emirates	6%	Lubumbashi, Lwisha, and Kolwezi

Phase I: Community Impact of Mining

The first phase of the Mining Alternatives Project aimed to analyze how the activities of cobalt-related mining companies affect families and the living conditions of local communities in Haut-Katanga and Lualaba provinces, specifically Lumbubashi, Lwisha, Fungurume, Kolwezi, Kapata, Mutoshi, and Mutanda. *(Appendix Charts 1-4)*

Methodology and Findings

Phase I was conducted by CARF from May 17-24, 2019. Surveys were administered to 316 stakeholders through individual and group interviews. Respondents identified the following perceived social, economic, and environmental impacts of industrial mining:

People Surveyed	% of Total	Total #
Community Leaders	2.8%	9
Women	24.6%	78
Children	4.1%	13
Heads of Families	19.6%	62
Artisanal Miners	25.6%	81
Heads of Mining Cooperatives & Buyers	18.6%	59
NGOs & Religious Leaders	2.5%	8
Mining Companies	1.2%	4
State Services	0.9%	3
	100%	316



POOR AIR QUALITY

Local communities report suffering from eye diseases, dust in the air, unpleasant odors, lung diseases, vomiting blood, and miscarriages in some places.

Mineral dust and chimney smoke also pollute farmlands and fruit trees. The poor air quality resulting from mining creates a public health hazard.



WATER CONTAMINATION

Local communities believe that poor management of wastewater retention basins and the installation of pumping stations to supply mines have resulted in the drying and acidification of several rivers and springs and the loss of fish species. Springs and rivers are also polluted by artisanal mineral washing activities. Communities are concerned that the groundwater table of the water they consume is contaminated with acid from the retention basins.



SOIL DEGRADATION

Deforestation, soil acidification, and loss of biodiversity are the most serious threats to local communities. This makes it difficult to engage in traditional modes of the domestic economy, such as agriculture, fishing, hunting, and livestock.

It should be noted that more than half of community leaders, heads of families, women, and NGOs recognize the positive commitment of some industrial mining companies to education in certain mining communities. Almost as many community leaders, family heads, and women recognize a similar commitment to healthcare, although only 10% of NGOs credited mining companies with improving healthcare.

Commitment to Education: Some mining companies have engaged in the construction and rehabilitation of schools, distribution of school kits, and organization of extracurricular activities. For example, China's Tenke-Fungurume Mining has built schools in Lupoto, Buyobia, Lama, Tshamonga, Butoyoti, and Fungurume city. However, access to these schools is difficult for impoverished families.

Commitment to Health: Certain mining companies have also constructed and rehabilitated health centers and distributed medical equipment.

Poor Living Conditions: In spite of these efforts, 100% of the surveyed local community leaders, women, family heads, artisanal miners, and NGOs, and the majority of cooperative leaders and state services respondents believe that the current industrial and artisanal mining pattern cannot improve the living conditions of the population.



POVERTY

Households are poor and industrial mining does not generate income for local communities. Due to the lack of a skilled workforce, communities generally suffer from a lack of employment. Poverty pushes young people, women, and children to engage in mining crafts, usually in difficult and unsafe conditions, and often illegally.



SOCIAL FRUSTRATION

Local communities are frustrated with their perception of a lack of corporate social responsibility by mining companies. Furthermore, excessive expectations often lead to resentment or mentalities of enormous dependence on mines. In major cities such as Lubumbashi, Kolwezi, and Fungurume, this resentment can lead to banditry and the illegal invasion of industrial mining concessions. Relocation and loss of land and farmlands due to mining is also a real social shock for the communities.



LOSS OF LAND

Poverty is further exacerbated by the seizure of agricultural land and destruction of forests for mining, resulting in a loss of ecosystem services.

Phase II: Responsible Sourcing Initiatives and Alternative Livelihoods

The second phase of the Mining Alternatives Project focused on two objectives:

1. Understand the relevance, perception, and impact on local communities of responsible sourcing initiatives for cobalt in the DRC.
2. Assess the desire for and feasibility of alternative livelihoods for vulnerable populations – particularly children, youth, and women – working in mining in Haut-Katanga and Lualaba provinces.



Findings

Responsible Sourcing Skepticism: Those surveyed were unaware of cobalt traceability and certification initiatives or their impact. The consensus among respondents was that these initiatives are not useful, do not benefit the population, and are actually counterproductive in potentially exacerbating community poverty and conflict. While there is a clear ethical imperative for responsible sourcing, the local concern is that such measures could unintentionally lead to a boycott of Congolese cobalt. Without economic alternatives, such a boycott would further impoverish the communities, increasing the likelihood of more violence. Providing alternative livelihoods is a critical complement to responsible sourcing.

Farming Alternatives: Agropastoral and fish farming activities – with a value chain that includes production, processing, conservation, marketing, sales, savings, training, and eco-pedagogy – were identified as the most viable and credible economic alternatives for vulnerable women and children currently working in artisanal mining. And because Lualaba and Haut-Katanga provinces are currently dependent on Zambia for food, these activities would not only increase household income but contribute to the economic growth of the communities and result in a net improvement in family nutrition and quality of life compared to artisanal mining. Translating this vision into a reality of positive change for people caught up in dependency and an outstretched-hand mentality is challenging but vital.

Community Resources and Small Businesses: Other opportunities, potentially complementary to agropastoral and fish farming, depend on the establishment of community savings and credit unions to support micro-enterprises as well as bakeries, butcher shops, and community restaurants. These savings and credit institutions must be accessible and easy to join for local community members. Microenterprises and small businesses can be viable near-term alternatives while longer-term agropastoral and fish farming initiatives are implemented.

Methodology

Phase II was conducted by CARF from July 11-17, 2019 and July 28 - August 2, 2019. Open-ended questions were combined with individual and focus group interviews in collaboration with local partners. The questionnaire was administered to 345 people, representing the same categories targeted in Phase I. Community leaders, women, heads of households, cooperative leaders, NGOs, and religious leaders constituted the majority of respondents due to their significant influence in the communities, especially in relation to sustainable economic initiatives as alternatives to mining. (*Appendix Charts 5-10*)

People Surveyed	% of Total	Total #
Community Leaders	2.6%	9
Women	24.9%	86
Children	2.9%	10
Heads of Families	21.2%	73
Artisanal Miners	17.4%	60
Heads of Mining Cooperatives & Buyers	19.7%	68
NGOs & Religious Leaders	9.9%	34
Mining Companies	0.9%	3
State Services	0.6%	2
	100%	345

Supporting Education: Increased incomes are vital to ensuring that children move out of the mines and go to school. Moreover, the emergence of schools cannot occur unless they are linked to and supported by strong livelihoods. Viable livelihood alternatives are fundamental to the rise of multifunctional schools in local communities, which, in turn, are key to removing children from the mines. To sustainably and responsibly support the schooling of children away from mines, we must improve the financial resources of households.

Skills Acquisition: Direct investment in vocational and technical schools for youth – such as welding, mechanics, carpentry, plumbing, and electronics – offer young people credible economic alternatives, including preparing them to enter mining vocations as higher-paid technicians. Any training programs will have to be sanctioned by Congolese laws on education in order to recognize the beneficiaries’ training wherever they want to find a job. Changing mindsets is also essential for adopting such an initiative in a context where young people consider artisanal mining as the primary source of available income.

Mining Innovations: There was consensus among respondents that technological innovation in the artisanal mining production and value chain could have a significant impact on reducing the presence of children and vulnerable people in the cobalt supply chain. Women and children are, for the most part, participating in the cleaning, washing, and transporting parts of the value chain, all of which could be mechanized. Innovative use of technology for these functions must replace the inexpensive labor of women and children and preempt the demand for low-cost labor. As innovation is introduced into the cleaning and transport chain for cobalt, we must provide opportunities for vulnerable women and children and make those opportunities available at the same time that mining jobs disappear.

Phase III: Comparative Analysis

An evaluation was conducted of external projects that are being implemented or are about to be launched to remove vulnerable children and women from artisanal mines and to improve the living conditions of communities living around mining sites. The objective was to identify all such projects in the mining sites of Lwisha, Fungurume, and Kolwezi.

Methodology

A total of 82 people were interviewed in the three mining sites through a combination of individual and focus group discussions. The team used a closed-ended questionnaire administered to targeted individuals in three categories: (1) people in charge of the various projects, (2) members of the beneficiary groups of those projects, including children and women in the mines as well as local community members affected by mining, (3) NGOs and religious leaders.

CARF spoke with these artisanal miners at Kamilombe.



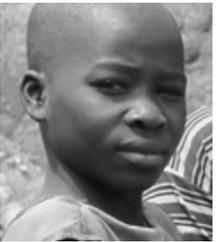
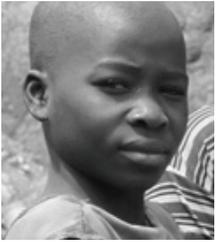


Findings

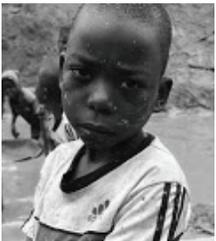
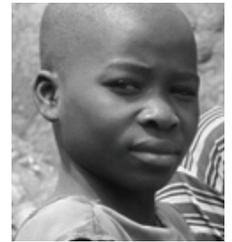
In Lwisha and Fungurume, there are no current or planned projects for the exit of vulnerable populations from artisanal mining, nor are there plans for viable and sustainable economic alternatives although the need is tremendous. Lwisha has more than three artisanal mining sites. In Fungurume, the government attempted to ease conflict between industrial guards and artisanal miners by assigning nearby Kafwaya for sanctioned artisanal activities, including washing minerals and transporting them to sales points. However, this solution did not please everyone and many have returned to Fungurume illegally despite facing brutal violence and dangerous conditions, including catastrophic landslides.

In Kolwezi, five projects were identified. Two have been operating for two or more years, and a third was launched since then. While the other two projects have similar objectives – improving living conditions for vulnerable women and children in surrounding communities – both are stalled or bordering on suspension.

- Of the operational projects in Kolwezi, the strategic approaches to implementation and support for beneficiaries differ from the vision conceived by MAP. For example, regarding agropastoral activities, these projects have a classic support approach of distributing tools and materials and providing a few short technical training sessions, rather than a more holistic approach designed for systemic and sustainable change.
- For children and young people engaged in artisanal activities, the existing projects do not include a technical vocational school. One of the projects offers three years of classic primary schooling for children who have left the mines, which gives these children an educational base. But vocational training provides opportunities for remunerative jobs and more promising futures for these youth and the communities at large.



*An estimated 35,000 children
work in perilous conditions
to extract cobalt
from the ground in the DRC.*





*Nearly 7 million children
aged 5–17 are out of school
and half of all girls aged
5–17 do not attend school.¹¹*



Mining Alternatives Project Implementation

As proposed, MAP emphasizes support that will lead to sustainable production and continuous training, providing viable economic development alternatives for members of artisanal mining communities.

Listen to First-Hand Experiences

Santa Clara University's Line of Sight podcast features a unique view of innovation by bringing technologists, entrepreneurs, and visionaries into provocative conversations with two of the world's top thought leaders in the fields of social justice and ethics, Santa Clara University's Thane Kreiner and Don Heider.

*Impacts of
Mining*



*Social
Responsibility*



**LINE of
SIGHT**

with Thane Kreiner, PhD & Don Heider, PhD

Jean Nyembo, S.J.

Jean discusses how the mining ecosystem impacts the community, how his vocation as a priest influences his work, and how corporations can make their supply chains more ethical.

**LINE of
SIGHT**

with Thane Kreiner, PhD & Don Heider, PhD

Victor Som

Victor discusses consumer responsibility, conflict minerals, his personal transformation journey, and how companies can operate with greater social responsibility.

MAP focuses on alternative livelihoods for women and youth rather than merely removing women and children from the mines.



Creating Alternative Livelihoods

The 300+ people surveyed across an array of positions in the Lwisha, Fungurume, and Kolwezi mining communities provided excellent insight when asked what alternative livelihoods might look like, based on what is most likely to be successful on the ground. Agropastoral activities, fish farming, and other locally-based businesses were raised as viable options. To create sustainable livelihoods, MAP proposes the following:

- Acquiring land and establishing a **Vocational Education and Enterprise Development Center** at a central location to be determined, accessible to 2-3 communities over the next 3 years. Its goal would be to provide vocational, educational, and enterprise development support to the adjacent communities.
- The Center would accompany women and youth in particular for 3-month periods for **training in agropastoral skills** such as animal husbandry of chickens, rabbits, and goats, vegetable farming, fruit tree plantations, and aquaponics. In addition, at the appropriate time over the 3 years, it would help them establish sustainable businesses. It is understood that a significant community outreach campaign would be needed at the program's outset to attract participants and demonstrate the program's viability.
- The development of **agropastoral value chains** would be supported, leveraging Miller Center alumni enterprises and its extensive experience working with women-led enterprises in rural regions throughout Africa.
- **School farms** could be launched – similar to other successful models in Africa such as Kasisi in Zambia and Songhai in Benin – which would include dedicated practical technical training, production, processing, and selling products to the community.
- **Ongoing training** of women, youth, and developing enterprises over the 3-year project would accompany women and children in particular as they establish income-generating activities.
- The center would work with **local partners** to supplement education with vocational training so that youth can enter the skilled job market or acquire additional schooling at appropriate levels.
- A **first-year pilot** would demonstrate demand for the program within the target communities. Performance measures over the course of the three years would include the number of people trained, number of women and children that no longer work in the mines, job sustainability, generation of income and savings (which could be applied to school fees for children), and ultimately the number of enterprises launched.
- The program would be **designed to be scalable** over multiple mining communities in the DRC.



Harvesting cassava, an important food source, at Samuel Farm, Kibutu village in Haut-Katanga.

Cattle farming at Samuel Farm is providing mining alternatives and fostering pride in Kibutu village, Haut-Katanga.



Technical Training

The vast majority of skilled labor hired by the mines is expatriate. This occupational segmentation of labor employed by the mines is the systemic barrier that prevents local communities from benefiting from cobalt mining. There is no available, accessible training for the local population to gain the skills required for higher-paid positions, and no incentives for mining companies to hire local labor, even if the population had available training opportunities. Corporations can dedicate resources toward the technical training of adult women and men in an identified region, combined with vocationally-oriented education for children.



MAP proposes a Center for Vocational Training and Enterprise Development.

A Mining Technical School for Adults

MAP proposes establishing a school for non-professional artisanal miners – both women and men – that could offer three complementary modalities:

- A **physical school** providing in-person training for three to six months, leading to a diploma certified by CARF and the Ministry of Technical Education. The training would combine theoretical training with practical placements. Proposed locations for the school would be identified in a subsequent landscape analysis.
- A **digital school** for up to six months of distance training via a platform, offered by CARF for a diploma, or available to anyone on an open-source basis with no diploma.
- A **mobile school** offering the same three to six-month curriculum delivered to artisanal miners and community members by mobile training teams and trainers of trainers on site in local mining communities and mining cooperatives. Sustainable capacity would thus be established through these permanent and volunteer trainers from local communities.

Vocational Education for Children

A formal school with a vocational orientation would be established for children living in mining communities, whether or not they currently work in the industrial mines or engage in artisanal mining activities. The school would combine the national curriculum with training in agriculture, livestock techniques, carpentry, electrical skills, mechanics, and business, while developing young people’s skills in sports, music, drama, and crafts. Combined with the school for adults, the school for children would give agency at an early age by providing skills for better jobs or further education, laying the groundwork in the community for brighter futures for those families who cannot currently afford education.



Mining Alternatives Project

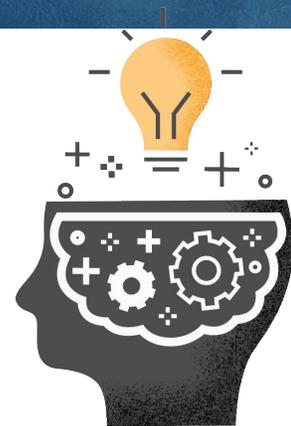
Key Differentiators

MAP is distinguished from other programs addressing artisanal mining in that it:



Utilizes a **community-based approach**, focusing on solutions proposed directly by the community and addressing challenges faced by the community at large. Further, the project will evolve through continuous engagement with the community.

Offers a **full spectrum of livelihood solutions** – such as childhood, vocational, and technical training, agricultural expertise, financial literacy, business acumen, and other enterprise development skills – combined with community engagement, thereby mitigating the need to return to low-skilled mining jobs.



Plans to **integrate the learning** from other complementary projects, focus on geographies where demand and need are greatest, and implement where there is no duplication with other ongoing projects.

Focuses on alternative livelihoods and the **regeneration of mining communities** for women and youth, as opposed to merely removing women and children from the mines.





Seeks to provide **continuous vocational and enterprise development support**, as opposed to short-term, intermittent training with limited follow-through.

Provides **sustainable solutions** for both men (technical training for highly paid jobs) and women (agricultural skills and enterprise support). This would provide women the option of economic independence from men, should they choose.



Moves beyond individual training toward **systemic solutions** that seek to spur sustainable economic development for the communities themselves.

Has great potential to provide the **basis for a scalable model** in multiple regions.

There is little question within the technology, automotive, and other relevant sectors that neither industrial nor artisanal mining as currently conceived will bring prosperity to mining communities in the Democratic Republic of the Congo, and to women and youth in particular. This reality has been documented extensively, with numerous ongoing efforts by an array of stakeholders to conquer various aspects of these challenges.

Call to Action

We believe leaders of companies that benefit from cobalt have an opportunity to play a more significant, positive role on the social fabric of the communities most adversely affected by cobalt mining. In light of the pervasiveness of these challenges and the complexity of the environment in which they occur, the chances of systemic, sustainable solutions that genuinely transform lives will be highest through a coordinated, collaborative effort that is cognizant of the landscape of existing initiatives.

This is a call to action for:

- **Nonprofits** dedicated to alternative livelihoods that can improve household incomes in the region, and thus address the root cause of child labor; and
- **Corporations** whose products benefit from cobalt mining and who are dedicated to contributing to the regions where they operate.

These organizations can begin to work in concert – laying the groundwork for and catalyzing a coordinated and community-driven answer to cobalt mining’s adverse impact.

One promising example is the Fair Cobalt Alliance, a supply chain-wide call to action proposed by The Impact Facility’s report *Digging for Change: Towards a Responsible Cobalt Supply Chain*. It proposes a multi-year effort to contribute to the sustainable development of the communities through, among other steps, entrepreneurship in the agricultural sector. The goal is to focus on a long-term transition to mining alternatives and provide pooled funding from multiple organizations for targeted interventions, including support for entrepreneurs. Vocational and entrepreneurship training would lay the groundwork for viable alternatives to mining in the region.



Agriculture increases household income and improves family nutrition.

Proposed Landscape Analysis

To ensure this project succeeds in the midst of this highly complex and challenging environment, and that it adds to, rather than duplicates other projects with similar goals, we propose a landscape analysis informed by this study as an immediate next step. This analysis will be grounded in an analytical assessment of the best possible strategic location and programs for a Center for Vocational Training and Enterprise Development. The following deliverables are proposed:

- A report mapping existing projects in DRC cobalt mining communities, existing goals, and community perceptions of the benefits and gaps still to be addressed
- The demand for such a center by the community, the best program focus (e.g., agricultural skills, small trade enterprise support), and the extent to which this initiative would complement, not duplicate, other ongoing projects
- Three options for where to locate a center in light of existing initiatives, with an assessment of pros and cons of each location in terms of immediate, medium, and longer-term possibilities – with an eye toward scaling the center to additional locations once established and proven
- A recommendation of the first best site for a center, as well as the focused program that would best address the gaps and community needs identified



Improved quality of life for vulnerable women and children is a primary goal of MAP.

Conclusion

This report uniquely leverages intelligence from a significant sample population of the mining communities themselves to provide a window into the specific aspirations for alternative livelihoods of those adversely affected by cobalt extraction. With continuous accompaniment and encouragement, these communities would welcome the chance to learn skills that offer stepping stones out of poverty, better lives for their families, and more vibrant, sustainable communities.

The technology, automotive, and other sectors now have the opportunity to build upon what the MAP report offers:

- An understanding of community needs on the ground
- An informed perspective that offers practical project possibilities
- Awareness of how a future sustainable approach can fit into the current ecosystem
- The capacity of nascent infrastructure that can be leveraged and cultivated toward a sustainable, coherent, long-term effort

Miller Center for Social Entrepreneurship and CARF believe the Mining Alternatives Project provides an excellent roadmap for corporations that benefit most from cobalt mining in the Democratic Republic of Congo to successfully invest in and meaningfully contribute to better lives in these communities.



Fr. Jean Nyembo SJ, Managing Director of CARF with children in the mining community of Kibutu village, Kipushi, Haut-Katanga. The community struggles for survival next to a large industrial mining concession.

Appendix

Based on interviews and surveys from respondents in Phase I and Phase II.

Local Impacts of Mining

Chart 1: Negative Impacts of Industrial & Artisanal Mining on Communities

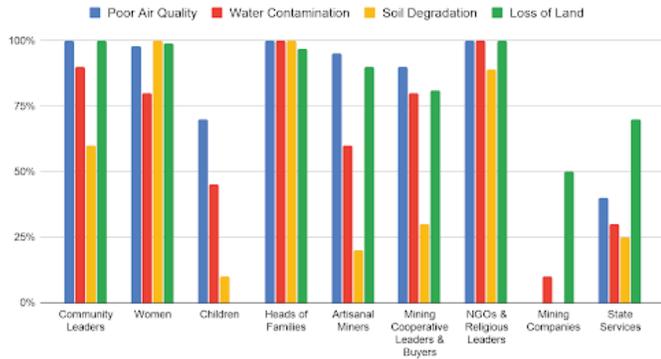


Chart 2: Recognized Commitment of Mining Companies to Improve Conditions

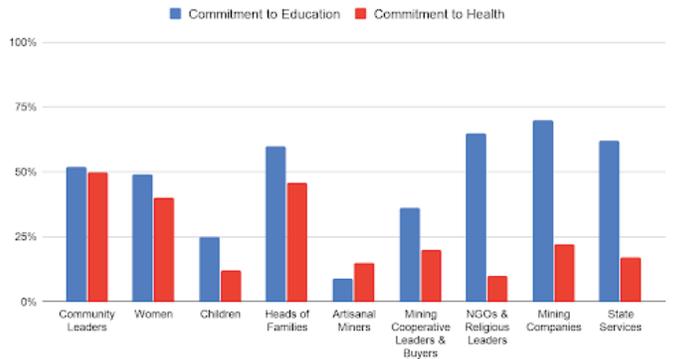
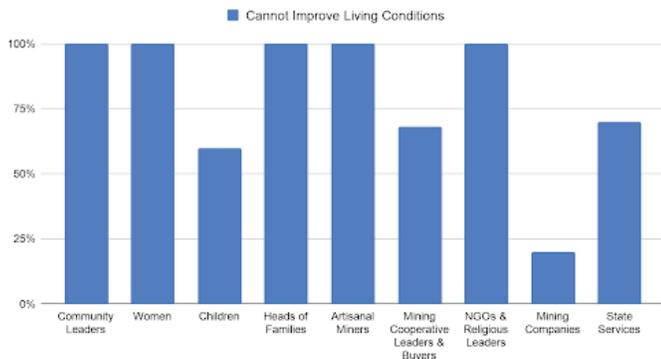
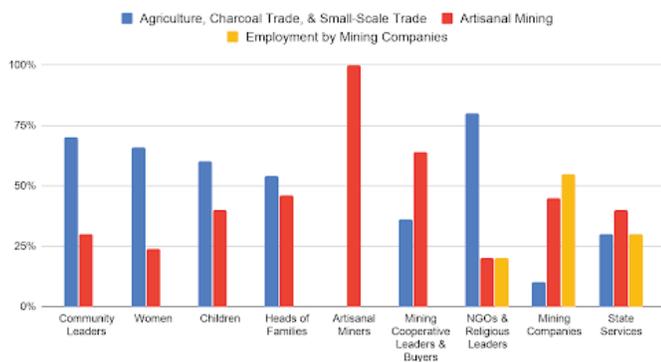


Chart 3: Inability to Improve Living Conditions Under Current Mining Pattern



Economic Dependencies

Chart 4: Primary Sources of Income for Local Populations



Responsible Sourcing Initiatives

Chart 5: Awareness of Cobalt Traceability and Certification



Appendix

Proposed Sustainable Economic Initiatives by Community

Chart 6: Fungurume

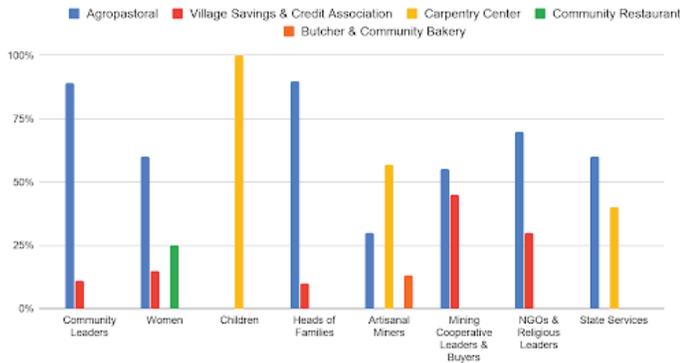


Chart 7: Kapata

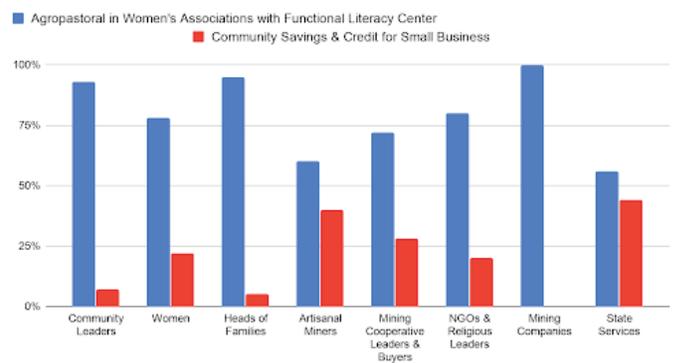


Chart 8: Lubumbashi

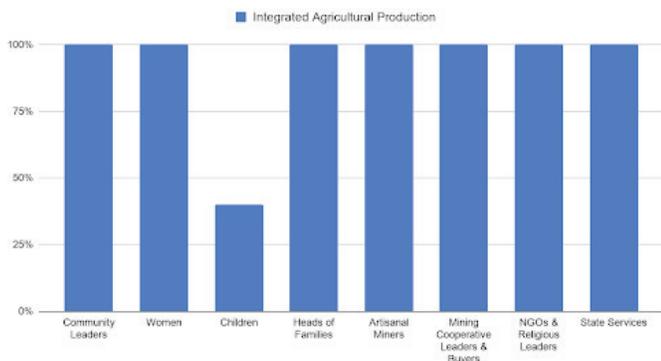


Chart 9: Lwisha

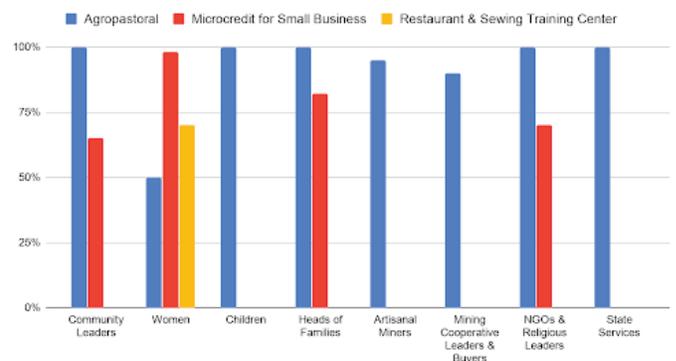


Chart 10: Mutanda

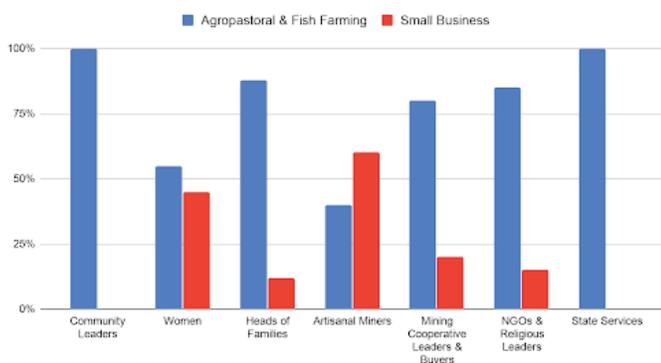
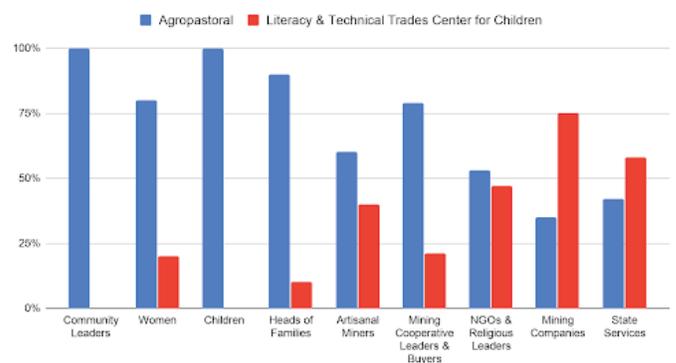


Chart 11: Mutoshi



Appendix

End Notes

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Cattle farming at Samuel Farm in Kibutu village, Haut-Katanga.



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Since its creation in December 2013, Centre Arrupe Pour La Recherche et La Formation – also known as the Arrupe Center for Research and Training – has conducted studies and organized conferences and seminars on mining governance, peace, and social justice. These actions inform the initiatives of different stakeholders in the pursuit of integral development in the DRC and in Katanga in particular. CARF has contributed significantly to the creation and support of cooperatives as gatherings of small-scale miners to help them contribute positively to the development of their communities. Its partnership with international institutions helps CARF bring the cry of the marginalized to the world. Through this advocacy effort, CARF works to break the chains of inequality at the national level for sustainable peace.