

Legacy

The Life of a Mining Community



HOW WE WORK WITH OUR
NEIGHBOURS TO CREATE
OPPORTUNITY, MANAGE IMPACTS
AND BUILD SOCIAL WELLBEING
IN COMMUNITIES THAT WILL THRIVE
LONG AFTER OUR MINES HAVE
RUN THEIR COURSE.



FIRST QUANTUM
MINERALS LTD.

A Legacy of Respect

“All mining projects have a defined lifespan; indeed, before a First Quantum mine even commences operations, we’re already preparing for the day it will close. We work to minimise our impact in every area, never making a big hole when a small one will do. And what we cannot mitigate, we rehabilitate as quickly as possible.

“Our ultimate goal everywhere we operate is to leave a place better than we found it, with greater protection of biodiversity, enhanced public infrastructure and improved education and health care. Most importantly, we want to ensure the communities in which we operate, and which play such an important role in our success, become increasingly self-reliant and feel empowered to pursue a more rewarding way of life – today and for generations to come.”

– **Philip Pascall**, Chairman of the Board and CEO, First Quantum Minerals Ltd. *Respect: The common thread uniting social, economic and environmental sustainability, 2014*

Legacy



The Life of a Mining Community

What does a mine produce? Metals, of course, that play an important role in people's lives around the globe. But also jobs. Economic growth. The potential for long-term prosperity. At the same time, a mine creates impacts, social and environmental, that must be carefully managed, balancing risk against opportunity. Above all, a mine is a human enterprise in which a group of people come together to extract resources and share in the benefits they provide. A mine is more than an incision in the earth; it's the heart of a community.

First Quantum has developed mines all over the world. The landscapes vary – from jungle to desert, from seacoast to mountain valley. The people who live nearby speak different languages and have diverse histories. But they ask the same questions. They want to know how a mine could improve their way of life, as well as how it could affect their community and the surrounding region, immediately and in the years ahead.

Our response to their questions is captured in this report.

We've synthesised all we've learned over many decades into a single storyline: the life of a typical First Quantum mining community. In the following pages, we detail the various phases in a mine's lifespan, from initial development and public engagement, through construction and active operations, to winding down, closure and continuing responsibilities.

Our goal is to provide a balanced, transparent examination of the opportunities and rewards, along with the risks and challenges, that a mining project brings to an existing community – or to a new one it helps to create. Along the way, we share perspectives on how a mine fulfills its promise as a responsible neighbour, a source of social cohesion and a catalyst for rewarding change.

Everywhere First Quantum operates, we foster an open and honest dialogue with the people whose lives intersect with the life of our mines, explaining clearly what we hope to achieve while respecting their goals, concerns and aspirations. They have much to teach us about the land they've looked after for generations; and those insights are invaluable as we work together to carefully steward and develop their resources over the long term.

In earning and retaining our neighbours' trust, we show good faith not by what we say, but in what we do. We roll up our sleeves each day to grow the local economy, ensure healthier lives and protect the environment. And just as important as the minerals we take from the ground are the values we share with the people who work alongside us.

Above all, we encourage communities to become self-sustaining. A mine may thrive for a few decades, but the positive change it sets in motion should be a lasting legacy.

First Principles



Our beliefs, responsibilities and commitments

Mining companies used to earn what was called their social license to operate by mitigating immediate environmental impacts, creating local jobs, funding clinics, schools and other services in nearby communities – and, of course, paying royalties and taxes. This is no longer enough.

Today, the governments and communities that allow a mine to be developed rightly expect to have input into its operations and to share in a broader range of benefits, from livelihood programs and entrepreneurial opportunities to initiatives aimed at fostering sustainability and long-term economic growth. Investors in mining companies, for their part, recognise that a business strategy aimed at advancing all aspects of sustainability is critical to delivering sustainable returns.

At First Quantum, we were never comfortable with the transactional aspect of social license – the idea that stakeholders are compensated for granting us permission to develop and operate a mine. We’ve always seen the relationship as more of a social contract in which all parties participate in the collective effort and share in the rewards.

This sense of common purpose is all the more evident as we increasingly join forces with our mining communities to confront major challenges, from alleviating poverty, to fostering inclusion and social equity (including racial justice and gender equality), to addressing the disruptive impacts of climate change. Even the remotest communities are more connected than ever to the wider world and feel the impacts of global issues; they’re also more aware of the need to tackle these big problems together.

Of course, partnerships at the community level can’t fully solve issues that are global in scale. But every small success we help make happen – the farmer who learns to grow crops more sustainably, the unskilled worker who learns to practise a trade, the young girl rescued from a child marriage who can safely return to school – is another step in the right direction.

ESG FACTORS DRIVE PERFORMANCE

“...companies in the S&P 500 that ranked in the top quintile of ESG attributes outperformed those in the bottom quintile by more than 25 percentage points between the beginning of 2014 and the end of 2018.”

– “This Investing Strategy Is Beating the Market,” Nasdaq.com, June 2020.

It starts with a basic commitment to human rights.

First Quantum upholds the rights of all people whose lives are touched by the business activities we’re responsible for – no matter where they live, and regardless of gender, national or ethnic origin, race, religion, language or any other point of difference. We believe that no single right can be considered separately from the others, and that all people are entitled to a life free from discrimination and harassment.



Our approach to human rights is guided by internationally recognised principles and standards, including:

- Universal Declaration of Human Rights
- Voluntary Principles on Security and Human Rights
- ILO Declaration on Fundamental Principles and Rights at Work
- UN Declaration on the Rights of Indigenous Peoples
- Guiding Principles on Business and Human Rights
- UN Protect, Respect and Remedy Framework

We work to ensure that all relevant company guidelines, systems and practices, including our security policies, are consistent with these international norms. At the same time, First Quantum is committed to complying with the laws of the countries and jurisdictions in which we operate.

HUMAN RIGHTS VIOLATIONS: 0

First Quantum and the contractors we work with worldwide have maintained this inflexible standard every year since our founding.

We believe that recognising people's basic human rights and individual values – while respecting their diverse identities, individual values and points of view – is the key to empowering communities and inspiring wself-sufficiency.

We respect the rights of indigenous people.

Everywhere First Quantum operates, we're given permission to share in the wealth from local natural resources. But we only retain that privilege if we recognise the rights and beliefs of people who were there long before we arrived, and whose descendants will be there long after our mine has run its course.

We understand that indigenous people have a deep connection to the place where they make their home. The land provides them with the food and water they need to live and, just as importantly, it nourishes their spiritual beliefs and cultural traditions.

As we build relationships grounded in trust and mutual respect, we're guided by standards such as the UN Declaration on the Rights of Indigenous Peoples, as well as principles defined by our industry through the International Council on Mining & Metals.

We reach resettlement agreements based on free, prior and informed consent and traditional forms of decision making. More fundamentally, our partnerships with indigenous people depend on the special knowledge they bring to managing environmental impacts, and their insights into what creates social harmony We make every effort to respect their standing as self-determining peoples with collective rights.

We support global efforts to address climate change.

First Quantum is committed to extracting resources responsibly, guided by our comprehensive sustainability strategy. More specifically, we recognise our obligation to identify, assess and report on the actions we're taking to confront the urgent threat of climate change. In our strategic planning, we set concrete and realistic targets for reducing carbon emissions, and we measure our progress over time.

The metals we mine and process are in fact essential components in the transition to a low-carbon economy. We lead the mining industry in implementing a number of technologies that improve energy efficiency and reduce emissions, including the use of in-pit crushing and conveying, and the adoption of trolley-assist electric vehicles

at our mines. In addition, First Quantum has long supported habitat conservation, sustainable agriculture and reforestation projects at many of our operating locations – all of which further mitigate the carbon impact of our activities.

Going forward, we will further strengthen our innovative culture in order to:

- identify, manage and disclose climate-related physical and financial risks
- prioritise the use of renewable energy sources for new and existing operations
- use less energy, improve efficiency, reduce emissions and eliminate waste by investing in new technologies as they become commercially available
- increase the transparency of our climate-related reporting and communications, disclosing and sharing data through select ratings agencies and platforms

- report on our performance against a range of industry-recognised metrics, including Scope 1 and 2 emissions, GRI and CDP
- improve our understanding of lifecycle emissions for copper, nickel, gold and cobalt value chains
- explore potential collaborations with suppliers and customers to reduce our value chain emissions
- set tangible targets for absolute emission levels and the carbon intensity of our operations, making the work required to achieve them a strategic priority
- integrate an internal carbon price, as well as expected impacts on commodity prices, into the evaluation of new projects
- across First Quantum, seek opportunities to improve the climate resilience of our operations.



Our efforts align with the SDGs

The sustainability practices advanced by First Quantum in our mining communities mirror those expressed formally through the Sustainable Development Goals (SDGs) established by the United Nations in 2015. The following legend indicates the sections of this report that most significantly reinforce these globally agreed principles. They reflect fundamental beliefs that have shaped our purpose from the beginning.

 Sections 11, 12	 Sections 4, 9, 11	 Sections 7, 12, 13	 Sections 9, 11, 13	 Sections 8, 9, 11	 Sections 5, 10, 14, 15
 Section 10	 Sections 2, 11, 12, 14, 15	 Sections 2, 3, 12, 14	 Sections 9, 11, 12	 Sections 1, 2, 3, 6, 10	 Sections 4, 11, 16
 Sections 3, 4, 11, 16	 Sections 3, 4	 Sections 3, 4, 5, 11, 16	 Sections 1, 6, 8	 Section 1	

“For First Quantum, community building starts with a clear set of beliefs. But what matters even more is what comes next – how you work each day to put those beliefs into action. We’re a group of people committed to tackling complex challenges and achieving positive outcomes. And in everything we do, we apply a simple measure of progress: the fact that today is better than yesterday, and tomorrow will be even better.”

Milestones



Steps along the path to building a community

It starts with a small team of First Quantum geologists exploring a mountain valley, a jungle clearing or a remote expanse of desert. Armed with a government permit and survey data, and guided by conversations with people living in the area, they find minerals in sufficient quantities to be easily extracted from under the earth. The company's financial analysts then calculate whether a mine would generate good returns for the national or regional government, and for First Quantum shareholders. If the answer is yes, then it's time to sit down and talk with the people who will decide if development can begin.

1

INITIAL CONSULTATIONS AND NEGOTIATIONS

We confer with government representatives, typically at the national level, to arrive at an agreement in principle on proceeding with a mine.

First Quantum teams then negotiate with officials on the terms of our mining lease and the technical and environmental standards we must meet. But we know that a project will only succeed if nearby communities have a say in decision making from day one.

We consult with traditional and elected leaders, as well as groups of community members, learning from them and listening to their needs, expectations and aspirations. We also engage with local businesses, large and small; educational institutions; religious and charitable

groups; social organisations; prospective contractors, subcontractors and suppliers; and, of course, our own employees.

Anyone potentially affected by our mine has a voice, from entrepreneurs hoping to support our operations to the community's most vulnerable members.

We explain exactly what our project means for the community. In addition to discussing the jobs and other benefits a mine would bring, we answer questions about environmental impact, resettlement, protecting traditional ways of life – all of the concerns people naturally have when their community faces a big change.



PRINCIPLES IN ACTION

Community engagement in Zambia

First Quantum’s development of what is now the Sentinel mine in northwest Zambia was going to affect about 1,400 small-scale farmers, along with some 100 beekeepers and a handful of cattle herders. Zambia has no legislative framework for resettling communities to enable industrial development; nor are there any set mechanisms for agreeing on entitlements and compensation. We therefore took a highly consultative approach, guided by best practices and the sustainability performance standards established by the International Finance Corporation (IFC), part of the World Bank.

We created a multi-stakeholder forum comprising representatives of the affected communities, including their traditional chief; government officials from all relevant departments; a variety of non-government organisations; and an expert on global best practices in resettlement. A series of working groups, facilitated by our

consultant, considered eligibility and scale of compensation for all areas of impact, including housing, agricultural livelihoods, schooling, health care, access to water and the relocation of about 200 graves. We also talked about elements that were less easy to measure, such as maintaining social networks.

The end result of these lengthy consultations was a 650-page action plan that we presented to Zambian regulators in September 2011. Over the next two years, First Quantum representatives met regularly with officials to answer questions and clarify details of the plan. By mutual agreement, the overarching principle was that resettled community members could expect to enjoy a quality of life superior to what they’d left behind. As the success of our discussions became evident, many households chose to move even before the plan was formally approved in 2013.



PRINCIPLES IN ACTION

Listening
and building
trust in
Peru

High in the Andes of Peru, we hope to mine some of the world’s remaining undeveloped copper deposits. To fully assess their potential, First Quantum geologists had to start by drilling, which we knew might be worrisome for people living in nearby communities. So we took steps to meet our neighbours and get to know them better. By building relationships based on openness, mutual respect and trust, we have a vital foundation for future negotiations and agreements, beginning with our exploration permit.

“Since the community gave us our permit, we’ve tried to be as transparent as possible. If they have any doubts, we discuss them. We’ve invited them to create a committee to supervise us, so they can see how we’re working.”

– Johnny Coronel, Community Relations Coordinator, First Quantum

“We are the owners of this land. If we don’t authorise it, they won’t move one stick or needle. It’s now been two years since we signed that permit. We’ve seen that the company is keeping its word. They brought a group of doctors – general practitioners, dentists, surgeons and gynaecologists. Our community is very happy with the company’s treatment. We’ve decided together that the work should continue.”

– Donato Mondalvo, primary school teacher, Peru

2

ASSESSING SOCIAL AND ECONOMIC IMPACT



We start by conducting a social impact review evaluating the mine's potential effects on our host community. We then develop strategies to enhance positive outcomes and avoid or mitigate negative ones. These strategies guide all future community engagement, resettlement and development activities. We continue updating the social impact review regularly throughout the life of a project.

We also evaluate the mine's economic impact on the community, both immediate and long-term. The most tangible returns from a mining development take the form of taxes and royalties paid to a national or regional government, which in turn allocates some of the revenue received to community investment.

In simple terms, we pay taxes on profits and we pay royalties on production. Tax rules for the mining industry are complicated, blending corporate, withholding, windfall and other taxes in a mix that varies with companies' business activities. But most typically, First Quantum pays corporate tax based on the net income generated by a mine. Royalties,

by contrast, are levied on the amount of ore extracted from the ground, whether or not an operation has become profitable.

Getting the balance right between taxes and royalties can be challenging. A host government naturally wants to receive royalty revenue as early as possible in the life of a mine, rather than potentially waiting years before the operation shows a taxable profit. On the other hand, a mining company, after taking on significant debt to finance development, is under pressure from investors who also want to see returns on their multibillion-dollar stake. High royalty rates can make the front-end costs of a project prohibitive, to the point where it may be difficult to attract investment. Similarly, during periods of volatility in mineral prices, if royalty payments remain high even though profits have dropped, it can be difficult to retain investor confidence.

Whatever form revenue sharing takes, the bottom line is that a mine returns direct economic benefits to the people who own the resources. This is both a business imperative and a cornerstone of corporate responsibility.

At the same time, much of the huge investment required to develop a mine flows directly into nearby communities.

First Quantum and the contractors who work with us create jobs, both during the construction phase and when the mine is operational. Our activities also attract additional businesses, creating more jobs. We spend millions of dollars annually on goods and services. And we build schools, clinics, community centres, roads, water systems, sewers and other infrastructure. It all adds up to robust, sustainable economic growth that benefits everyone.

We capture all of these benefits and impacts in a detailed social and economic development plan. In mapping out a strategy for improving social and economic wellbeing, the plan takes into account community needs, legal requirements and business opportunities and risks. It is aligned with the UN's Sustainable Development Goals (SDGs), as well as the national development strategies of the host country. And it is shaped by the local insights we've gained through community engagement.

MEASURING IMPACT

90% local employment in Turkey

First Quantum is committed to hiring local workers wherever we operate. For example, of the 450 employees at our Çayeli mine in northeast Turkey, 90% are from the region. If new hires don't have mining experience, we provide training in a wide range of frontline roles, ensuring they learn to work safely and efficiently – and giving them valuable, transferrable skills as the mine prepares for closure in the next few years.



MEASURING IMPACT

Mining's multiplier effect

A study by the International Council on Mining and Metals found that for every \$1 directly generated by mining, there's a further \$3 of activity in the overall economy. And for every person employed by a mining company, an additional three to five jobs are created in the surrounding region.





MEASURING IMPACT

Fuelling 4%
of Panama’s
economy

First Quantum’s Cobre Panamá mining operation generates approximately 4% of the country’s gross domestic product (GDP). We work closely with the national government on initiatives to provide employment and training, and we support communities around the mine with programs that create local economic benefits. These efforts have become even more important as Panama’s economy recovers from the COVID-19 pandemic.

MEASURING IMPACT

\$1 billion+
annually

First Quantum’s operations worldwide boost local and national economies through employment, business generation, and the payment of taxes and royalties. In 2020, our direct contribution to the governments of Zambia and our other host countries totalled \$1.1 billion.

3

ENVIRONMENTAL
IMPACT
ASSESSMENT



A crucial early step for every First Quantum project is evaluating potential impacts on the physical environment.

Before any development begins, we arrange for in-depth studies by independent scientists and other recognised experts. They conduct baseline studies on climatic conditions, fauna and flora, hydrology and hydrogeology and air and water quality. Our experts also study social, cultural and economic factors that have environmental dimensions.

We develop action plans detailing our commitment to manage hundreds of specific impacts. These plans typically cover environmental monitoring, biodiversity management, water management, erosion and sediment control, air quality and noise control, waste management, hazardous materials management, spill prevention and control, environmental recovery and abandonment, and education and training. Some projects require even more specialised plans for, say, managing a port facility or protecting archaeological sites. We often identify habitats that require special conservation measures, and rare plant or animal species that need extra protection. And we continue to observe, learn and respond as the regional ecosystem evolves.

We meet the environmental assessment requirements of the host government, complying with, and often exceeding the requirements of, all relevant laws. If local laws don't meet our high standards, we apply the Equator Principles, adopted in nearly 40 countries to assess environmental and social risk. And we follow international benchmarks and best practices, beginning with the global ISO 14001 standards for developing resources with proper environmental management.

MEASURING IMPACT

14,000 pages

The rigorous Environmental and Social Impact Assessment prepared for the Cobre Panamá mine, developed over five years and totalling some 14,000 pages (plus appendices), was approved by Panama's Autoridad Nacional del Ambiente (National Authority of the Environment) in December 2011.



4

PROTECTING THE ENVIRONMENT



Once our assessment has been approved, we sign firm agreements with the government authorities responsible for environmental protection in the region. These agreements clearly define our obligations at every stage in a mine's life, from exploration, through development and operation, to site closure and restoration of the surrounding environment.

As development proceeds, we do everything we can, partnering with local communities, to have a net positive impact on the environment. We hire and train environmental experts; protect vital water resources; dispose of all waste safely, reusing and recycling wherever possible; reduce the greenhouse gas emissions that cause climate change; minimise clearing of forest, replanting more trees than we cut; and adopt many other measures to protect and conserve our natural surroundings.

We also consider how people's livelihoods are entwined with the ecosystem, whether they're farming, hunting or harvesting wood. Around the world, we've shown that sustainability and self-sufficiency go hand in hand. Everything we do is aimed at preserving balance in the environment – and improving it through conservation programs and the creation of protected areas.

PRINCIPLES IN ACTION

Conserving biodiversity in the Mesoamerican Corridor

In developing the Cobre Panamá mine, First Quantum has committed to having a net positive impact on the Mesoamerican Biological Corridor, a network of protected habitats and adjoining natural ecosystems that extends across Panama and the other countries of Central America.

Our responsibilities are clear, but they're also complex, as the mine concession is surrounded by three protected areas: Omar Torrijos and Santa Fe national parks and a designated sustainable development zone that ultimately will comprise up to 196,000 hectares. These protected areas create the context for an overall strategy aimed at ensuring connectivity among natural habitats along the Mesoamerican Corridor. Within this larger area, the scope of First Quantum's biodiversity program encompasses about 150,000 hectares.

To better understand this vast, densely forested region, we undertook a series of conservation assessments to catalogue existing species, gauge potential project risks to their habitats and develop appropriate mitigation plans. The result is a biodiversity strategy focused on three main areas:

• **Critical habitats requiring special conservation measures.** These include marine habitats around the mine's port facility; sea turtle nesting beaches on the Caribbean shore; Caimito estuary, where several rivers converge; and the lowland tropical forest immediately around the project site.



- **Species of concern.** All of the critical habitats are home to flora and fauna identified by the International Union for Conservation of Nature as endangered or critically endangered.
- **Human benefits derived from the ecosystem.** Often called ecosystem services, these are livelihood essentials that local residents derive from the immediate environment. Around Cobre Panamá, several hundred Indigenous people and a small group of campesino families rely mainly on surface water for drinking, washing and irrigation; wood for construction and fuel; and some hunting and fruit gathering to augment subsistence farming. To mitigate the mine's impact, as agreed formally with residents in 2012, we therefore need to ensure access to clean water and maintain the forested landscape. Our biodiversity action plan also stresses our commitment to protect against agricultural and artisanal mining practices that threaten biodiversity in the region.

In all of these efforts we follow internationally recognised standards for responsible private-sector investment in developing countries, including: Performance Standard 6 of the International Finance Corporation (part of the World Bank), which provides guidance on "biodiversity conservation and sustainable management of living natural resources;" the offset standards of the Business and Biodiversity Offset Programme; and the Good Practice for Mining and Biodiversity developed by the International Council on Mining and Metals in partnership with the International Union for the Conservation of Nature.



PRINCIPLES IN ACTION

Ending slash-and-burn farming in Zambia

In the countryside around our Sentinel and Kansanshi mine sites, many farmers have historically resorted to burning woodland areas as a quick and cheap way to clear land for farming. But often the soil becomes so damaged by fire, it can no longer absorb and retain water. The resulting poor yields lead to reduced income and food insecurity for farmers and their families. Slash-and-burn practices also contribute to habitat fragmentation, biodiversity loss and, of course, climate change, whose negative impacts on agriculture are increasingly evident across Africa.

To redirect farmers toward sustainable alternatives, First Quantum has launched an intensive campaign that discourages indiscriminate burning and – critically – offers a better alternative: training in conservation farming (see page 61), which teaches sustainable techniques to dramatically increase crop yields while improving soil structure and protecting against erosion and nutrient loss. Under the banner *Stop Burning: Be healthier, wealthier and happier*, the program is designed to complement other climate change mitigation efforts by the Zambian government. At the same time, it improves community members’ health by reducing smoke inhalation, which can cause acute respiratory infections – a leading killer of young children in developing nations such as Zambia.





DISCOURAGING
CHARCOAL BURNING
AT KALUMBILA

Population growth around our Sentinel mine in northwest Zambia has increased demand for household fuel, which in turn leads local entrepreneurs to produce more charcoal by burning large swatches of evergreen forest. They sell the fuel to their neighbours and also take advantage of empty goods trucks returning south to ship significant quantities to Lusaka and other centres.



“For more than 20 years, I’ve watched charcoal production steadily rise in this area,” says Dorian Tilbury, who oversees the protection of forests and wildlife habitats within the West Lunga Conservation Project (see page 86). “As demand continues to grow – and especially given what we now know about the role of the *mavunda* evergreen forest in regulating climate – it’s critical that we support the government’s actions to promote conservation in the only formally protected area of *mavunda* on the African continent.”

Bringing forests to life in Panama
Our Cobre Panamá project lies in the heart of the tropical rainforest, and to develop it we inevitably had to clear away trees. Although we tried to keep cutting to a minimum, in the end development required about 6,000 hectares to be cleared (not including some deforestation that may have occurred as an indirect result of the mine).

Under the guidelines set out in the Environmental and Social Impact Assessment, First Quantum is committed to reforesting 300 hectares a year. In practice, we’ve gone far beyond that, planting about 1,000 hectares annually in support of the Panamanian government’s long-term goal: replanting one million hectares of forest to help preserve the region’s unique biodiversity. As of 2021, we had reforested 3,420 hectares.

There’s far more to reforestation than simply planting new trees. From soil analysis to raising seedlings to preparing a deforested area for cultivation, the whole process typically takes about three years. For many of the tasks required, we hire and train community members, which helps create employment and gives people skills they can use elsewhere.

In Panama we’ve also introduced agroforestation: the practice of growing crops under the forest canopy. Increasingly adopted by farmers in tropical countries threatened by climate change, agroforestation enriches the soil and helps reduce erosion. It’s an ideal way to grow crops that flourish in lower-light settings, such as cocoa, achiote and coffee. Indeed, coffee trees not only require less weeding in shade as opposed to a sunny plantation – farmers say they produce better-tasting beans.

A welcome catalyst for livelihoods, agroforestation is one more element in our commitment to reforest over 10,000 hectares in and around the Cobre Panamá site. As long as we’re there, we’ll be helping the rainforest and its communities grow.

PRINCIPLES IN ACTION

Identifying and securing species at risk

The biodiversity action plans that First Quantum develops for new mines include protocols for managing individual native species that our expert consultants tell us require extra attention within our overall approach to safeguarding local flora and fauna. In some cases, we commission additional field studies to investigate factors such as bird migration patterns or the lifecycles of specific plants.

We also take steps, in consultation with community members, to reduce human threats, whether from hunting, disease or simply increased traffic. At Cobre Panamá, for example, during construction of a new main road to the Caribbean coast, we launched one of the largest wildlife camera-trapping initiatives ever undertaken in the tropics. This yielded heat maps showing where different species were most at risk of crossing in the path of vehicles. The road now has special crossing structures for jaguars, ocelots and other creatures, along with signage to alert drivers.



For some fauna species, the best mitigation strategy is to remove them entirely from the site, rather than release them into new areas that can't accommodate them, or that may prompt fatal attempts to return to their original homes. Species deemed especially vulnerable may be removed to protected refuges or research facilities until a long-term solution is found.

Scientific research conducted under our biodiversity action plans has helped to expand knowledge around previously undiscovered or "data-deficient" species. Our plans are designed to adapt as monitoring, assessment and mitigation processes yield new insights.

Protecting sea turtles in Panama

First Quantum began working with the Sea Turtle Conservancy in 2014 to protect the coastal nesting grounds of critically endangered hawksbill and leatherback sea turtles. We divert operations away from the beaches near our port facility, and our conservationists patrol day and night to protect newly laid eggs from potential predators, including domestic dogs, feral pigs – and local residents, for whom turtle eggs are a traditional delicacy. Our conservation efforts, which also include public awareness programs and research funding for marine biologists, are paying off: the number of reported nests for both species has been growing steadily.



5

ENSURING
ACCESS TO
WATER

Our mining communities depend on water for farming and commerce, as well as basic health and wellbeing. So while our mines rely on water to extract copper from crushed ore, we use the minimum required to operate efficiently.

Even more importantly, we take care not to compromise water quality. We know that people living nearby, including our employees and their families, depend on having safe water for drinking, cooking, bathing, cleaning and growing food. We engineer our dams, storage ponds and drainage systems to contain mine tailings and potentially contaminated wastewater. We regularly check all facilities, making every effort to contain runoff water and

manage the risk of seepage. We test ground and surface water around our mine sites, acting quickly if any problems arise. And we also look at our potential impact on natural water systems to ensure all wildlife and plant life – and, of course, people – have safe, secure access to this life-giving resource.

Collaboration is vital: the feedback and insights we gain from community members help us maintain the highest standards of water quality. And our neighbours in turn count on us to be transparent with the facts, rigorous in our mitigation efforts and unwavering in our commitment to sustainability.



PRINCIPLES IN ACTION

Managing
water together
in Panama

Communities around our Cobre Panamá mine have formed a group called *Defensores de los recursos hídricos de Panamá* (*Defenders of Water Resources in Panama*), whose volunteer members test water quality in the area and work with environmental experts to protect local waterways. First Quantum’s support for the program reflects our commitment to continuously monitor the impacts of our activities, share information transparently and find opportunities to collaborate directly with nearby communities.

Under the program, the Defenders perform tests every four months on local waterways, with assistance from the international organisation Avanzar. In addition, community members are

encouraged to report water-related environmental concerns to the group, which investigates with additional testing or enlists the help of independent experts. Although First Quantum initiated the Defenders and ensures they are trained in sampling protocols, volunteers collect water samples themselves and, to ensure a robust chain of custody, accompany them to an independent U.S. lab for analysis.

The program plays a valuable role in ensuring our preventative measures reflect the realities of community life around Cobre Panamá. For instance, when the Defenders traced the temporary contamination of several local rivers back to recent vehicle accidents, we introduced new road safety procedures to reduce the risks of fuel spills.

Responsible water management in Spain

At our Cobre Las Cruces mine in southern Spain, the open pit is excavated in relatively soft clay or marl. To reach the ore body, it's necessary to dig through a layer of sand and sandstone that is penetrated by the Niebla-Posadas aquifer – a key source of water for surrounding farms, as well as local communities extending from nearby Huelva to the northern suburbs of Seville.

The Cobre Las Cruces operation includes a sophisticated system that pumps water away from the pit area to a dedicated treatment facility, where impurities are removed through reverse-osmosis filtration. The treated water is then reintroduced into the aquifer downstream of the mine. It is regularly tested by First Quantum and independent regulators to maintain the government's rigorous standards for water purity – and to provide peace of mind for our neighbours that the aquifer is safe.

One of the most advanced facilities of its kind, the Cobre Las Cruces treatment plant sets a benchmark for mining companies around the world entrusted with protecting water quality.



MANAGING THE IMPACTS OF IN-MIGRATION



We're committed to building strong communities around First Quantum mines, investing in public services and infrastructure, helping to expand the wage economy and fostering long-term economic development. At the same time, we know that a successful mine, by attracting an influx of newcomers seeking opportunity, can create social instability, public health challenges, stresses on existing infrastructure and other issues. We work alongside our community partners to responsibly balance the benefits with the risks.

Mines create a significant number of jobs. Our Sentinel mine in Zambia, for example, directly employs about 6,000 full-time and contract workers. The workforce at Cobre Panamá, after peaking at nearly 12,000 during development, now comprises 6,000 employees.

But our impact on employment goes deeper than that. As skilled workers arrive to take up jobs on the mine site, they're followed by others who lack the necessary skills but nevertheless hope to share in the growing prosperity. Many find work with our service providers and various local enterprises that spring up to support our operations. Then there are the teachers and healthcare professionals, the repair shop workers, the staff in grocery and retail stores – all of the roles required by a thriving community. And lastly there are those living at the social margins, many of them chronically unemployed, some subsisting on the sex trade or petty crime, or struggling with substance abuse. This, too, is part of the in-migration reality we work to mitigate with community leaders.

A mining community has an entrepreneurial energy that is vibrant and hopeful, and at the same time often a bit chaotic. The bustling commercial activity also creates traffic congestion and concerns about road safety. The steady stream of new arrivals looking for a better life can lead to housing shortages, overcrowded schools, strained public resources and social problems. In other words, the rapid growth of a new or transformed community mirrors, in microcosm, the challenges of growing communities everywhere – and requires the same coordinated efforts among stakeholders with common goals.

Building a healthy, prosperous community starts with good planning. In the past, many mining companies simply built a compound to meet the needs of their workforce and did nothing to help manage unfettered growth in the surrounding region. First Quantum doesn't operate that way. We want our employees and their families to be part of a thoughtfully planned community that meets their

immediate needs and delivers longer-term social and economic wellbeing – because it's the right thing to do, for our neighbours, and for our own business.

The result is a community that we envision thriving long after our mine has closed. We typically build clinics and schools, along with housing for the people who staff them. As for infrastructure, that varies widely according to community needs but can include roads and sewers, the electrical grid, water treatment and distribution, and planned industrial areas, as well as everything from police stations and municipal offices to libraries and sports facilities. The scope of our commitment is determined, as always, through dialogue with the community as we seek consensus among all stakeholders on who should build what, and where. Together, we look for the right balance between proactive measures that will serve the public good and a community's need to grow spontaneously according to its own changing dynamics.

6

RESETTLEMENT AND LAND ACQUISITION

When we develop a new mine or expand an existing one, often there are people in nearby communities who will be directly affected. So as part of any agreement establishing our right to operate, we commit to helping everyone currently living on the mine property move to new homes. We engage directly with the people most likely to feel the everyday impact of our plans, supporting their transition to a new community that provides opportunities for a better life.

We meet directly with each household, talking to family members to ensure everyone understands the issues, and learning how we can work together to address challenges. If differences arise, as they often do when people are trying to secure the best possible future for themselves and their families, we work to resolve them – not with lawyers and documents, but by talking. And more importantly, by listening.

There are many details to discuss. Who is eligible? Where will new homes be located, and what features will they have? What about services like water and electricity, and access to schools and clinics? Will homeowners gain legal title? Will people who have been farming or pursuing other livelihoods on their existing properties be paid for lost income?



Our programs are comprehensive. We compensate resettled community members, in cash or in kind, for primary residential structures, secondary structures, crops, livestock, the infrastructure for entrepreneurial businesses – even family graves. New houses are typically larger and of higher quality than community members' previous homes, benefiting from their input on design and construction. Public infrastructure is functionally equivalent if not superior to that of vacated communities.

We keep talking until all of the terms have been worked out. Only then do we sit down to sign a resettlement agreement developed with local leaders and government officials, as well as experts on the law and human rights.

Our resettlement agreements are anchored by the fundamental human rights principle of free, prior and informed consent. We adhere to and often exceed globally recognised standards (see page 7), notably the IFC Land Acquisition and Involuntary Resettlement Performance Standards. Every resettlement process is rigorously planned, implemented, monitored and evaluated against IFC benchmarks.

We also follow the guidance of international experts on best practices. And we adhere to First Quantum's own rigorous principles – evolved over decades of successful resettlements – as a socially responsible company committed to doing business ethically, profitably and sustainably.

First Quantum has undertaken complex resettlements around the world. We have a large team of specialists who devote all of their time to this aspect of our business. The programs they develop and manage constantly explore new opportunities – while addressing inevitable problems – as resettled communities grow and evolve.



PRINCIPLES IN ACTION

The value of listening in Panama

In the communities around our Cobre Panamá development, after a decade-long consultation process, about 600 people (two-thirds of them Indigenous) in 86 households agreed to resettle in new homes in the rainforest, 5 km away from their existing villages. But as moving day drew near, seven families changed their minds. Traditional Ngäbe leaders, who had helped us create a sustainability plan for the region, were concerned that the actions of a few people might affect all of their communities. In the end, though, most of the holdouts saw the benefits of what they'd agreed to; only a handful returned to the reserve they had left a few years earlier. As ever, the key was to listen, respond to what we heard, then listen some more, until we arrived at an understanding that worked for everyone.

This resettlement was among the first to be carried out under the UN Guiding Principles on Business and Human Rights. At regular formal meetings, all community members were encouraged to participate in open discussions that included their own legal advisors, First Quantum representatives, government officials and other observers. The minutes of each meeting were then shared with all stakeholders (in Ngäbere, Spanish and English) to ensure clear understanding on every point before

discussions proceeded further. We also held direct consultations at the household level in which all family members, including children, had the opportunity to ask questions and express concerns.

This highly collaborative effort has earned appreciation from indigenous leaders and international experts, as well as the government of Panama, which provides ongoing support through various education, health and social development agencies. All initiatives are guided by the Indigenous Peoples Development Plan included within the comprehensive Resettlement Action Plan for Cobre Panamá, which provided the basis for individual agreements signed by each household.

First Quantum's community relations team continues to engage with the resettled communities at Cobre Panamá. We consult on new infrastructure and services. Through outreach programs, we support families in sustainable farming. We provide microcredit loans for small businesses. We employ local carpenters and builders, who apply skills they gained during construction of their own houses. In short, resettlement doesn't end on moving day: we stay connected to community members as they settle into their new homes and through the years ahead.



MEASURING IMPACT

24,000+ stakeholder meetings

To help resettle 624 families and more than 1,600 subsistence farmers around our Sentinel mine in Zambia, First Quantum representatives held over 24,000 formal meetings with community members, local authorities, and elected and traditional leaders between 2010 and 2018.

32 performance standards

In addition to complying with all relevant local laws, First Quantum adheres to the International Finance Corporation's land acquisition and resettlement framework. This requires us to meet 32 performance standards over the life of a mine, including criteria for community engagement, compensation, livelihood restoration and conflict resolution.



PRINCIPLES IN ACTION

Securing land rights in Zambia

Ensuring resettled community members have clear title to their new homes is a complex challenge in many regions where we operate. This is especially true in Zambia, where traditional law coexists with a modern legal system. The right to live on or cultivate land must be considered within two frameworks, customary tenure and leasehold tenure, and these don’t always align. At the Sentinel mine, we’ve followed international best practices by facilitating 4 hectares of leasehold for each resettled household, compared to 2.3 hectares in their previous communities. We believe this will provide security of land tenure over the long term.

At the same time, households maintain their rights to own farmland under customary tenure. When questions arise about these traditional rights, we work with community members, the traditional leadership (whose legacy must be respected) and Zambian government representatives to reach a resolution – while upholding independent international standards.



PRINCIPLES IN ACTION

Offering new opportunities in Peru

As First Quantum teams look at developing several copper deposits in the Peruvian Andes, we’ve talked to community members about potentially moving to more fertile farming regions on the coastal plain. In the southern mountain village of Haqira, for instance, our plans would provide resettled families with new homes, schools and a wide array of community services. We’d also supply land, capital and expert support to help launch an agrifood cooperative owned and operated by all households.

Resettlement offers the opportunity to build a better life today while ensuring a prosperous, sustainable future for generations to come. As for older

residents who might prefer to remain in the mountains, we’ve proposed to build a seniors’ facility not far from their traditional homes, providing healthcare, greenhouses and other amenities. There are still many details to iron out, and negotiations were disrupted by the pandemic. But several villages have agreed in principle – including those whose members visited Cobre Panamá and saw how well the indigenous communities we’ve resettled in that region are faring. The next step is to have representatives of the Peruvian government formally join the discussions, so we can finalise an agreement and set the resettlement plan in motion.

7

COMMUNITY HEALTH



First Quantum’s healthcare investments are for the whole community. We don’t draw a line between people who work at our mine and everyone else. We want to support employees with ill family members, not just to ensure they avoid being distracted on the job, but because we care about the wellbeing of their households. The same applies to health issues that affect the whole community – which, if not addressed, can lead to negative social attitudes and even harm economic growth.

For every mining community, we create a health systems development plan. This encompasses programs for emergency medical response, risk assessment, and prevention and mitigation, as well as treatment options for both primary care and chronic, non-communicable diseases.

Our challenge is deciding where we should target the help we can provide to augment – not replace – the public health system. We mainly fund clinics and community-based services run by independent medical and administrative staff. Except for work-related issues (which are covered by our workplace health and safety programs), employees and their families receive subsidised primary care, as do other community members. Sometimes there is a modest fee for services, which we try to keep affordable for all users. Patients who need surgery or complicated treatment are generally referred to public hospitals. However, in some areas with limited access to quality care we will work with local and/or national health authorities to help develop additional services in the community.

We also invest in education programs aimed at improving overall community health. Consulting with community leaders and health officials, we look for areas where our support can make the most difference – malaria prevention, for instance, or HIV/AIDS awareness and testing – knowing that proactive interventions and preventive education are the best way to foster long-term wellbeing among all community members, including newcomers attracted to the area by the mine development.



PRINCIPLES IN ACTION

Community health clinics in Zambia

At First Quantum’s Sentinel mine in northwest Zambia, we use mobile health units to cost-efficiently deliver healthcare and education to nearby communities. They’re one component of a broader program aimed at enhancing the Zambian government’s efforts in disease prevention, water sanitation and promoting girls’ and women’s health.

Our mobile teams provide primary treatment, raise health awareness and collect data on disease hot spots so we can better prioritise resources. Residents of remote areas, rather than having to travel long distances to government clinics, can access everything from routine check-ups and vaccinations to chlorine for purifying water – right in their villages.

Our mobile staff also provide education on topics such as the risks of early pregnancy,

the moral and legal prohibitions against child marriage and the value of education in building long-term wellbeing. While the impact of these programs can be hard to quantify, community leaders acknowledge the marked improvement in related public health outcomes. One example is early childhood health: in 2018, the North-Western Province, where our two Zambian mines are located, had an under-five infant mortality rate of 26 deaths per 1,000 live births, compared to a national rate of 61.

Bricks-and-mortar clinics still play an important role in some communities. The four we’ve built around Kalumbila, the town adjacent to the Sentinel mine, annually support more than 20,000 regional residents with services ranging from HIV/AIDS screening to the treatment of chronic conditions like high blood pressure and diabetes.

Since development of Sentinel began in 2012, the entire region has seen steady in-migration not only of mine employees and their families, but tens of thousands of job seekers and others attracted by the promise of economic growth. We know from our experience around the world that such an influx can create a wide range of community health issues, from malnutrition in low-income households to socially determined health problems such as substance abuse and sexually transmitted diseases. This places additional strain on existing healthcare facilities and programs. In gauging where to make further investments, we must constantly reassess the allocation of responsibilities with our community and government partners.





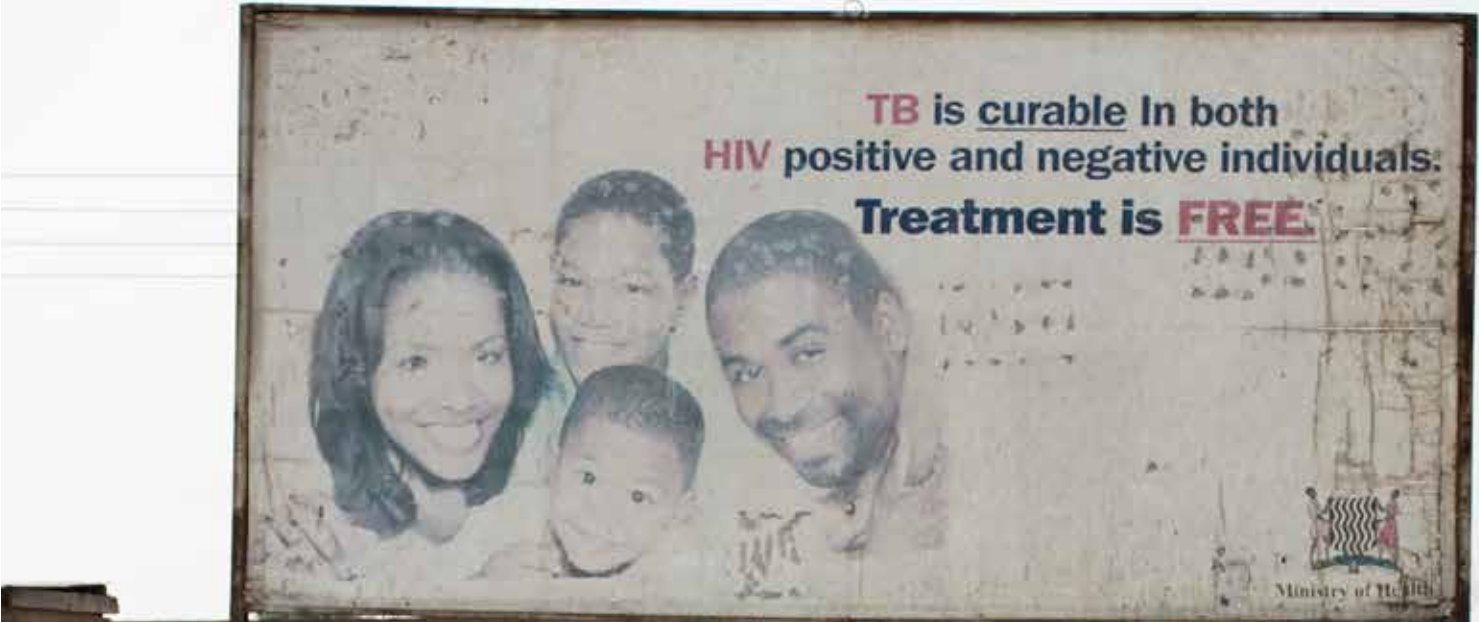
MEASURING IMPACT

COVID-19 response in Panama

As we quickly learned during the global pandemic, the coronavirus can travel anywhere – even a remote mine in the Panamanian rainforest. It started with a single contractor, in his 60s and with underlying health issues, who returned to Cobre Panamá after visiting an ill family member. COVID-19 soon spread through the mine camp, infecting 202 people – including, tragically, five who died – within a total workforce of 6,000.

There were calls for a complete shutdown of the mine, but this simply isn't possible for such a complex operation. Instead, we reduced our active workforce to 750 employees, who focused on safely maintaining facilities while continuing to oversee environmental protection measures. Among our workers and in surrounding communities there was confusion and even fear, fuelled by inaccurate media stories and statements

from some local leaders. So we did what First Quantum always does when faced with a challenge: bring together the best minds, get the facts, seek expert help where we need it, and act quickly and effectively to resolve the issue. Anyone suspected of exposure to the virus was quarantined offsite and monitored by health professionals. We sought guidance on health and safety protocols from Panama's leading institute of preventive medicine. We flew in test kits for rapid screening and set up a diagnostic lab. In short, we took every feasible step to ensure a clean, safe environment. Soon the national minister of health and other leaders were pointing to Cobre Panamá as a model for all industries. As for community members, they remained largely supportive from the outset – a testament to the years we've spent building trust through open, productive dialogue.



MEASURING IMPACT

Lowering HIV/AIDS rates at Kansanshi

We offer workplace education on HIV/AIDS prevention at the Kansanshi mine and encourage all community members to participate in voluntary testing and counselling. We also fund mobile testing and treatment units that regularly tour the surrounding region. In addition, we provide free condoms in mine washrooms. And we pay for the medications required by HIV-positive employees. Taken together, these prevention efforts appear to have had a significant impact. In 2006, 10% of people working at Kansanshi were infected; by 2015, the rate had declined to just over 3%, compared to about 13% for Zambia nationally.

8

SOCIAL
EQUITY
AND
RESILIENCE



In any community experiencing rapid population growth, corresponding rises in unemployment and income inequality often create social problems. This is especially true when there has been an in-migration of newcomers attracted by the economic potential of a mine.

For First Quantum, a key marker of social health in the communities around our mines is the level of gender-based violence. We work with experts to protect those who are most vulnerable – usually women and girls. And we support programs that address outdated attitudes that lead to unacceptable behaviour.

Our **Zambian experience provides some valuable lessons.** In Solwezi, the fast-growing city near our Kansanshi mine, we’ve noted increased levels of child and family neglect in recent years, along with a higher incidence of spousal battery.

Equally concerning has been the number of sexual assault cases, as well as intimate relationships between adults and minors, including child marriage. A recent study of Zambian schools by the UN Girls Education Initiative found that 32.8% of girls and 31.7% of boys had been forced into sexual intercourse by fellow students or teachers.

Since 2011, we’ve partnered with the local Young Women’s Christian Association (YWCA) on a program to address gender-based violence. One critical need was a refuge for women and children fleeing imminent threats; at that point, the nearest shelter was 200 km away. We responded by creating the Solwezi Safe House, where women can get immediate protection and, with support from YWCA counsellors, map out a path to a safe future.

We also invest in programs aimed at providing evidence-based insights and better-informed perspectives on social issues. We support the YWCA in providing guidance, mentorship and safe conversation spaces for young people grappling with challenges such as teen pregnancy and coercive relationships. We also offer sensitivity training for community leaders.

As with public health, the key to advancing social equity is education. But in cases where a basic awareness of human rights is absent, we support intervention – for the safety of those under threat, and for the good of the whole community.

PRINCIPLES IN ACTION

Putting an
end to child
marriage

Zambia has one of the highest rates of child marriage in the world. Under statutory law, it is illegal for a girl to marry before the age of 18. However, the practice remains acceptable under traditional or customary law and is common in rural areas with lower levels of education and economic development.

The practice has long been widespread in Africa. According to recent data, about 125 million women and girls across the continent were married before their 18th birthdays; more than a third were brides by age 14. Attitudes are changing, though, as communities come to recognise that early marriage has a serious negative impact on girls’ emotional and social development,

not to mention their physical health. What’s more, there’s a strong economic argument for ending the practice: an underage bride typically leaves school, which severely limits her future earning power. A study by the World Bank estimates that ending child marriage could add more than \$500 billion annually to global GDP.

For all of these reasons, First Quantum strongly supports the efforts of our Zambian community and government partners to end child marriage, including direct interventions to remove girls from unlawful unions. In 2017–2018, we helped more than 200 rescued brides re-enroll in school and resume pursuing their dreams. That initiative continues.



9

SUPPORT FOR EDUCATION

When people add to their knowledge and learn new skills, they gain the power to shape their own futures. That's why all of First Quantum's social and environmental initiatives include some form of education, whether on the job, in classrooms, via remote learning or in community gathering places.

We build new schools or expand existing ones – and then help to staff them. We also fund books, supplies and classroom furniture, along with vital school nutrition programs. First Quantum employees regularly visit classes to explain what we do and feed young people's interest in science and technology. And we provide scholarships to help gifted students attend college or university.

At our mines, we offer on-the-job training for community members working in construction and other supporting roles. We also offer apprenticeships in mine-related trades. And at trade schools or in partnership with public school programs, we support skills training for people seeking jobs in other areas of the local economy.

Then there are our community education programs. We help deliver classes on everything from protecting against malaria to basic health for young mothers, from managing household finances to growing better crops with sustainable farming methods. Whether we're teaching children road safety or helping a group of women set up a community bank, our commitment to learning doesn't stop at the mine gate.



PRINCIPLES IN ACTION

Improving education quality at Kansanshi

In the region around our Kansanshi mine in northwest Zambia, public schools are often overcrowded and frequently lack basics like desks, books and other learning materials. In 2012, First Quantum initiated the Kansanshi Education Quality Improvement Program to help ensure more children fulfill their potential and get a better start toward prosperity.

- We've provided 37 Kansanshi-area schools with classroom furniture and supplies, including 120,000 textbooks – enough to make one book available for every two students (where previously it would have been shared by 100 children).
- Our scholarship program targets primary and secondary students at risk of dropping out (see page 50).

- In recent years we've provided daily meals to about 7,700 undernourished schoolchildren, including 500 in early childhood development classes. This has led to significantly improved attention spans and an average 30% gain in academic performance. (The program was temporarily suspended during the COVID-19 pandemic but continued when public schools reopened.)
- Attendance at schools around Kansanshi has risen steadily in recent years. The latest available data shows an increase from 64% to 87% between 2012 and 2018. This growth has helped boost secondary school attendance across the entire North-Western Province above 80%, compared to rates as low as 32% in other regions of Zambia.

- To date, more than 350 teachers have completed the Continuing Professional Development Programme sponsored by First Quantum. We also fund a full-time education mentor who guides classroom teachers and helps them implement new learning approaches.
- Lastly, to foster whole-child development we've reintroduced sports in Kansanshi-area schools. This fosters inter-school competition and dovetails with our many community programs, which include a village football league, regional and international cycling meets, and a rowing program supported by a former world champion.

PRINCIPLES IN ACTION

Jimuka! means more girls stay in school

Among the many factors that cause girls in Zambia to cut their education short, one that’s all too prevalent comes down to a simple fact of life: menstruation. For many girls, the shame of having their periods leads them to stay home for several days each month. As a result, they fall behind in their studies and in some cases give up on school entirely.

First Quantum’s community relations team, working with school officials and health professionals, has come up with a simple but effective answer: *Jimuka!* Meaning “be sharper” or “get informed” in the local Kaonde dialect, the program provides girls with feminine hygiene products and, even more important, information in their first language about how to manage the changes that puberty brings.

Many girls don’t fully understand the menstrual cycle and so never know quite when to expect their periods. To avoid embarrassing accidents at school, they stay home when they feel most at risk. The women on the *Jimuka!* team teach girls how to track their cycle, so they know when to come to school prepared. They also provide education on women’s reproductive health, including the risks of early marriage and pregnancy. And they arrange motivational talks by successful women professionals and entrepreneurs, who serve as role models for young girls while emphasizing the value of education.



MEASURING IMPACT

300+ scholarships annually in Zambia

Every year, First Quantum sponsors more than 300 students at schools near our Kansanshi and Sentinel mines to support and encourage them in continuing their studies. Our scholarship programs targets both primary and secondary students who are most at risk of leaving school early: children of unemployed parents, or from single-parent households, or who have lost both parents. About two-thirds of funding goes to pay the school fees of girls, who have a high drop-out rate in Zambia, often as the result of early marriages and/or teenage pregnancy.

More opportunities with vocational training

First Quantum’s scholarship program extends beyond public schools. As Zambia’s largest private sector employer, we also know the importance of job-focused skills training. Each year, we sponsor about 150 students and interns in various trades and vocational training programs. Several recent cohorts have been 100% young women, as we do our part to address the gender imbalance in mining and secondary industries that support it.

PRINCIPLES IN ACTION

Learning communities in Panama

For the Indigenous families who’ve resettled in rainforest communities around our Cobre Panamá mine, equally important to securing new homes and arable land was ensuring access to education in their remote villages. At Nuevo Eden, the cluster of new homes – designed to each family’s unique specifications – includes a small school and a house for the teacher. At nearby Nuevo Chicheme, resettled adults not only gained marketable skills as they built their own homes, but also took advantage of basic literacy classes provided by our community relations team. And in the regional centre of Coclesito, at the only high school in the area offering a full secondary curriculum, First Quantum funded the construction of six new classrooms and also established a scholarship program.





10

PUBLIC
INFRASTRUCTURE



We have a responsibility to invest in the necessary infrastructure to support a growing mine community and ensure its socioeconomic wellbeing. Whether we develop a project near an existing town or establish a new community in an undeveloped area, the obligation is the same. We owe it to the people who permit us to unlock the value of their resources, as well as to those who come from elsewhere to work at our mine and build a future for their families. And, of course, our own operations depend on proper infrastructure to succeed.

The key is to set the right pace and priorities for future development. In working to get the balance right, First Quantum draws on the lessons we've learned around the world, and particularly at our Kansanshi and Sentinel mines in Zambia.



PRINCIPLES IN ACTION

Improving quality of life in Solwezi

The earliest artisanal copper miners arrived in the town of Solwezi, in what is now the North-Western Province of Zambia more than a century ago. But it was only with the development of the modern Kansanshi mine that Solwezi became a major regional centre. Over the past two decades, the regional population has quadrupled to over 400,000.

When First Quantum took over operations at Kansanshi in 2005, the legacy of a less coordinated approach to development was evident everywhere, from the heavy-vehicle traffic through the centre of Solwezi to the bustling markets that had sprung up haphazardly to serve a district-wide population of nearly a quarter million. There was no question of turning back the clock to restart a more orderly pattern of growth. But we did invest significantly in making the town a more hospitable place for everyone who lives and works there – while boosting the morale of our own employees and enhancing our ability to recruit new talent.

A key challenge was the scarcity of adequate housing. We responded by building a new community just outside

Solwezi called Kabitaka Hills – a planned town offering affordable detached homes interspersed with retail, dining and recreational facilities. The development was designed to provide all the services and amenities that residents found wanting in Solwezi, from well-lit paved roads to sewers and waste collection, from schools and a community clinic to bike paths and playgrounds.

At the same time, we funded a range of infrastructure projects in Solwezi proper, including public library renovations, additional classroom blocks, teacher housing and a new wing of the provincial hospital devoted to child and maternal health. We also redeveloped Solwezi Airport, constructing a longer runway to accommodate larger aircraft, at a total cost of just under \$10 million.

The outcome from these various investments is a community that offers its residents a better quality of life and easier connections to the rest of the world – all of which naturally benefits Kansanshi, as the mine in turn helps the community prosper and grow.

MEASURING IMPACT



Powering
800 homes in
Panama

A public-private initiative between First Quantum, the District of Donoso and the Panamanian government uses the power plant at Cobre Panamá mine to supply nearly 800 households in nearby communities that don't have access to the national grid.



PRINCIPLES IN ACTION

Building a new community at Kalumbila

In 2012, when First Quantum began developing the Sentinel mine in northwest Zambia, our aim was to help local communities control the kind of unfettered development that had proven so challenging in Solwezi – the town adjacent to our existing Kansanshi mine about 150 km to the east. At the Sentinel site, there was an opportunity to proceed from day one with thoughtful planning and, even more crucially, consensus among all stakeholders as to who should build what, and where. A key question was how to balance proactive measures that serve the public good against a community’s need to grow naturally according to its own changing dynamics. In the new community of Kalumbila, our search for that ideal balance underscores the challenges of responsible development.

In our discussions with local residents and the Zambian government, we made clear that we would not follow the model, so common in an earlier era, of simply building a compound to meet

the needs of our workforce. Rather, the vision for Kalumbila was a well-planned, fully integrated town that would be a vibrant base for socioeconomic growth. We began by hiring an architectural and planning consultancy that specialises in building sustainable communities around industrial developments. The firm prepared a comprehensive plan for Kalumbila, envisioning a town that would ultimately accommodate 10,000 freestanding homes — not only for our employees and their families, but for a diverse mix of newcomers and local people (many of them younger jobseekers and entrepreneurs) drawn from communities nearby.

To date, we’ve built more than 1,250 houses in Kalumbila, and more are being added all the time. We’ve also invested in a wide range of infrastructure projects, including:

- roads, an electricity grid, and water and sewer systems
- water purification and sewage treatment facilities

- three schools, as well as a community health clinic
- a marketplace where local farmers can sell their produce
- a grocery store and a petrol station
- a hotel and a mixed-use commercial building
- a police station (previously the closest was in Solwezi)
- an airport with a runway long enough to support international flights.

Our plan also included an economic development zone for industrial and service companies supplying the Sentinel mine. By providing a catalyst for job creation and diversified growth, we can achieve our long-term goal for towns like Kalumbila: attracting other businesses and investors who can help build a better future for everyone – in a community that will continue to thrive long after the mine has completed its lifespan.



PRINCIPLES IN ACTION

Keeping the water running in Mauritania

In 2006, First Quantum began operating the Guelb Moghrein mine, situated near the small community of Akjoujt in the desert of western Mauritania. At that point, fresh water was pumped to Akjoujt from the Benichab aquifer, 120 km away, through a pipeline built prior to our acquisition. But as the pace of copper production rose steadily, it put a strain on the existing water supply – as did the in-migration of jobseekers and small-scale entrepreneurs attracted by the new level of economic activity. We knew that an alternative water source would have to be found.

The solution also lay near Bennichab, this time in the form of a large saline aquifer. We constructed another pipeline and began pumping non-potable salt water directly to Guelb Moghrein for use in ore processing, watering roads and other applications around the site. This second pipeline meets more than half of the mine’s needs, taking

pressure off the fresh water supply that residents count on for drinking, bathing and cleaning, as well as raising livestock and irrigating crops.

As part of our agreement with the Mauritanian government, First Quantum provides water to households and businesses in Akjoujt, which is home to about 15,000 people, as well as to residents of nearby desert settlements who can access storage tanks along the Benichab pipeline. In addition, during the hottest part of the year we offer access via taps to nomadic livestock herders and people living in more remote villages.

Over the past 15 years, we’ve invested continuously in servicing the pipeline and in maintaining the secondary distribution network within Akjoujt. We’ve also helped the public water utility extend distribution via private resellers who use tanker trucks and donkey carts fitted with large bladders.

And more recently, we’ve begun converting the pipeline’s pumping stations from diesel to solar power to ensure a more reliable, cost-effective source of renewable energy (and also to thwart fuel theft, which is rampant in the region).

At the same time, First Quantum supports the search for additional sources of potable water to help the community avoid relying exclusively on the Bennichab aquifer. For example, we’ve joined the local and national governments in an initiative to reactivate abandoned boreholes and drill new ones around the region, adding pumps and pipelines to connect them into the Akjoujt water system. Our long-term goal, as the Guelb Moghrein nears closure, is to hand over all water infrastructure to the Government of Mauritania – after working to ensure that local officials have the necessary equipment and expertise to maintain it into the future.

PRINCIPLES IN ACTION

Power to the people in Zambia

Copper mines require large amounts of electricity, particularly for processing ore. To keep revenue flowing and our workforce on the job, we need to ensure a reliable and economical supply of power – as must all other users, large and small, on the grids that feed our operations.

In recent years, Zambia has faced chronic power shortages that are attributed to dramatically reduced water levels in the reservoirs of major hydroelectric facilities. This uncertainty of supply affects livelihoods and quality of life in communities across the country. Shortages also hamper the productivity of large industrial users like First Quantum – which is why we lend our expertise to the search for efficient, sustainable energy solutions that benefit everyone.

In addition to buying large amounts of power, we also invest directly in infrastructure. In 2016, Zambia’s national electricity producer energised the first of two 330 kV transmission lines extending 600 km from the south of Zambia to the North-Western Province. Constructed by First Quantum at a cost of \$206 million, the corridor provides a secure source of electricity for our Kansanshi and Sentinel operations while creating a more stable circular power grid throughout the Copperbelt region. It can also provide up to 20 MW of excess power to Zamba’s national grid.

This additional capacity has enabled the regional utility to extend smaller lines to villages in the Kalumbila district around Sentinel. The connection has improved daily life and economic prospects in our nearby communities while helping advance the government’s goal of increasing access to electricity in rural areas across Zambia.

11

JOB CREATION AND TRAINING



First Quantum is committed to growing employment opportunities everywhere we operate. Although it can be difficult to find people with the skills required for mining, we try to hire local residents for construction work while a project is being developed. We also typically train community members to help restore the natural environment once construction is complete. Some of these workers stay on after the mine begins operating. And many use their new skills to find other jobs – for instance, in home building or repairs.

We help governments train people for various roles in the regional economy. We also run conservation farming programs, teaching community members how they can grow higher-quality crops more sustainably to support their families and earn extra income. And we sponsor classes for people who want to learn how to plan, finance and run their own small businesses.

In all of these efforts, our goal is to see the whole region prosper. Because as more and more people in our communities do well – not just mine employees, but their families and friends, and the employees of businesses where they buy products and services – we can all have confidence in a better future.

PRINCIPLES IN ACTION

Conservation farming in Zambia



As First Quantum works with the communities around our mines to create economic opportunity, we also see the limitations of existing livelihoods, which in most regions focus on agriculture. Local farmers who've been barely eking out a living – as well as newcomers who've turned to farming because they lack the necessary skills for mine jobs – too easily end up trapped in poverty. Often these subsistence farmers use cultivation methods that are inefficient and exhaust the soil. Or they may resort to slash-and-burn techniques to clear forest areas, needlessly wasting arable land and creating environmental damage. The result for most is a frustrating, if not untenable situation. The question is, what can we propose as an alternative?

In Zambia, we've spent a decade developing the answer: intensive training in conservation farming, which teaches a few simple principles to make agriculture more sustainable – in a land where too often farmers feel they have no choice but to exhaust the soil in one area and simply move on. Inspired by the pioneering work of Brian Oldreive in Zimbabwe, our conservation farming program empowers

community members to transition from subsistence agriculture to self-sufficient, profitable – and sustainable – land-based small businesses. Piloted at Kansanshi in 2010, the program has grown rapidly and now extends to the communities around our newer Sentinel mine as well.

Conservation farming advocates minimal tillage. Participants in our program, who range in age from 13 to over 90, are taught to create furrows just deep enough to hold seeds and a bit of fertilizer. From there they learn the ideal times to work their plots, relative to the cycles of sunlight and rainfall. They also adopt precise standards for spacing rows, thinning out plants and controlling weeds. The result is a dramatic increase in yields, with some farmers' output jumping by as much as 800%. And these results are sustainable year after year.

By teaching farmers how to grow crops more efficiently on small plots while retaining moisture and nutrients in the soil, we've helped 7,000 area residents produce enough surplus to earn cash incomes. Since the program's launch, yields have increased by an average of 200%. Farmers

who once harvested six bags of maize from a quarter-hectare plot now average 18 to 20 bags, and some produce more than 50. They put more food on the table, raise their household incomes and, just as important, feel the deep sense of pride that comes from achieving self-sufficiency.

At the same time, in a region of Africa where 87% of the population is malnourished, we've introduced a holistic nutrition program in which farmers allocate a small proportion of their plots to crops other than maize, ensuring a healthy diversity in their families' diets. Our 2021 cohort of conservation farmers grew a record 9,200,000 kg of maize and as a result were able to invest more in improving their homes and furthering their children's education.

Demand for the program is so high that with enough resources we could likely triple enrollment. Even as we ease back on subsidising seeds and other inputs for program alumni, virtually all are now emerging commercial farmers who are building a diversified and self-sustaining agricultural economy in northwest Zambia.



PRINCIPLES IN ACTION

Agroextensionismo in Panama

The Cobre Panamá copper mine is one of the largest construction projects ever undertaken in a country whose history has been shaped by infrastructure development on a massive scale. Located about 120 km west of the Panama Canal, deep in the rainforest that covers much of the district of Donoso, the mine employs 6,000 full-time and contract workers, who live in a camps designed to minimise impact on surrounding communities.

One of the challenges of housing such a large workforce in a remote area is keeping everyone fed. In 2016, First Quantum representatives began talking to area farmers about possibly supplying food to Cobre Panamá – and found immediate interest. So with support from the Ministry of Agricultural Development, we launched the *agroextensionismo* (“agricultural extension”)

program, bringing together experts in organic farming, biology, business planning, marketing and distribution.

Our goal was to help subsistence farmers become self-sufficient entrepreneurs while growing their crops sustainably. And to create an initial market for their produce, we arranged for them to supply the Cobre Panamá canteens. Through a cooperative called DONLAP – the Spanish acronym for the Association of Small Farmers of Donoso and La Pintada – nearly 200 individual farmers and several dozen small groups partnered to share risks and finance improvements that benefit everyone.

In 2019, DONLAP provided \$1.4 million worth of fruits and vegetables to the mine’s foodservice operations. Today, members also sell a wide range of produce – including cucumbers, peppers,

onions, bananas, papayas, cassavas and pineapples – at local markets and through grocery stores. DONLAP’s cooperative model and successful pursuit of organic farming have attracted interest from Nestlé, the global food and beverage giant. The company has committed to buy all the cilantro that members can grow and, moving forward, envisions having DONLAP farmers also supply tomatoes to a planned processing plant in the region.

For First Quantum, the success of *agroextensionismo* reinforces a longstanding commitment to promote sustainable development and economic self-sufficiency in our mine communities. Over the long term, what began as a local experiment could help transform the whole region into a major source of food for all of Panama.



PRINCIPLES IN ACTION

Growing coffee under the trees

Planting crops under forest canopies has become common in tropical regions, especially among small-scale farmers facing the impacts of climate change. The practice reduces erosion while helping to enrich the soil. Moreover, when crops are planted in a shady environment, it doesn’t necessarily produce a decline in yields; many plants thrive in lower-light conditions.

Armed with these insights, First Quantum has added an extra level of sustainability to our reforestation commitment at the Cobre Panamá mine. With support from our expert team, local farmers now cultivate cash crops among the native trees in many protected rainforest areas. One crop that fares especially well in the shady surroundings is coffee: not only do the trees require far less weeding than in a traditional plantation, but growers say they produce a higher-quality, better-tasting product.

These efforts have paid off for our enterprising farmers, as well as for the people who’ve agreed to the reforestation of their lands. Nestlé now purchases the total annual harvest of growers around Cobre Panamá to supply its production facility in the region. Other global producers have expressed interest as well. Meanwhile, farmers serve the local community with a retail coffee shop, roasting and grinding their beans on-site.

MEASURING IMPACT

Job skills for women in Mauritania

First Quantum has supported various community livelihood initiatives at our Guelb Moghrein mine in Mauritania, but recently we've focused on developing jobs and entrepreneurial skills among women. Many will face uncertain fates in the next few years, as mining operations wind down and much of the largely male workforce leaves to seek employment elsewhere. We've responded with adult literacy classes targeting the most vulnerable neighbourhoods of Akjoujt, the nearest town to the mine. More than 200 women had taken advantage of the program to improve their reading, writing and numeracy skills.





PRINCIPLES IN ACTION

Supporting women artisans in Zambia

In Solwezi, the nearest town to our Kansanshi mine, a unique jewelry-making initiative funded by First Quantum is equipping women with the skills they need to secure long-term employment or launch their own artisanal businesses. Participants in this two-year training program develop marketable skills – and add value to Zambia’s principal export – by learning to fashion copper jewelry based on traditional designs.

The program empowers young women from vulnerable backgrounds, including child marriages and abusive or parentless homes. The jewelry they craft sells well in Zambia and has also sparked interest from retailers in the U.S. and Europe. As the same time, this artisanal enterprise retains a strong sense of social purpose: a 2020 auction of student pieces raised over K20,000 for the regional YWCA, whose efforts to address gender-based violence and related issues have long received our support (see page 46).

MEASURING IMPACT

3 tonnes of honey

In recent decades, a sharp decline in the global bee population (for reasons not clearly understood by scientists) has increased demand for high-quality organic honey, especially in developed countries. Zambia is well positioned to serve this lucrative market, thanks to the expanses of bee-friendly *mavunda* forest that cover much of the country’s northwest – including the Kalumbila district around First Quantum’s Sentinel mine. In 2011, we launched a beekeeping program, helping more than 300 area residents establish about 2,000 hives. The first harvest yielded nearly 3 tonnes of pure organic honey and the program has carried on from there.



12

ECONOMIC DEVELOPMENT

It takes a huge investment to build and operate a mine and much of that money flows directly into nearby communities. Whether First Quantum employees are hired locally or arrive from other regions, many bring their families to the area and establish households (or start families in their new homes). And as they shop with community merchants and service providers, the local economy grows.

The mine also purchases a wide array of goods and services, usually via agreements that favour local, regional

and national suppliers. And when a mining project leads to the creation of a whole new community, we help to develop industrial zones and other commercial infrastructure. We also provide guidance to local businesses on how they can gain the most advantage from economic growth.

The communities where we operate play a vital role in First Quantum's success.

We want to ensure that our hosts in turn enjoy a more rewarding way of life – today and for generations to come, long after the mine has run its course.



PRINCIPLES IN ACTION

Community banking in Zambia



Most rural villagers around our Kansanshi and Sentinel mines don't have access to formal banking services. They may sell their goods or labour to earn a subsistence living, but they typically lack the financial know-how and necessary capital (however modest) to turn their efforts into greater prosperity. In recent years, though, the prospects for local entrepreneurs have improved dramatically, thanks to a grassroots banking concept introduced with First Quantum's support.

The village banking program is entirely operated by women, who collect deposits from their neighbours and then provide loans to various small-scale businesses, from retail shops and market stalls to artisanal makers of crafts and food products. Interest rates are set by each bank's founding members, who look for solo ventures or small enterprises that seem capable of generating returns with minimal risk. Half the profit goes back to depositors, while the rest is invested in new ventures.

Now comprising nearly 200 banks across the region, the microcredit program serves more than 7,000 depositors and borrowers, 98% of them women. Cumulative deposits exceed \$2 million, with savings account balances averaging about \$150 – seen as a significant amount in rural communities where poverty is endemic.

The banks' investors and customers learn how to manage money and grow small enterprises. Most take advantage of First Quantum's adult financial literacy programs. Many also embrace conservation farming (see page 61) as they leverage their own capabilities to break the cycle of poverty. Just as importantly, the banks provide a beacon of female empowerment at a time when women and girls across Zambia are exploring possibilities beyond their traditional social roles – further advancing the self-sufficiency that drives economic growth.



PRINCIPLES IN ACTION

Creating a sawmill business in Zambia

When work began on First Quantum’s Sentinel mine in 2012, the construction team faced a dilemma. In order to create access roads, build the ore processing plant and start preparing the open pit, some of the area’s natural forest had to be cleared away. In the land use agreements established with Zambian authorities, it was accepted that some deforestation would be necessary, provided it was offset by reforestation in areas outside the project footprint.

But now that trees were coming down, what was the most responsible way to dispose of them? The easy route favoured

by many resource companies is to bulldoze felled trees into piles and burn them. But we knew this would send a confusing message to community members when First Quantum environmentalists were trying to steer local farmers away from slash-and-burn tree clearing, showing them more sustainable approaches to increase yields.

Instead, we partnered with community leaders on a far better solution: we built a sawmill on the mine site and hired local workers to operate it. Since 2013, the Kalumbila Forestry Program has employed from 70 to 120 people, training them to

fell trees, transport logs back to the mill, identify different quality grades and cut the timber into appropriate sizes, using specialized equipment at every stage.

Effectively operating as an independent small enterprise within the Sentinel site, the sawmill manufactures a wide range of products, from fenceposts that are used around the mine site to specially designed desktops for local schools. Our \$6 million investment has created jobs, helped resettled community members develop marketable skills and encouraged more sustainable use of resources.

PRINCIPLES IN ACTION

Micro-finance in Mauritania

Most of the economic development programs we’ve introduced in the town of Akjoujt and other communities around our Guelb Moghrein mine are aimed at fostering financial literacy and entrepreneurship among Mauritanian women. By developing traditional skills such as tie-dyeing fabrics, pattern making, sewing and embroidery, women can better support themselves and their families while helping to grow and diversify the local economy.

In addition to producing traditional goods and crafts, the women’s groups we support also participate in a revolving loan fund. Created with a small amount of start-up

capital from First Quantum – and matching contributions from community members – the fund lends small amounts according to terms decided by the group. About half of the loans are used to cover household needs such as food and healthcare, while the balance finance modest revenue-generating activities. To date, 100% of the fund’s loans have been repaid – a testament to the strength and effectiveness of its self-governing model. This is one more building block in our effort to create new opportunity and sources of capital in the region as the mine transitions to closure over the next few years.



PRINCIPLES IN ACTION

Creating a new kind of future in Peru

As we explore a potential mine project near Haqira in southern Peru, First Quantum has invested more than \$1.7 million in local business development, combining training in basic management skills with a commitment to purchase goods and services from companies in this remote Andes region.

Homegrown suppliers of everything from food and clothing to transportation services have won contracts with the project, gaining much-needed revenue and experience as they grow their enterprises. First Quantum also encourages activities such as raising livestock and fish farming. And we subsidise temporary jobs for the unemployed, as well as providing income relief for elderly and disabled members of this highly vulnerable community.



13

ONGOING COLLABORATIONS



First Quantum is in the natural resources business, but the projects we develop are built on human relationships. From day one, we engage with the people and groups who will contribute to a mine's success and experience its impact, directly or indirectly. The jobs we create, the goods and services we buy, the steps we take to protect the environment – every decision is guided by the insights of local stakeholders who care deeply about the stewardship of their land, the wellbeing of their community and the economic future of their region and country.

As the community around a mine evolves and grows, new needs emerge. In most cases these would have been difficult to plan for – or weren't even foreseeable – when the original agreements were formalised. A crucial aspect of ongoing consultation is recognising

important new priorities for the community and finding ways we can work together to address them.

What if some people aren't happy with how things are going? Part of being a responsible company is always having an open and honest dialogue with our communities. But sometimes, even with the best of intentions, there can be misunderstandings. Or there may be an aspect of our work, or some action of our contractors or subcontractors, that doesn't please everyone.

First Quantum has a clear process for hearing concerns and complaints. We follow a series of steps to make sure all views are heard. And then we encourage everyone to work together to reach a solution that's acceptable to all.

We divide potential concerns into two types: An issue is a difference that can be resolved, without any financial or material compensation. A grievance involves a request for payment or some other benefit. Grievances require a formal response, but they can still be settled without going to court (which everyone typically wants to avoid).

Our complaint process follows international standards but adjusts to reflect local laws, traditions and values. And it's never about one side emerging as the winner. We invite relevant stakeholders to share their views, then work with the community members who raised the concern to reach a conclusion that's seen as reasonable and fair to all parties.





PRINCIPLES IN ACTION

Fighting malaria in Zambia



Ongoing engagement with the communities around our Kansanshi and Sentinel mines has led to an initiative that contributes significantly to public health in both regions: our malaria prevention program. This public-private partnership works to bridge gaps in the national malaria program, inspiring communities to practise better management of the disease.

We regularly conduct targeted insecticide spraying – including inside people’s homes – to eliminate mosquitoes, the most likely sources of malaria. Our teams then monitor the impact of spraying efforts to determine which pesticides are most effective. We also track health improvements against baseline studies, paying particular attention to rural areas that are harder to cover systematically.

As crucial as spraying is to quickly reduce the incidence of malaria, even more important is educating people about

prevention. Our mobile health teams distribute malaria nets and antimalarial medications free of charge. They also offer community training workshops on how to test and treat family members and neighbours. In addition, we support research by regional public health officials, as well as the Tropical Diseases Research Centre in nearby Ndola, funding studies focused on entomology, insecticide effectiveness and the mapping of breeding sites.

All of these efforts pay off. During the peak of the 2015/16 malaria season, clinics in Solwezi (serving Kansanshi) and Kalumbila (Sentinel) saw caseloads decline by 60% to 70% compared to previous years. At Sentinel, where First Quantum teams augmented the work of health authorities by spraying 26,000 structures, the average number of malaria cases dropped from 650 to just 30 per month – a reduction of 95%.



PRINCIPLES IN ACTION

Battling Cholera in Zambia

Many communities near First Quantum’s Zambian mines are vulnerable to water-borne diseases such as cholera, typhoid and dysentery. Our ongoing commitment to community health includes launching initiatives like WASHE (Water Sanitation Hygiene and Education), a long-term program that aims to prevent the root causes of infection and address related challenges such as malnutrition.

The WASHE program’s peer educators visit our mine communities regularly, demonstrating personal hygiene techniques like handwashing. They also teach household practices such as boiling and chlorinating water, and how to safely store drinking water. We collaborate with local and regional public health officials, conducting inspections to ensure toilets and washing facilities are functioning and well maintained.

As well, our teams also teach students the basics of cholera prevention. And in a typical year, we distribute around 48,000 bottles of chlorine for water purification and 4,000 bags of lime to decontaminate latrines.

When more severe cholera outbreaks strike, as occurred in 2017, we partner with the Zambian disaster management health authorities to provide water purification supplies and boost public education efforts.

But changing communities’ hygiene practices is only part of the story. Cholera prevention ultimately depends on access to safe water – which is why we also support ongoing projects to improve stormwater management, dig new community boreholes and complement government efforts to monitor quality and ensure access to clean, safe drinking water.



MEASURING IMPACT

Learning during
the pandemic

When schools around our Kansanshi mine closed because of the threat from COVID-19, we helped them transition to delivering courses remotely – via two FM radio channels. Highly experienced teachers from around the region, broadcasting 12 hours a day, have been able to engage some 42,000 students (often joined by their families), who can interact and ask questions via text. We plan to continue this successful program in the future, focusing the curriculum on English, math and sciences for all grade levels.

“Our School on the Radio programme quickly reached nearly 50% of the target population. The teachers also feel the programme has been of great benefit to them; they’ve learned new methods of teaching and can now do their work even better than before. Because we know the value of primary school education, we had this idea and could provide the financial resources to support it. The positive outcome is very pleasing indeed.”

– Dr. Onward Mandebvu, Education Coordinator, Kansanshi mine

14

PREPARING FOR CLOSURE



When we help build a community, our goal is to see it continue to thrive long after our mine has completed its commercial lifespan. There are more immediate business reasons, of course, for having a stable and economically vital community nearby. Our operations benefit from quick access to a transportation and supply hub. And we need to provide a good home for First Quantum employees and their families, as well as for local residents we've helped to resettle and newcomers attracted by the prosperity a mine brings. But the commitment we make extends further than that.

We want our communities to develop and grow based on their own unique strengths. When we invest in education and skills training, and when we work with governments and community leaders to foster livelihoods and entrepreneurship, our larger goal is to ensure that the positive change our mine has helped to create will retain its momentum into the future.

PRINCIPLES IN ACTION

Pursuing new livelihoods in Turkey



First Quantum's Çayeli mine in eastern Turkey currently employs about 450 people, 90% of them from the surrounding area. In addition to the wages paid to our workforce, which are mainly injected into the regional economy, the operation spends tens of millions of dollars annually on purchases from local product and service providers. Now, with the mine projected to close in 2023, we're helping the community prepare by funding a range of initiatives aimed at creating future employment and developing new avenues of opportunity. When community members told us they wanted to pursue new livelihoods and entrepreneurial ventures, we responded

in 2015 with the Capacity Development Project. So far the program has provided several hundred Çayeli residents with training in basic business, sales and marketing, computer and e-commerce skills. Success stories include a women's collective that has created a popular children's doll, and another group of women entrepreneurs who manufacture textile products such as gift bags, t-shirts and, more recently, masks to protect against COVID-19. We're also partnering with community leaders to explore potential future uses of the mine property. Under the closure plan, we'll donate as much land as

possible – even as the facility is still being decommissioned – to the community for redevelopment. One area of focus is tourism. Residents are working with mine management and outside consultants (funded by First Quantum) on plans to develop Çayeli as a holiday destination, taking advantage of the growing influx of domestic and foreign tourists drawn to the nearby Black Sea coast. As closure nears, we'll be working with the community to further diversify its economic prospects, leveraging the prosperity we've built together.



PRINCIPLES IN ACTION

Maintaining water access in Mauritania



As our Guelb Moghrein mine in Mauritania prepares to close as early as 2023, First Quantum’s community relations team has targeted a range of social impacts for attention. Several issues are high on our priority list: a significant loss of employment opportunities, not just at the mine, but across the local economy; elimination of our livelihood programs for low-income community members, particularly women; and reduced access to health, education and other services as the population declines. But perhaps the most vexing challenge around closure is how to transfer responsibility for the water supply to local authorities while helping to safeguard the community’s future wellbeing.

Ensuring continued access to fresh water, while not a legal obligation, is fundamental to our longstanding partnership with a community that depends on this critical lifeline. It’s also a core part of our responsibility to the Mauritanian government, as well to investors, business partners and other stakeholders.

The subject has only gained urgency as water scarcity caused by climate change grows more prevalent worldwide. The UN’s Sustainable Development Goals showcase the obligation to ensure access to water.

And this dimension of social responsibility is increasingly seen as a fundamental human rights issue – with all the legal, reputational and political ramifications that entails. Our closure transition plan for Guelb Moghrein includes a thorough analysis of water-related concerns. It stipulates that First Quantum, having determined that the pipeline and pumping stations (see page 57) are in good working condition, will donate them to the Government of Mauritania, which will then assume all responsibility for their operation. However, we face a dilemma. This infrastructure requires significant and expensive ongoing maintenance. It’s not at all certain that the government will be able to keep the water system in good working order, or even maintain an adequate supply to local communities, after the mine closes.

Recognizing the complexities of operating and maintaining the Benichab pipeline – particularly in light of previous, similar challenges faced by the national water authority – our water engineers could potentially provide on-the-job training to the local team taking over their responsibilities. This would increase the likelihood of uninterrupted water access post-closure.

At the same time, we’re considering a commitment to provide pipeline-related materials and equipment at handover, so the water authority will be better positioned to perform ongoing maintenance. Our engineering team still has to determine more precesely what resources would be required and how much of an investment this would entail.

Meanwhile, we’re working with the authority to establish training and maintenance programs for the solar-powered pumps that are in use across the water network. And to enhance the system’s long-term viability, we’re assessing the benefits – in terms of lower operating costs and reduced environmental impacts – of converting all pumping stations to solar before handover.

There are still many details to be worked out, but we’re confident that by the time Guelb Moghrein is fully closed, the community will have the water access it needs – and the long-term self-sufficiency that we consider the hallmark of a successful mining operation.

MEASURING IMPACT

Protecting the future in Turkey

First Quantum’s Çayeli mine in eastern Turkey is situated in a valley whose steep slopes are prone to ground movements triggered by heavy rains. To operate safely, we must protect our workforce and facilities from potential landslides. We’ve also had to address the concerns of families whose hillside homes have been damaged by subsidence, which many local residents link to mine activities.

In launching the Near Mine Housing Project in 2011, we commissioned a team of researchers from three universities to study ground movements around Çayeli, including the possible impact of blasting at the mine. While the scientists found no evidence that mining activities had exacerbated a natural phenomenon, we offered to resettle all families whose homes had structural damage, regardless of the cause. We also worked with authorities to resettle those living in vulnerable areas where we continue to conduct engineering work to stabilise the slopes.

As of 2020, 93 households had taken advantage of the voluntary resettlement program; 82 have moved to new homes financed by First Quantum, while the rest are either considering offers or having their

homes monitored for subsidence damage. We’ve also built 79 utility structures in the vacated area so resettled families can continue their farming activities.

In addition, as a condition of our continued right to operate, the Ministry of Energy directed First Quantum to secure the area immediately above the mine against potential landslides. After several years of negotiations with property owners, the government has taken steps to expropriate eight parcels of land. However, most of the owners – who’ve already benefited from our resettlement program – refuse to leave their expropriated properties without further incentives. Talks continue with landowners and government officials, and we expect a resolution in the near future.

These efforts have required a significant investment of time and resources for a mine that is nearing closure (see page 81). But as we explore other business opportunities in Turkey and elsewhere, it’s vital that we maintain the trust First Quantum has earned over many years at Çayeli – and our reputation for always acting in good faith and safeguarding the interests of the communities where we operate.



15

LEGACY INITIATIVE: WEST LUNGA

Our obligation to protect the environment doesn't end at the concession fence. In addition to managing a mine's impact on biodiversity in the immediate area, there's the broader ecosystem to consider, along with aspects of sustainability that extend across the entire region. As well, conservation efforts extend over time, addressing challenges that often predate mine development and will last beyond a project's lifespan.

This is the far-reaching perspective we've brought to our Sentinel mine in northwest Zambia – and to the legacy we'll leave behind. In a region of south-central Africa that scientists have identified as environmentally critical, a group of committed stakeholders has come together to restore biodiversity and mitigate climate change while advancing sustainable livelihoods and responsible development. The focal point for our collective efforts is an initiative spearheaded and co-funded by First Quantum: the West Lunga Conservation Project.



A globally significant region



West Lunga covers nearly 12,000 sq km in Zambia's North-Western Province. Along with similar areas of neighbouring Angola and the Democratic Republic of Congo, the region has been identified in NASA satellite imaging studies as the world's fourth-largest area of tropical evergreen forest after the Amazon, the Congo basin and the Malaysian rainforest.

A unique environmental feature of West Lunga is the vast expanse of woodland known as *mavunda*. The dry evergreen (*cryptosepalum*) forest forms an almost continuous canopy above a dense undergrowth of shrubs, scramblers and climbers. Still largely unexplored by humans, it's a complex ecosystem that

plays a significant role in mitigating the impact of greenhouse gases on climate change. And it's being steadily eroded by unsustainable farming practices, ill-considered burning and the rapid growth of nearby communities.

West Lunga also plays a crucial hydrological role at the heart of Africa. Receiving over 2 m of rain annually, the region's intricate network of wetlands forms the watershed of the Zambezi and Kafue river systems, which – in addition to feeding Victoria Falls – supply hydroelectric power to half of Zambia. The rivers also provide livelihoods for millions of people who fish their waters and harvest resources along their banks.

Until recently, West Lunga was home to a substantial elephant population. Today the iconic creatures are rarely seen; the few that remain have retreated deep into the bush to avoid illegal hunting fuelled by the ivory trade. Many other previously abundant species have likewise dwindled in numbers as biodiversity has been threatened by a range of human activities, including slash-and-burn clearing and charcoal production.

Across all these dimensions, West Lunga is in peril. A region that should be a thriving source of biodiversity and a vital contributor to both ecological and economic health is at risk of being irreparably damaged by encroaching communities.

Partners in sustainability

Alarmed by their environmental threat, **Zambian officials initially joined with local chiefdoms and community leaders in the search for solutions.** But it was soon clear that the necessary human and financial resources couldn’t be marshalled without additional help. The government invited proposals for a public-private-community partnership to oversee and preserve what is now designated as the West Lunga Area Management Unit, comprising a national park and four nearby protected zones.

In 2014, the West Lunga Conservation Project was established. A partnership between Zambia’s Department of National Parks and Wildlife and the Trident Foundation (funded by First Quantum), the project was incorporated as a non-profit Public Benefit Organisation in 2019. Its team of conservationists and research scientists collaborates with parks officials, traditional leaders and local communities, backed by funding and support from First Quantum and the World Wide Fund for Nature (WWF – formerly known as the World Wildlife Fund).

The goal of the West Lunga Conservation Project is to rehabilitate, restore and protect the regional ecosystem. Plans include the systematic rebuilding of wildlife populations, as well as the promotion of wildlife-related livelihoods in the surrounding communities. The long-term objective is to make this significant region ecologically, socially and economically sustainable.



West Lunga conservationists fit a tranquilized elephant with a tracking collar to monitor behaviour and help protect it from poachers.

Protecting diverse wildlife

West Lunga is considered a skeleton ecosystem, left “biologically barren” by years of neglect. But the region once supported large populations of elephants, buffalos, sables, roans, Lichtenstein’s hartebeests, lions, leopards, wild dogs and many other species considered native to this part of the African continent. Among the endangered species that the conservation project is working to protect, nurture and/or reintroduce:

- *African elephants:* Surveys in the 1950s found such large populations that there was actually a proposal to rename the national park the Lunga Elephant Reserve. However, after decades of illegal hunting, elephants have steadily disappeared from the landscape – to the point where fewer than 50 can currently be found in West Lunga.

- *Yellow-backed duikers:* Despite efforts from the 1940s onward to protect this rare woodland antelope, hunters have dramatically reduced what was once the largest population in Zambia. The few remaining today are extremely elusive, though project conservationists occasionally catch glimpses on the camera traps set up across the reserve.
- *White-bellied or tree pangolins:* This scaly anteater is one of the world’s most heavily trafficked animals, and therefore designated as an endangered species. The West Lunga ecosystem is an ideal habitat, provided the project team can thwart poachers and stop deforestation caused by slash-and-burn agriculture.



Managing and policing the area

The West Lunga Conservation Project is managed by Dorian Tilbury, a veteran biodiversity conservationist with the Trident Foundation. Activities under his direction include:

- *Park management:* The project team works with officials from the Department of National Parks and Wildlife to better understand the region’s ecological processes and mitigate negative impacts. Areas of focus range from improving access and fire suppression to wildlife monitoring and ecological research – with much of the work conducted under the WWF Upper Zambezi Programme.
- *Law enforcement:* The project provides resources and training to a team of 120 wildlife rangers operating on land and water. Since 2014, more than 17,000 snares have been removed and 200 illegal firearms confiscated.

- *Wildlife monitoring:* Working with government rangers and WWF researchers, the project team conducts an annual wildlife count, monitors the camera trap network and tracks elephants and buffalos with GPS collars.
- *Infrastructure development:* The project has supported parks officials by building wildlife camps, offices, bridges, roads and communications systems. Plans are in motion to add staff housing, storage facilities, workshops and satellite camps.

A conservation-based economy



The West Lunga Conservation Project is emblematic of First Quantum’s overall approach to sustainability. It reflects our commitment to mitigate impacts of our mining activities, including the broader effects of in-migration, on the region around our Sentinel mine. And at the same time, like our conservation initiatives in Panama (see page 25), the project promotes responsible development and sustainable livelihoods as critical to ensuring long-term social and economic wellbeing. Our efforts to build a successful conservation-based economy include:

- *Community game ranching:* To combat illegal hunting in the West Lunga ecosystem, the project team is creating community game reserves that can provide legal bush meat to surrounding communities – protecting endangered species while providing employment opportunities.
- *Sustainable beekeeping:* Growing demand for Zambian honey has led to destructive practices in West Lunga, as beekeepers cut open trees in their search for wild honey or strip bark from the trunks to make hives. The conservation project has therefore partnered with Nature’s Nectar, a Zambian social enterprise that helps community members living near reserves and national parks produce honey more sustainably.
- *Community-based tourism:* Eco-tourism doesn’t have to be exclusively aimed at visitors from abroad; many Zambians want to explore the beauty of their own backyard. This is the insight behind Kafunfula Community Camp, beautifully situated on the Kabompo River. The first of its kind in West Lunga, the tented camp employs a local staff and attracts visitors from across the region – including Kalumbila, the community next to our Sentinel mine, about a 2.5 hours’ drive away.



A legacy for the future

“We’re committed to taking the long view,” explains Dorian Tilbury, manager of the West Lunga Conservation Project. “We’re working to restore the ecology in sensitive areas and revive animal populations that were nearly eliminated over the past 30 or 40 years. We’re also introducing community education programs to reduce negative environmental impacts and help people pursue sustainable livelihoods. And we’re helping create the infrastructure for a thriving eco-tourism industry while maintaining a balanced approach to natural resource management.

“For the first time in decades, a conservation program is not only having an impact on poaching – it’s helping to create real jobs. And speaking as a Zambian who’s spent the past 20-odd years working in protected areas, I know our success comes down to the relationships we’ve built with community, traditional and government leaders. It takes people working well together to bring this kind of initiative to life.

“As we work with our various partners to protect what’s here today, we’re helping to protect a vital ecosystem, sustain local communities and create a more hopeful future.”

Conclusion



A Community Built for Tomorrow

The legacy of a successful mine is not what has been removed, but what has been added: Economic growth and employment. Improved education and health care. Better houses, roads and infrastructure. Greater social cohesion and wellbeing. And above all, confidence that the building blocks are in place for a promising future.

This is what's expected of First Quantum by the people who allow us to develop a mine near their community, unlocking the value of their natural resources while protecting the environment. It's also what we expect of ourselves, as a responsible organization committed to doing business fairly, profitably and sustainably.

The promise of a rewarding future is not something we can deliver on our own. Various levels of government invest public funds – including taxes and fees paid by our company – in developing a community whose impact on the national economy may one day far exceed the impact of our mine. But we firmly believe in doing our

share, helping ensure that all community members see tangible improvements in their quality of life. In part, because it's a sound business decision: a mine's success depends on the success of the people who support it. And more fundamentally, because it's the right thing to do.

We can point to concrete evidence of our contributions: a new school, a larger clinic, a safer bridge, a street lined with well-built homes. But these are just symbols of a deeper commitment. To building capability and potential. To fostering self-sufficiency and resilience. To reinforcing the confidence and shared sense of purpose that create a better tomorrow.

This is our legacy.

“I came to the Sentinel project in 2011 as an environmental officer. Over the past decade, I’ve seen the mine grow from a team of 14 people, mostly geologists, to about 5,000 employees working at one of the largest and most advanced mining operations in Africa. And I believe that every one of us has a duty to care.

“We have a duty to always stop and think about how we can do things differently, and to speak out when we observe activities that negatively affect our communities. We have an obligation to understand nature better, and to align our values and practices in ensuring its preservation. And we have a responsibility to continue protecting the environment, because it provides health, shelter and resources, allowing our communities to prosper.”

– Joseph Ngwira, community affairs manager at First Quantum’s Sentinel mine in Zambia and manager of the non-profit Trident Foundation

