

# SUSTAINABILITY REPORT 2019



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## WE MINE FOR PROGRESS

MMG aspires to be the world's most respected base metal company. To achieve this, we ensure that our operations are responsibly carried out by effectively managing risks to people and the environment across the communities and environments in which we live and work.

We recognise that the sustainable development of the countries and communities in our areas of influence is the result of a number of small steps. Over time these steps lead to real and lasting improvements in the quality of life of those associated with our operations. Transforming natural resources into social capital is how we mine for progress.

We invite you to visit [www.wemineforprogress.com](http://www.wemineforprogress.com) to read more stories that reflect our values, the social contribution of each of our operations and MMG's commitment to safe and responsible mining.














# ABOUT THIS REPORT

This report is based on the Standards of the Global Reporting Initiative (GRI) (although this is not strictly a GRI report). Its purpose is to describe and explain the overall performance of the Las Bambas MU during 2019.

This report describes 11 material issues or key aspects related to sustainability; namely, the economic, social and environmental aspects with the highest priority to our operation and stakeholders. It also includes the contributions of MMG, our parent company.

We will share this report with representatives of our stakeholders, whose feedback will be included when we update our future materiality processes and draft our next sustainability report.

MATERIAL ISSUE	SCOPE	PAGE REFERENCE
<b>OUR OPERATION AND MMG</b>		
 Economic and Operational Performance	Reports production performance of 2019 and the projection for the continuity of the business.	14 - 19, 38
<b>THE WAY WE WORK</b>		
 Operational Excellence and Innovation	Describes the characteristics and implications of operational performance, and the status of innovation and high technology projects that make mining and transport of ore possible.	22 - 23
 Constructive Dialogue	Shows the timeline of events that interrupted our operations in 2019. Describes the current status of the resolution methods proposed to channel the tensions that have emerged through an ongoing commitment to dialogue.	24 - 26 36 - 37
 Commitment to Human Rights	Addresses our approach to human rights management within the framework of the Guiding Principles and the Voluntary Principles on Security and Human Rights.	27 - 28
 Compliance and Corporate Governance	Presents our compliance with the guidelines of our parent company, MMG, and the regulations that govern the administrative responsibility of legal entities for the offence of transnational active bribery (Law 30424). Covers corporate governance and compliance with our Code of Conduct.	29
 Human Capital and Diversity	Describes key aspects of talent management, relationship with the unions, management of diversity, and creation of direct and indirect local employment.	30 - 31
 Occupational Safety and Health	Describes our risk management and the promotion of a culture that prevents work-related accidents.	31 - 33
<b>WE MINE FOR PROGRESS</b>		
 Contribution to Territorial Development	Covers the actions implemented to strengthen engagement with communities; local, regional and national governments; and other partners that favour the development and improvement of the quality of life in the communities. Includes long-term social investments such as programs and projects, infrastructure investment and general contributions.	10, 19 38 - 51
 Progress on Our Commitments	Addresses the progress and compliance with commitments undertaken in Annex K <sup>1</sup> , which correspond to our MU, emphasising the continuity and transparency of that responsibility.	34 - 35
<b>WE MANAGE OUR IMPACT</b>		
 Environmental Management	Presents the management of effluents, waste, tailings, energy, GHG emissions and the transport used; and compliance with environmental regulations. Includes information on the requirements of the environmental regulatory body, and clarification of the impacts generated by the transport of our ore.	52 - 55 58 - 63
 Water Resource Management	Describes our approach to sustainable water management, recognising water as an asset with social, economic and environmental value. In addition, demonstrates transparent communication of the water management and withdrawal processes.	56 - 57

<sup>1</sup> Social conditions present in the Las Bambas concession agreement with which the government and Las Bambas must comply.

# MESSAGE FROM MMG'S CEO



## Dear Readers:

I am pleased to present the Las Bambas Sustainability Report 2019.

In 2019 we marked an important milestone – MMG's 10-year anniversary. Over the past decade we have worked to build a business supported by high-quality assets, talented people and products leveraged to the global mega trends of decarbonisation, urbanisation and vehicle electrification. Since the beginning, we have been firm in our commitment to Mine for Progress – pursuing sustainable development and good citizenship as a way of generating value for all of our stakeholders. I am pleased to share some of the highlights of our performance in 2019.

## Safety, Health and COVID-19

At MMG, the health and safety of our people is our first value. We are working hard to embed a companywide safety mindset with supporting leadership, behaviours, cultures and processes in every area of our business.

At the end of 2019, our full-year total recordable injury frequency rate (TRIF) was 1.58 per million hours worked, up from 1.00 in 2018. Overall, this result indicated a low frequency of injuries, and we are committed to doing more as we work toward a target of zero injuries.

Driving ongoing improvement in our safety performance remains a key management priority, and we continue to invest time and resources in prevention, empowering leadership, and importantly, learning from experience. Our continued commitment to improving our safety performance ensures our people can return home safely to their families at the end of each day. We must learn from incidents across our industry, both actual and potential, to keep our people safe.

As a business with global operations, we have been affected by the spread of COVID-19 since early 2020. The health and safety of our employees, contractors and host communities remains our first priority. Across MMG, we have dedicated teams responsible for monitoring local impacts and advice

from local authorities as well as communicating our response.

We have worked hard to implement additional safety, health, hygiene and social distancing measures to reduce the risk of transmission and to develop business continuity plans for all our operations. Our teams have also worked collaboratively with local communities to ensure they have sufficient resources available.

## Contributing to Development

At MMG, we mine for progress. The social and economic benefits we provide through our operations, their supply chains and our products support our employees, shareholders, communities, consumers, regions and host countries to develop and prosper.

In 2019 we invested over US \$18.5 million in social development programs and contributed over US \$418 million to taxes and royalties around the world. Our social investment initiatives are aligned with the first six Sustainable Development Goals (SDGs) of the United Nations. We seek to contribute to the improvement of basic resources and services including healthcare, education and food security, and we are committed to generating livelihood opportunities through local employment and business development programs across our regions.

We invested US \$16 million in social investment programs at Las Bambas in 2019, including the

local business development, Andean crops and community infrastructure initiatives. We also continue to support local health campaigns throughout the region, including the Fuerabamba Health Centre.

We are committed to ongoing dialogue with all our communities and stakeholders to create sustainable long-term solutions to any issues that may arise. In 2019 we faced more than 100 days of road blocks at Las Bambas, including a 60-day road block by the Fuerabamba community 130 km from the operation at the Yavi Yavi agricultural land. We continue to work closely with all parties involved to ensure the agreements are met.

## Minimising Our Impact

We are committed to minimising our environmental footprint through the efficient use of natural resources.

In 2019 our Las Bambas team continued to implement water management strategies, commenced in 2018, with positive results. The site has implemented a major water infrastructure program focused on the diversion of clean catchment runoff around the mining areas, which has resulted in improved water quality and a more natural flow to the downstream ecosystem.

At MMG we treat the management of our tailings storage facilities (TSFs) as a significant material issue that requires ongoing, rigorous

risk management. Our tailings governance includes independent Dam Review Committees at each of our operations, and each TSF is designed, operated and maintained in accordance with leading engineering practices and principles. Our approach meets or exceeds the regulatory requirements in each of the jurisdictions in which we operate.

Finally, MMG is proud that our products – particularly copper and zinc – are a major input into global efforts to decarbonise and electrify our energy and transport needs. If we wish to drive genuine reductions in carbon and arrest the impacts of global climate change, we will as a community rely more heavily on the role metals play in society. MMG also acknowledges the critical contribution that the careful management of our own energy efficiency and mix can make in minimising our carbon footprint.

I would like to thank our employees, shareholders and host communities for their ongoing support. I would also like to thank our people for their dedication and contributions to our sustainability performance. I look forward to the coming year and the implementation of more sustainability initiatives as we continue to mine for progress.

**Geoffrey (Xiaoyu) Gao**  
CEO

# MESSAGE FROM MMG'S EXECUTIVE GENERAL MANAGER, OPERATIONS - AMERICAS



## Dear Readers:

I am pleased to present the Las Bambas Sustainability Report 2019, the 12<sup>th</sup> we have published as a mining unit. This publication reflects our ongoing commitment to transparency with our stakeholders and compliance with international sustainability standards. We are proud to share the performance of our operation, its economic impact and our contribution to the development of Apurímac and Peru.

We have continued to strengthen our company to optimise our operational excellence, which is reflected in the 382,518 tonnes of copper in concentrate we have produced. Without a doubt, these are positive results that continue to reinforce Peru's leadership in the global mining sector.

During 2019 we paid royalties of US \$53.9 million to Apurímac, and we made other payments and paid taxes to the government for approximately US \$282 million. We created a total of 5,791 direct and indirect jobs, 24% of which have been held by Apurímac residents, while 23% of this local employment figure corresponds to jobs held by Apurímac women.

We allocated more than US \$34 million to boost the economy of our host area through purchases from local businesses. We invested more than US \$16 million in social programs aimed at the development of local businesses, education, health and community infrastructure initiatives. All of these programs are linked to the achievement of six SDGs included in the U.N. 2030 Agenda.

Our contribution also comprised an investment of more than US \$9 million in infrastructure under the Works in Exchange for Taxes (WxT) method. That figure places us among the five companies

who made the largest investments under this method during the reporting year.

2019 has been particularly challenging for our operation because the public roads used to transport our concentrate were blockaded for more than 100 days. This activity was led by some members of neighbouring communities who requested economic compensation for the use of the roads, and by communities located far away from our operation that requested to be part of our area of influence.

The Peruvian government set up dialogue platforms to facilitate discussions that resulted in re-establishing free transit on the road. At Las Bambas, we always try all possible legal solutions based on our agreement with the communities. Road blocks prevent our operation from establishing itself as a long-term partner for the development of Apurímac and Cusco.

With regard to the environment, we highlight the installation of 10 air quality monitoring stations throughout Peru's Southern Road Corridor (since 2016). In 2019 Universidad Peruana Cayetano Heredia conducted a technical study on 100% of the data recorded by those stations and concluded that we meet the national environmental quality standards

(EQS) in the sampled areas.

The Environmental Assessment and Oversight Body (OEFA) conducted an environmental audit in Chumbivilcas province, more than 100 km from our mining operation. The results showed that particulate matter PM2.5 (one of the main reasons that raised the concern of neighbouring communities given its high risk to health and the environment) complied with national air quality standards. Particulate matter PM10 complied with national air quality standards at 83% of the stations.

As this report goes to press, we are responding to the health emergency caused by COVID-19 in a timely manner and following the guidelines issued by the Peruvian government. Our social work, coordinated with regional, municipal and local authorities, has reached more than 32,000 families in our area of influence (Apurímac) and areas along the national road (Cusco).

We would like to highlight that our camp is a safe place, as all the measures for the protection of our employees' health have been implemented. We have established stringent protocols based on the regulations issued by the Ministry of Health and the guidelines of the World Health Organisation, including one for transporting our personnel.

Finally, we would like to thank all our stakeholders for the trust they place in our company. We are confident that our work will yield sustainable results for our neighbouring communities, Apurímac and Peru.

### Jianxian Wei

Executive General Manager,  
Operations - Americas

# LAS BAMBAS AND OUR IMPACT

We are one of the **top 10** global copper miners and one of the largest private investments in Peru (**US \$10 billion**).

## > Significant contribution to GDP

Our activities make a significant contribution to the national gross domestic product (GDP), while the mining industry as a whole accounts for more than **9%** of the country's GDP; namely, making it one of the main sources of direct and indirect employment throughout its production chain.

## > 18 years

The estimated life cycle of the Las Bambas Mining Unit (MU) is 18 years.



From 2016 through the publication date of this report, we paid **US \$281 million in royalties**, and this amount has been distributed among **84 municipalities** in the region.

### APURÍMAC REGION

In 2019 Las Bambas created **5,791 direct and indirect jobs**.



In the past three years, we purchased more than **US \$181 million** in local and regional goods and services.

# LAS BAMBAS AND THE MINING SECTOR

Mining is an economic activity that provides sustained benefits to a large percentage of the national population. Its significance for the Peruvian economy is reflected in its contribution of almost 9% of GDP over the past 10 years. According to data from the Mining Statistical Bulletin of the Ministry of Energy and Mines (MINEM), mining investment in Peru exceeded US \$6.15 billion in 2019.

Peru maintains a notable leadership in the global extractive market in terms of copper production, which is mainly exported to China and the United States. In 2019 our unit contributed 15.6% of Peru's total copper production.

National copper exports recorded a 7% decrease during the January to December 2019 period,<sup>2</sup> due to the unfortunate social climate that prevails in the country for mining activity. Despite this situation, copper sales accounted for more than 29% of total Peruvian exports.

The Peruvian mining sector still has to face challenges regarding its critical role as creator of local, regional and national development. At Las Bambas, we assign the highest priority to dialogue, respect and strict compliance with national and international regulations, to achieve the sustainability of our long-term contribution.



Our experienced Mine Operations Team operates mining trucks with load capacities of more than 300 tonnes each.

<sup>2</sup>Source: Mining Statistical Bulletin of the MINEM.

# PERFORMANCE SUMMARY

# 2020 GOALS

## Our Performance Against 2019 Goals

### SAFETY AND HEALTH

Maintain the TRIF Rate at $\leq 0.40$ .	●
Reduce the number of significant events with exchanged energy by at least 20% compared to 2018.	●
Ensure that at least 98% of Las Bambas employees who respond to the perception survey identify safety as a company value.	●
Achieve at least 90% implementation of the "Visible Leadership" Program.	●

### ENVIRONMENT

Achieve zero significant events with an actual level 3 consequence.	●
Comply with environmental licences and regulatory requirements with zero fines. <sup>3</sup>	●

### COMMUNITY RELATIONS

Strengthen our national, regional and local engagement to achieve the continuity of our operations and the viability of our new projects in favourable social conditions.	●
Minimise the impact of social conflicts on business targets.	●
Earn recognition for our contribution to the sustainable development of our region.	●
Implement 100% of scheduled commitments.	●

### HUMAN RESOURCES

Increase the number of hired local employees and strengthen the ongoing capacity-building of local talent.	●
Build employees' capabilities and competencies through the implementation of development plans.	●
Align the organisation's culture with MMG's vision and mission, and strengthen it based on our organisational values, to create a sense of belonging.	●
Implement a progressive competency development model for employees working in operational areas.	●

**Legend:** ● Goal met or substantially met ● Made progress ● Goal not met

<sup>3</sup> Fines confirmed by the highest relevant authority after being challenged and not appealed before the courts.

## Goals to be Achieved During 2020

### SAFETY AND HEALTH

1. Implement  $\geq 90\%$  of the Safety Leadership Program.
2. Improve by  $\geq 90\%$  the rate of closed actions.
3. Reduce by 10% the All Injury Frequency Rate (AIFR).
4. Reduce by 20% the number of significant events with exchanged energy.
5. Achieve zero fatalities.
6. Achieve a Recordable Injury Frequency below 0.80.
7. Implement more than 95% of the occupational hygiene actions and medical programs with employees and contractors.
8. Implement the new Fatal Risk Standard (FRS) – Carcinogens.
9. Comply with  $\geq 95\%$  of the Health Management Plan related to COVID-19.

### ENVIRONMENT

1. Achieve zero level 2 or higher incidents.
2. Comply with more than 90% of regulations and commitments stated in the 3rd Environmental Impact Study amendment (EISA 3).
3. Prepare a baseline of greenhouse gases (GHGs) and a management plan for their reduction.

### COMMUNITY RELATIONS

1. Define and develop two flagship projects in the Health and Education areas.
2. Create a not-for-profit organisation to develop social projects.
3. Comply with 90% of our scheduled commitments; social commitments resulting from EISAs; and goals, targets and timelines of programs and projects. Incorporate gender indicators.
4. Implement 100% of control and/or mitigation plans for identified socioeconomic risks and impacts.
5. Promote hiring of local labour when honouring our commitments and carrying out social development projects.
6. Carry out an ongoing program to develop at least 5% more local suppliers than in 2019.

### HUMAN RESOURCES

1. Strengthen leadership competencies by building soft, technical and commercial skills.
2. Reinforce the diversity culture by increasing the percentage of women and personnel with disabilities in the organisation.
3. Implement a macro plan for talent development.
4. Obtain more than 50% positive results on the labour climate survey by implementing a recognition and flexibility program.
5. Ensure that  $\geq 25\%$  of our employees are community residents.

# OUR OPERATION AND MMG

Las Bambas is the third largest copper producer in Peru. Our work creates value for the country, Apurímac region and the communities in the vicinity of our operation, and for our suppliers, employees and shareholders.

## 1.1. WHO WE ARE

The Las Bambas MU is located between Challhuahuacho, Tambobamba and Coyllurqui districts, in Cotabambas and Grau provinces, Apurímac region. Our operation is located at an altitude between 3,800 and 4,600 metres above sea level, approximately 75 km southwest of the city of Cusco. We use the road that crosses this region to transport our products to the Port of Matarani, in Arequipa.

Our operation comprises an open pit mine and has three main deposits: Ferrobamba (whose mining is underway), Chalcobamba and SulfoBamba (from where we will extract ore in the future). Since the exploration stage began in 2005, we have maintained an operating model mainly focused on sustainable development.

### Key Data

- > We produce clean copper concentrate with gold, silver and molybdenum by-products.
- > We have ore reserves of 6.882 million tonnes of copper and mineral resources of 10.649 million tonnes.
- > We allocate 3% of our sales to contractual royalties.

### 2019 Production

CATEGORY	2018	2019
Cu concentrate grade	37.95%	38.50%
Recovery	86.22%	86.10%
Cu produced	385,299 t	382,518 t





## 1.2. TIMELINE

**2004**

- > Xstrata Copper acquired the right to explore Las Bambas through an international public tender.

**2008**

- > Completed exploration of 306,908 accumulated drilled metres.

**2009**

- > Completed Feasibility Study.

**2010**

- > Held public hearing for the Environmental Impact Study (EIS) in Challhuahuacho, Cotabambas province, Apurímac region.
- > Signed contract with the government to transfer the Las Bambas mining concessions titles, with an investment of more than US \$4.2 billion.

**2011**

- > The government approved the EIS after an extensive citizen participation process.
- > Communicated a 10% increase in the Las Bambas mineral resource, equivalent to 1.71 billion tonnes at a grade of 0.6% copper.

**2012**

- > Engineered roads and main components for the start-up of the operation.
- > Began improvement of Las Bambas – Espinar road.
- > Allocated more than 60% of the investment for construction.

**2013**

- > Glencore became owner of Las Bambas as part of its acquisition of Xstrata.
- > Made 65% progress on pioneering roads, 40% on concentrator plant, and 95% on improvement of the road.

**2014**

- > Second EIS amendment (EISA 2) submitted and approved to allow ground transport of copper concentrate.
- > The joint venture of MMG Limited, Guoxin International Investment Co. Ltd. and CITIC Metal Co. Ltd. purchased Las Bambas.
- > Started physical resettlement of Fuerabamba community.

**2015**

- > First production of copper concentrate as part of commissioning activities.
- > Commissioning and commenced ramp-up to full production.

**2016**

- > First shipment of copper concentrate.
- > Commenced commercial production.

**2017**

- > First complete year of commercial production.
- > Production exceeded 450kt of copper in concentrate.
- > Submitted EISA 3.

**2018**

- > EISA 3 approved.
- > Commenced exploration studies in the west area of the concession.

**2019**

- > Created space for dialogue and compliance with commitments for development of Cotabambas province and Grau district, department of Apurímac.

# MMG OPERATIONS AND PROJECTS ACROSS THE WORLD

## 1.3. OUR OPERATOR

Headquartered in Melbourne, Australia, MMG is a mid-tier, global producer of base metals including copper and zinc. MMG is listed on the Hong Kong Stock Exchange (HKEx: 1208), with a secondary listing on the Australian Securities Exchange (ASX: MMG).

We operate and develop copper, zinc and other base metals projects across Australia, the Democratic Republic of the Congo (DRC) and Peru.

MMG has four operating sites across the globe and employs over 13,000 employees and contractors.

DUGALD RIVER

ROSEBERY

KINSEVERE

LAS BAMBAS



Notes for page 19:  
 For information on royalties and income tax, procurement and employment taxes and benefits, refer to the Tax and Community Contribution section (pages 59-60) of MMG's Sustainability Report.  
 % national = the percentage of the workforce with the same nationality of the country where the operations are located.  
 % female = the percentage of women in the MMG workforce. This does not include contractor numbers.  
 \* Total wages and benefits for Australia includes expenses where the act may report into but take place outside of the country.

### AUSTRALIA (Includes Dugald River and Rosebery)

PRODUCTION	WORKFORCE	ECONOMIC CONTRIBUTION (US \$ '000)	SOCIAL DEVELOPMENT SPEND
253,520 tonnes of zinc in zinc concentrate	Total 989	Total tax including royalties US \$69,995	US \$819,000
47,703 tonnes of lead in lead concentrate	% Female 9	% National 93.3	Total wages and benefits* US \$68,736
1,510 tonnes of copper in copper concentrate		Total domestic supply procurement US \$453,100	Total capital investment US \$36,700

### AFRICA (Includes Kinsevere and Johannesburg)

PRODUCTION	WORKFORCE	ECONOMIC CONTRIBUTION (US \$ '000)	SOCIAL DEVELOPMENT SPEND
67,935 tonnes of copper cathode	Total 3,168	Total tax including royalties US \$88,089	US \$1,406,000
	% Female 14	% National 96.5	Total wages and benefits US \$57,487
		Total domestic supply procurement US \$244,400	Total capital investment US \$42,900

### AMERICAS (Includes Las Bambas and Lima)

PRODUCTION	WORKFORCE	ECONOMIC CONTRIBUTION (US \$ '000)	SOCIAL DEVELOPMENT SPEND
382,518 tonnes of copper in copper concentrate	Total 5,791	Total tax including royalties US \$336,706	US \$16,047,465
1,783 tonnes of molybdenum in concentrate	% Female 8	% National 98.8	Total wages and benefits US \$122,890
		Total domestic supply procurement US \$1,135,600	Total capital investment US \$396,100

### CORPORATE OFFICE (Includes Melbourne, Hong Kong and Vientiane Offices)

WORKFORCE	Total	% Female	% National
	313	48.1	73.9
SOCIAL DEVELOPMENT SPEND	US \$275,000		



## MMG, a Global Company

Our parent company is the joint venture formed by international company MMG (majority shareholder), Guoxin International Investment Co. Ltd. and Citic Metal. MMG, whose headquarters and management team are in the city of Melbourne, Australia, has operations in the Americas, Africa and Oceania.

MMG is a member company of the International Council on Mining and Metals (ICMM), and aligns its policies and standards with the 10 Sustainable Development Principles of that organisation, which govern the mining sector.

## 1.4. BUSINESS STANDARDS AND PHILOSOPHY

### Our Standards

As part of MMG, we follow its processes and standards. We also have an integrated internal audit program to comply with our Safety, Health, Environment and Community (SHEC) standards.

Our businesswide standards outline MMG's requirements in managing material risks, meeting legal and external obligations, and creating and preserving competitive advantage and organisational effectiveness. MMG's Risk Management Procedure is based on ISO 31000:2009, which is the international risk management standard.

## Our Fundamental Principles

### Vision

To be the best copper miner in Peru and the industry reference point worldwide.

### Mission

We mine to create wealth for our people, host communities and shareholders.

## Strategic Enablers

### Growth

We acquire, discover and develop mining assets that transform our business.

### Transform Operations

We develop effective plans to deliver innovative growth opportunities and improve productivity.

### People and Organisation

We provide a safe, healthy and secure workplace and a culture that values collaboration, accountability and respect.

### Reputation

We are valued for our commitment to progress, long-term partnerships and international management.

## Our Values



We think safety first



We respect each other



We work together



We do what we say



We want to be better



Mining truck operator starts his work day on one of our vehicles.

The Risk Management Procedure outlines the process to identify, analyse, control and evaluate risks within MMG. Risks are assessed against consequence criteria to determine the maximum foreseeable losses that would arise in the absence of existing controls. This process helps determine the material risks for the organisation.

We apply a "Three Lines of Defence" assurance approach to our standards.

1. The First Line of Defence involves standard implementation by the business and routine testing and reporting of the effectiveness of critical controls for material risks.
2. The Second Line of Defence is undertaken by Group Functions. It involves periodic review of the design of the control framework described by the standards, and validation of business conformance with the standards.
3. The Third Line of Defence is our internal audit program, which tests the design and effectiveness of our standards, critical controls regarding material risks, and the effectiveness of the first and second lines of defence. Internal audit also reviews key process areas highlighting good practices and areas that management may consider for further improvement. The internal audit program is managed by MMG's Audit, Risk and Assurance team in accordance with the Internal Audit Procedure.

## Our Sustainability Agenda

### Our Commitment

Each year, we reconfirm our commitment to contribute to sustainable development at all levels of the organisation. We think minimising the negative impacts of mining is a responsibility that helps to maximise the benefits we create through our work and our products for communities, the regions in which we operate, consumers and society.

Our SHEC Policy is in line with our commitment to ICMM's 10 Sustainable Development Principles.<sup>4</sup> Our sustainable development management includes the business policies shown in the chart below.



## Memberships

### International

- > International Council on Mining and Metals
- > International Zinc Association (IZA)
- > Minerals Council of Australia (MCA)
- > Mining Progress Initiative of the Democratic Republic of the Congo

### National

- > National Society of Mining, Petroleum and Energy (SNMPE, in Spanish)
- > Procobre
- > Peruvian-Australian Chamber of Commerce
- > Peruvian-Chinese Chamber of Commerce
- > Apurímac Chamber of Commerce

In addition, we support the EITI.

<sup>4</sup> Refer to the Appendix on [www.mmg.com](http://www.mmg.com).

## 1.5. OPERATIONAL EXCELLENCE, INNOVATION AND TECHNOLOGY

Our strategic technological transformation plan was implemented in 2016 and includes various aspects of the digital platform required to transform the industry.

We work within the framework of our digital vision, to be closer to the business and offer comprehensive solutions that promote productivity, safety and efficiency.

In 2019 we sought to increase our leadership in innovation by automating and transforming our production process. We started to implement several projects that will be fundamental to making this change.

### PRIVATE LTE (4G)

A wireless communication platform that will connect the existing systems and new technologies of our operation. The project includes migrating from the current mine operations network (Mesh network) to the private LTE (4G). This will enable us to have a coverage higher than 90% across the operating area.

### P25 RADIO SYSTEM – ALWAYS CONNECTED

A highly reliable and available, mission-critical radio system that will meet all the radio communication needs of our operation and will include features based on the requirements of the user areas.

### INTEGRATED STORM ALERT SYSTEM

Remediation, integration and automation of the detection and alert emission system for electrical storms.

### INTEGRATED GEOTECHNICAL MONITORING MANAGEMENT

Integration and automation of the soil and pit slope and dam monitoring system that will enable us to better control the critical risks through real-time alerts. The LTE project will facilitate this process.

### ADVANCED ANALYTICS

A platform that will allow us to take predictive actions by channelling all the information on a scalable solution to learn from our data and obtain better results. In addition, it will provide a dashboard for the tracking of indicators in real time and will generate value reports.

### FATIGUE CONTROL SYSTEM

Monitoring of drivers' fatigue level that generates reports and real-time predictive alerts, to take action and prevent accidents.



Our Technology team starts up a modern geotechnical monitoring integrated system.



Our Technology team implements solutions to optimise the operation.

### MIS RECIBOS DE PAGO (MY PAYSLEIPS)

Allows all employees, including those who have no access to the SAP system, to obtain their payslips and other human resources (HR) information (such as standards and legal communications) through the TuRecibo.com web platform. This tool allows the digital signing of payslips received pursuant to Peruvian laws.

We are working on an important digital transformation program that will start in the first months of 2020.

### REMOTE INTEGRATED CONTROL CENTRE (FOR PREFEASIBILITY AND FEASIBILITY)

A monitoring, control and prevention platform that covers people, processes, technology and teamwork, to increase the efficiency of the production process and achieve excellence through well-informed collaboration.

### ROBOTICS TO REVIEW ELECTRONIC RECEIPTS

Receipt and recording of suppliers' electronic invoices using a robot to eliminate manual processes such as the physical receipt of invoices, scanning of physical documents and pre-recording of invoices, among others.

### CAMERAS IN THE TRUCKS

Installation of 124 video cameras in the mining truck fleet (two cameras per truck), to capture videos and obtain investigation material if safety events take place. The Fatigue Committee will be able to see the recorded material in real time.

This system is used in accident investigations and proactively to identify risky driving behaviours.

### MOBILE INVENTORY

Taking inventory using mobile devices in plant and mine warehouses. Among other features, it allows taking inventory by reading QR codes of materials and their locations, and updating automatic counting to an SAP system.

# THE WAY WE WORK

Our goal is to create value for our stakeholders. This involves strengthening the relationships of trust we have with them through the transparency of our actions, which are aligned with our policies and values.

## 2.1. STAKEHOLDER ENGAGEMENT

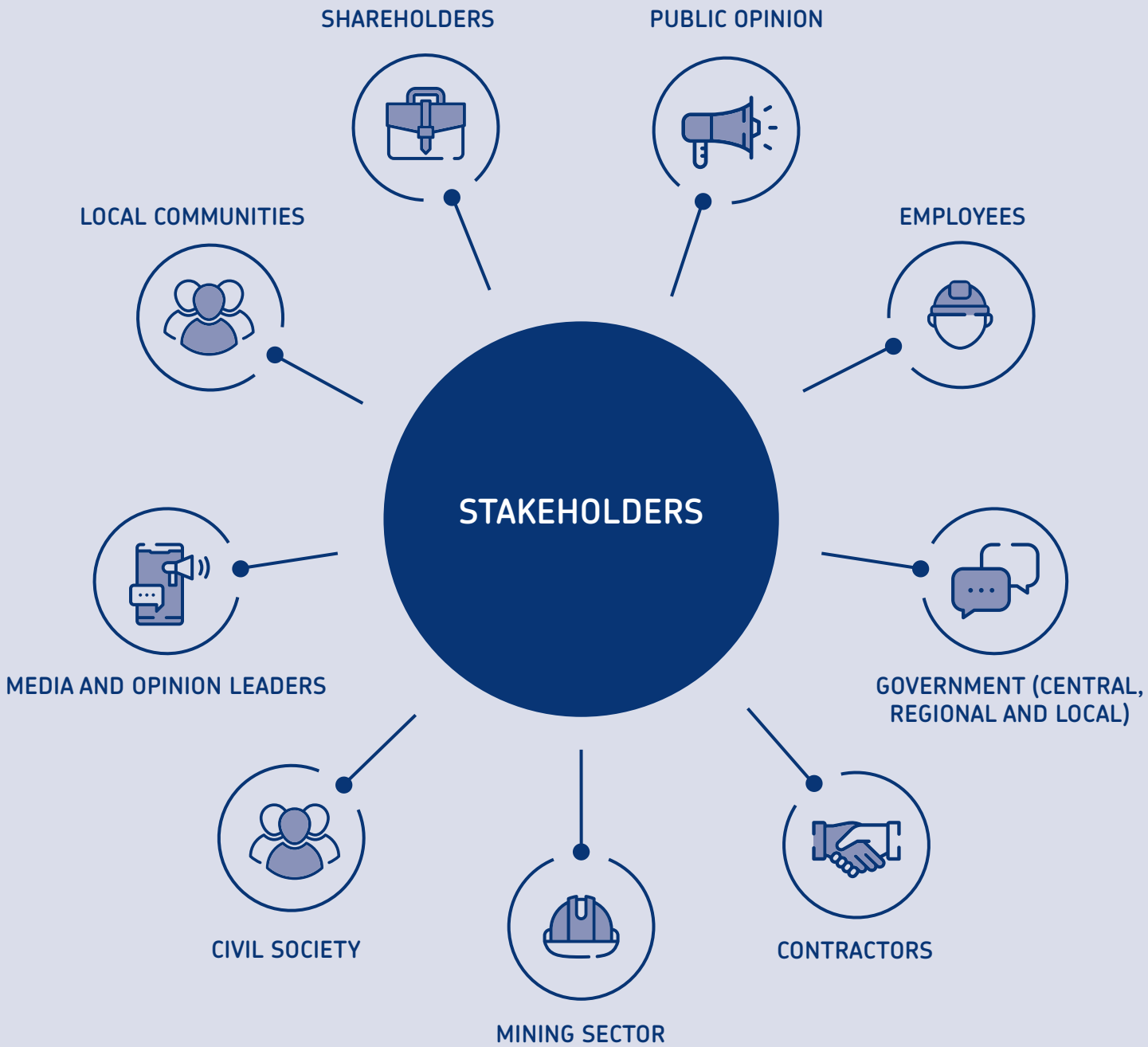
Building long-term relationships with our stakeholders is essential to us; hence, we use effective communication methods based on the needs of each type of stakeholder. Our engagement is aligned with the ICMM's Sustainable Development Principles.



### Stakeholder Identification Criteria

- > the impact of their activities on Las Bambas and vice versa, and
- > a shared vision regarding the development of Apurímac region and the areas of influence.





**STAKEHOLDER FEEDBACK**

Due to the state of national emergency ordered by the Peruvian government between March and June 2020, this year we did not carry out the traditional dialogue panels with multiple stakeholders that we have organised since 2010.

Nevertheless, we will present this Sustainability Report to representatives from those groups, and we will try to collect their opinions and expectations to use in future reports.

### 2.2. HUMAN RIGHTS

We recognise that the concept of human rights covers a broad range of interrelated issues, requiring an integrated approach across numerous business functions.

At Las Bambas, human rights are expressed in a tangible manner and applied in the local context by respecting the customs and culture of our area of operations; searching for opportunities for development together with the neighbouring communities; putting our information practices into action with stakeholders; resolving disputes based on dialogue; and providing access to equal opportunities for our employees, contractors and suppliers. We support and protect human rights and avoid complicity in any type of abuse. We have made a real commitment to the U.N. 2030 Agenda.

Our Human Rights Policy, effective since October 2019, is aligned with the U.N. Universal Declaration of Human Rights, ICM's Sustainable Development Framework, the Organisation for Economic Cooperation and Development (OECD) Guidelines for Multinational Enterprises and the core

labour standards of the International Labour Organisation (ILO) related to the Fundamental Principles and Rights at Work. Our approach to managing human rights risk is reflected in the following actions:

- > Integration of human rights considerations into our employment processes, risk analysis activities and formal grievance processes.
- > Development of processes to ensure that our stakeholders can report instances of unacceptable conduct without fear of intimidation or retaliation.
- > Adoption of culturally appropriate engagement and consultation processes that ensure the significant participation of vulnerable populations and indigenous communities, particularly in decision-making.
- > Respect for human rights, interests, special connections with land and water, and the perspectives of the indigenous peoples and communities in which we live and operate, using processes to ensure access to remediation measures for the impacts we may cause.

## Meeting with Families

We organised the Programa de Familias (Families Program) that brought together our employees' fathers, mothers, spouses and children.

In addition to receiving important information on family benefits, safety topics and the Las Bambas business plan, this meeting enabled the participants to interact and strengthen the spirit of togetherness of the Las Bambas family.



Our employees' family members enthusiastically participate in a social integration activity where they learn about our health insurance coverage and other benefits provided by Las Bambas.



## Las Bambas Security Training

At Las Bambas, we work closely with security forces, as well as our own employees, to raise awareness about human rights.

These specialists hold regular sessions on security and human rights with all security forces working at the site and those who operate in the vicinity of the Southern Road Corridor (the national public road used for our logistics transport).

The sessions include an explanation of human rights, the history and development of the Universal Declaration of Human Rights and the U.N. Global Compact, the Voluntary Principles on Security and Human Rights, and specific details about each framework. All participants are trained on what is expected from each group (private security, public security, private companies, government and individuals), given the tools to identify and protect human rights in the line of duty, and asked to participate in role play exercises.

## 2.3. ETHICS AND COMPLIANCE

Our Code of Conduct enables us to properly respond to any potential ethical risk. The Code sets the standards of behaviour that all company employees, contractors and suppliers must integrate in their working practices. It also includes the following topics: conflicts of interest, fraud, anticorruption measures and legal compliance.

We conducted a due diligence analysis on a number of contractors, mainly in the construction sector, in compliance with MMG's Anticorruption Framework, and we implemented our Prevention and Punishment Policy for Sexual Harassment Acts.

We ensure that our good governance policies commit to the objectives of programs such as the EITI and the Voluntary Principles on Security and Human Rights.

### Confidential Hotline

- > We have an independent system for whistleblowing, which is available to all employees globally in their local language.
- > The whistleblower hotline is available to our people, so they can report any behaviour they think that contradicts our values or MMG's Code of Conduct. To access this confidential line, you can write to: [mmgwhistleblower@deloitte.com.au](mailto:mmgwhistleblower@deloitte.com.au)



Plant Maintenance employees supervise the proper functioning of key equipment for our operation.

## Our Action Regarding Peruvian Compliance Regulations

During 2019 we implemented actions to comply with Law 30424, which regulates the administrative responsibility of legal entities. This progressive process included developing a criminal prevention model that will be submitted to the MMG Board in 2020 for approval. The model includes the following policies and controls:

- > Code of Conduct for trading partners
- > Due diligence questionnaire for small-amount purchases
- > Conflict of interest policy
- > Interaction with trading partners policy
- > Interaction with civil servants policy
- > Timely remediation of criminal risks protocol
- > Anticorruption clause and money laundering and terrorist financing prevention portal for trading partners and employees

This model includes a risk assessment and analysis, compliance bodies, reporting and recording procedures, and people responsible for regulatory compliance in each company area.



One of our female employees posing with the roller, a piece of heavy machinery she uses to compact soil.

a sustainable operation. We try to create a climate that motivates our people to grow and develop to their maximum potential.

In 2019 we carried out the following initiatives:

- > Organisation of four forums for superintendents with dialogues on leadership and effective ways of working.
- > Ten sessions of *Éxito para Todos* (Success through Every Person - STEP) program on leadership levels. Our work area supervisors were the first to receive this training.
- > Development of the *Graduados 2019* (2019 Graduates) program, where 20 interns joined various work areas. We implemented the summer and winter internship programs for the children of our employees.
- > Creation of the Las Bambas School to centralise all our training processes.
- > Implementation of the Individual Career Path Program for technical levels.
- > Implementation of online training courses on safety, environment and technology.

## 2.4. TALENT MANAGEMENT

One of the reasons for our operational excellence is the high calibre of the people who make up our unit and seek to ensure

### Labour Relations: Freedom of Association and Collective Bargaining

We recognise ILO's important work in defining the fundamental principles and rights at work. In 2019, 37.4% of our employees were unionised, and we held our second collective bargaining session within the framework of direct negotiation, confirming our commitment to respect the union and our employees who are affiliated with it. As a result, we achieved a 3-year collective agreement with the leaders (2019 – 2022).

We intend to maintain a high level of communication so that the agreements reached and commitments undertaken help us preserve a favourable climate for personal and professional development.

## Diversity and Inclusion

We planned and incorporated actions in coordination with the Diversity and Inclusion Committee to promote respect for diversity, equal treatment, and the fight against harassment and discrimination.

Detailing below is the progress we achieved in 2019:

- > Presented and communicated the Equal Pay Policy.
- > Included 40% of women in our internship program.
- > Female personnel held 23% of the local jobs created in 2019.
- > Organised an event with Peruvian mining companies and various organisations to establish contacts and exchange diversity and inclusion experiences.
- > Incorporated an inclusion approach into personnel recruitment and selection processes to emphasise equal opportunity and strengthen the potential of our professionals.
- > Coordinated plans with women's business associations and organisations to reinforce diversity and inclusion in the Peruvian mining industry.
- > Organised a women's football championship to help banish gender stereotypes.

## 2.5. OCCUPATIONAL SAFETY AND HEALTH

Our occupational safety and health performance is aligned with the Safe Task Management Standard, the Fatal Risk Standard, the country's legal requirements, the ICM's 10 Sustainable Development Principles and the Voluntary Principles on Security and Human Rights. During 2019 we started to draft the Occupational Safety and Health Management System Manual of our mining operation. In addition, we implemented field task observations (FTOs) and health risk factors (HRFs) as part of our operations.

Whenever possible, we gather our safety team to develop strategies regarding risk identification and proactive mitigation, complaint management and incident identification processes.

Despite our efforts, we are deeply sad to share that in November 2019 there was a fatality on a public road that involved an employee of one of our contractors. En route from Espinar to the Pillones station, the driver of a concentrate transport truck was involved in an accident that cost him his life. This tragic event gave rise to the following corrective measures:

- > We conducted a situational analysis of our safety culture and implemented a Visible Leadership Program in the field with our employees.
- > We reviewed, updated and communicated the training and instruction program; including measuring field effectiveness, monitoring, verification and follow-up of safety indicators.
- > We implemented engineering controls aimed to improve the safety systems of our trucks.

### Safety Indicators

INDICATOR	2018	2019
Total Recordable Injury Frequency	0.47	0.95
Total number of injuries	8	15
Fatalities <sup>5</sup>	0	0
Lost time injuries	3	9
Restricted work injuries	0	1
Medical treatment injuries	5	5
<b>Total number of hours worked</b>	<b>16,988,791</b>	<b>14,631,855</b>

<sup>5</sup> This includes employees (direct workers) only.





## Other Safety Awareness Campaigns

- > The value of hands
- > Being careful with machines and responsible about safety
- > Celebrating the holidays safely



We think through the 3 W's before we start working. Our Mine Operations team complies with safety procedures before, during and after every work day.

During 2019 we strengthened our *Nos Cuidamos* (We Take Care of Ourselves) program, the main objective of which is to strengthen the culture of caring and promote safety as an essential value in all our operations.

In the second half of the year, we launched the *Las 3Q* (The Three W's) to supplement the risk assessment process that each employee performs as a daily routine. The objective of this campaign was to promote the following questions in daily tasks:

**WHAT AM I GOING TO DO?  
WHY?  
WHAT CAN I DO IN THIS REGARD?**

Our managers made unannounced visits to various areas to monitor their safety practices as part of the *Caminatas Gerenciales* (Management "Walkdowns") program. The idea is to boost leadership, interaction with the employees, and visibility of safe practices. Each walkdown results in observations and identifies opportunities for improvement that become work agendas, more than 90% of which have been fulfilled.

Finally, we highlight the involvement of our contractors, and the safety management award we presented to the company IMCO (supplier of support services for maintenance work).

During the reported year we received three monetary sanctions amounting to more than US \$600,000 as a result of administrative proceedings due to three incidents that occurred in 2016 and 2017.

## Occupational Health

We implemented comprehensive occupational health and hygiene management that prioritises promotion and prevention activities among our employees.

We recorded the following statistics during 2019:

- > The employee absenteeism rate was 2.66%.
- > Our Annual Occupational Hygiene Program yielded positive results, exceeding 100% on each goal set.
- > All of our employees received an occupational medical exam. We conducted 3,408 occupational medical exams, 2,276 of which were regular medical assessments.
- > We provided 106,671 healthcare services, 73% of which were preventative or occupational.
- > We conducted 26,774 recovery medical visits at the two health centres in our facilities. The most prevalent issues were respiratory (40%) and osteomuscular (12%) diseases.
- > We conducted training on fatigue and drowsiness to 2,018 employees and on first aid to 1,497 employees.

We have implemented a health management system that includes manuals on procedures and document updating. We also carried out other activities such as those detailed below:

- > Talks, contests and awareness-raising activities addressed to our employees, to build capacities on identification of risks to personal health.
- > Support for *La Familia* (The Family) campaign organised by the Social Well-being areas in Arequipa, Cusco and Challhuahuacho.
- > Self-motivation and leadership workshops led by our team of psychologists, in various mine areas.
- > Professional support sessions at the main office, awareness-raising sessions and contests to celebrate World Mental Health Day at Las Bambas.
- > Physiotherapy, mental health and nutrition services to reinforce preventative behaviours; fatigue and drowsiness assessments; and a total of 9,299 toxicology screens.
- > Implementation of rest zones for employees in operational areas with continuous working hours. We received positive reactions from employees about these spaces.
- > Distribution of 13 hygiene risk maps of the operational areas.



Our Anta Wasi camp has a fully equipped medical centre.

## 2.6. STATUS OF LAS BAMBAS' COMMITMENTS

In 2004 the company that was awarded the bidding process for the Las Bambas Project committed to comply with seven social conditions that contribute to the sustainable development of Apurímac region. Those conditions were established in Annex K of the concession agreement executed as a result of public hearings, coordination and sustained dialogue.

Upon acquiring Las Bambas, MMG continued to comply with those conditions and is honouring its commitment to date. Following are descriptions of the progress made in 2019 related to the seven commitments to the communities and the Peruvian government established in Annex K.

### 1.

#### IMPLEMENTATION OF AN ENVIRONMENTAL IMPACT STUDY (EIS) TO PRESERVE THE ENVIRONMENT, FLORA, FAUNA AND WATER RESOURCES

- › We held 20 participatory workshops with communities from the areas of direct and indirect influence (13,032 participants).
- › We carried out a total of 130 participatory environmental monitoring activities of water, air quality and noise.
- › We delivered results 10 times (water, air quality and noise according to the scope in each community) to direct authorities; and submitted a results report on water, air and noise to 23 communities.
- › We recorded 26 guided visits to our operation (496 visitors).
- › To date, we have preserved 28 archaeological sites and delivered more than 4,000 artifacts to the Abancay Museum. These activities involved an investment of more than US \$29,000.

### 2.

#### CREATION OF JOB OPPORTUNITIES FOR PROFESSIONALS, TECHNICIANS AND LABOURERS FROM APURÍMAC REGION AND PROVINCES AS A PRIORITY

- › We established a Local Employment Promotion Office in 2015.
- › We provide direct and indirect job opportunities, for skilled and unskilled labour, to benefit the residents of Apurímac region.
- › We have 1,792 direct employees, 466 of which are from Apurímac, and 3,999 indirect employees, 930 of which are from Apurímac. Namely, 24% (1,396) of our jobs are performed by local personnel.

### 3.

#### ASSISTED RESETTLEMENT OF FUERABAMBA COMMUNITY AND PAYMENT OF COMPENSATION

- › In 2010 we signed an agreement with the Fuerabamba farming community that included 171 items in 13 areas (the Agreement Summary). Since then, we have complied with the agreements through economic compensation, employment programs, business promotion programs, urban land replacement, etc.
- › During 2019 we focused on resuming dialogue and rebuilding the trust of the resettled population through implementation of work tables.
- › We continued to make improvements to the Chalhahuacho Health Centre, and in 2019 the chronic malnutrition of children under five years of age who receive care at the centre decreased in some cases by as much as 7.4%.
- › We helped increase the reading comprehension and mathematic skills of students attending the Fuerabamba Comprehensive School.
- › Currently, 71 Fuerabamba residents are part of our work team.

### 5.

#### RESPECT FOR LOCAL CULTURE AND CUSTOMS, ESPECIALLY HUMAN RIGHTS

- › We promoted festivals and traditional expressions of the communities in our area of influence, including *Tikapallana* (Flower Gathering) 2019, which included the participation of six districts from Cotabambas.

### 6.

#### SOCIAL AND ENVIRONMENTAL RESPONSIBILITY AND CREATION OF POSITIVE RELATIONSHIPS WITH COMMUNITIES

- › From 2016 to the end of 2019, we invested more than US \$1 million in school reinforcement projects for school children from our area of direct influence (ADI).
- › We completed the Velille race horse track with an investment of more than US \$360,700, which benefits 8,332 residents.
- › We continued the Las Bambas scholarship program, which has benefitted a total of 122 participants (103 from Fuerabamba, five from Carmen Alto, nine from Huancuire, two from Manantiales, one from Mara and two from Manuel Seoane Corrales). Fifty-three percent of scholarship holders are women, and 47% are men. Eighteen percent of them study in Lima, 21% in Arequipa, 3% in Puno, 51% in Cusco and 7% in Apurímac. More than 33% of scholarship holders are studying for science or engineering careers.
- › We implemented the Local Entrepreneur Development Program (LEDP) 2019, which included improving safety and health, obtaining certification, promoting business integration and strengthening institutions.
- › To date, we have carried out projects aimed at improving the road infrastructure, quality of life, production and communications of the communities.

### 7.

#### INTEGRATION OF MINING DEVELOPMENT WITH AGRICULTURAL AND LIVESTOCK FARMING ACTIVITIES

- › We carried out the Andean Crops project with an investment of more than US \$1.15 million, which has benefitted more than 1,600 families from 17 communities.
- › We carried out the Tree Nurseries project that recorded a production of 1,777,020 pine seedlings and 1,195 forestry ha in 37 communities from Chalhahuacho district as of June 2019.
- › We implemented a guinea pig breeding project with an investment of more than US \$425,000.
- › We installed 221 ha of diverse crops.
- › We afforested almost 406 ha in various communities, and 23 nurseries are operational.
- › We helped 1,655 families from 16 communities of the ADI to increase their income by approx. US \$244/year through their participation in agricultural and livestock farming projects.
- › We helped 655 families from 11 communities of the ADI to increase their income by approximately US \$708/year through their participation in the Livestock Farming project.
- › We carried out the 2<sup>nd</sup> Exhibition of Forestry, Agricultural and Livestock Production Projects in 2019.



Young people from Cotabambas eagerly participate in our Local Training Program for mining truck operators.



We transport our concentrate in airtight containers to the Pillones transfer station, where it is carried by rail to the Port of Matarani.



### About Our Concentrate Transport

We use a bimodal transport system to carry the ore concentrate we produce in closed containers. We first transport the concentrate by truck to the new transfer station located between km 138 and 139, subdivision 4 of the Arequipa – Puno railway. The ore is then transported by rail to the Port of Matarani.

Since 2016, we have applied micro-paving to public roads to mitigate environmental impacts. To date we have covered approximately 60 km on our routes to various towns.

## 2.7. CONCENTRATE TRANSPORT AND ROAD BLOCKADES AT LAS BAMBAS

Las Bambas uses a bimodal transport system for its copper concentrate, trucking the concentrate from the operation to the Pillones transfer station in Arequipa. This is a distance of more than 460 km and transverses three regions, four provinces, 14 districts and 49 communities.

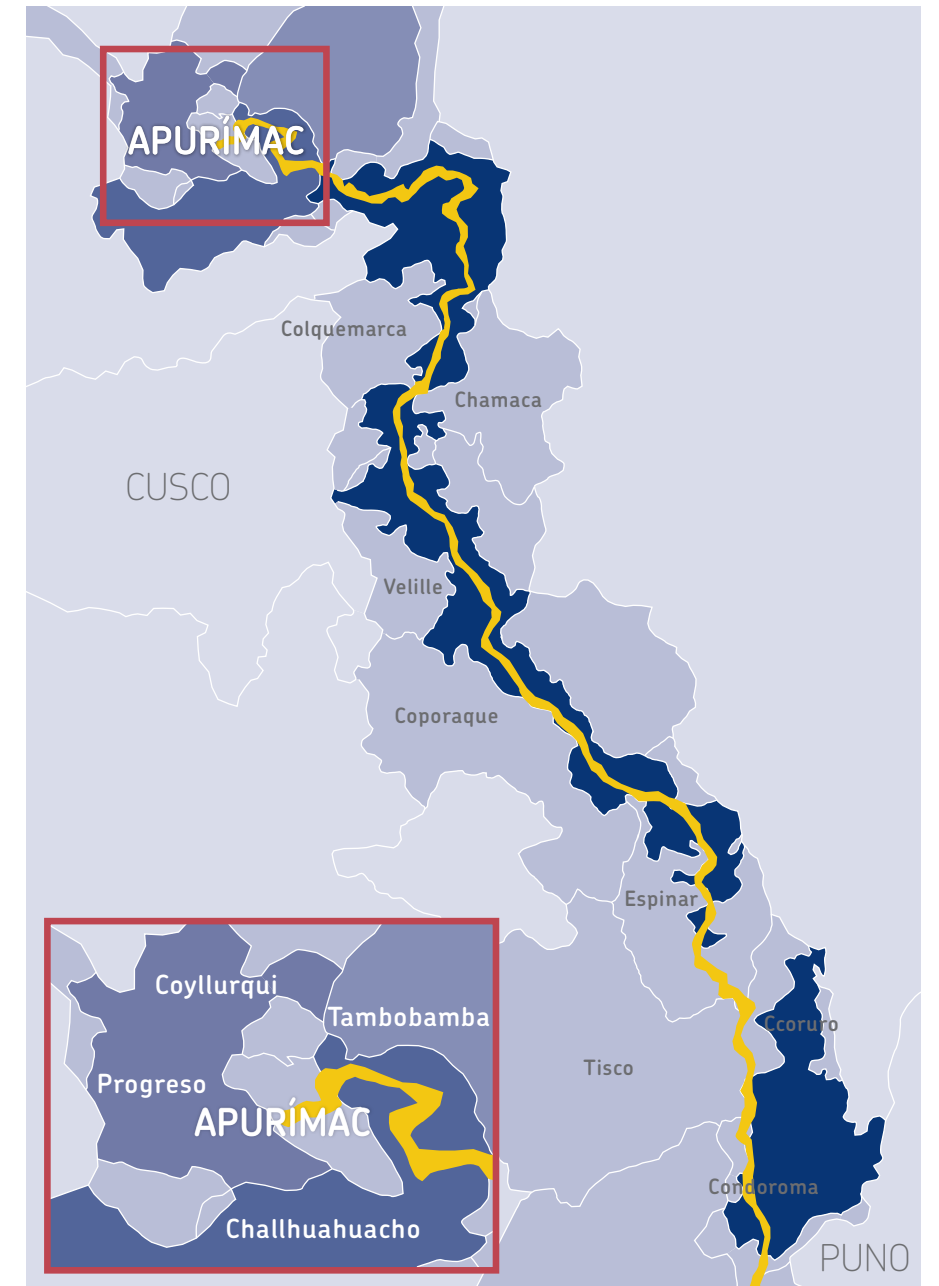
While Las Bambas regularly engages with communities along the road, in 2019 we faced more than 100 days of road blocks. This included the 60-day blockade by the Fuerabamba community 130 km from the operation at Yavi Yavi (agricultural land delivered as part of their resettlement agreement).

Some community members requested payment for Las Bambas' use of the public road, as well as additional compensation. The Peruvian government initiated a dialogue process involving the government, representatives of Fuerabamba, Las Bambas and the Peruvian Episcopal Conference. This process resulted in an agreement, which included the reestablishment of free transit along the road.

This interruption had a great influence on the annual results of the royalties paid in favour of Apurímac region, which decreased by approximately US \$10 million compared to previous years. This reduction impacted the regional and local governments, and the public universities in Apurímac.

Las Bambas is committed to continue working with all communities and other stakeholders to build sustainable solutions along the Southern Road Corridor.

### PUBLIC ROAD CONCENTRATE TRANSPORT



**LEGEND**

- Challhuahuacho
- Tambobamba
- Progreso and Coyllurqui

Las Bambas maintains our commitment to explore all possible legal solutions based on dialogue. Blockades prevent us from reaching agreements that ensure the continuity of our operations and the development of Apurímac and

Cusco. We rely on the methods and efforts of the Peruvian government to encourage understanding for the sake of a common vision of progress.

# WE MINE FOR PROGRESS

MMG and Las Bambas contribute to the development of the regions where we operate by creating direct and indirect opportunities and through collaboration with authorities and communities, to improve the quality of life of all people.

## 3.1. ECONOMIC IMPACT OF OUR OPERATION

Our economic results are essential to the transformation and tangible progress of the host communities. During 2019 performance was affected by the interruption of our operations for more than 100 days. However, our management anticipates operational, economic, environmental or social risks, and we have integrated them into the studies for the expansion of the mine's life cycle.

When the road blockades reduced our shipments, sales fell by 19% compared to 2018 (excluding an external factor

that also affected our performance – the average price of copper dropped 9%). As a result of both factors, we recorded a net loss of US \$565 million in 2019.

The reduction in the sales of ores resulted in less royalties for Apurímac.

We paid US \$53.9 million, 27% less than in 2018.<sup>6</sup> Despite these financial results, we honoured our commitment to continue making important capital investments in the country for the ongoing development of our operations.

### Direct Economic Impact (in millions of US \$)

CATEGORIES	2018	2019
Investments in construction and development	212.3	271.1
Total salaries paid	119.5	121.3
Local, national and international purchases from suppliers	1,077	1,197.1
Taxes and other payments to the government	234.0	282.7 <sup>7</sup>
Social investment*	15.3	16.0

\*Does not include compensation.

<sup>6</sup> Amount consistent with the criterion used by our parent company based on the payment date of this item.

<sup>7</sup> This amount takes into account our parent company's scope and accounting criteria.





Our Andean Crops project aims to contribute to food security and provide a stable income to hundreds of families.

### 3.2. SOCIAL INVESTMENT

In 2019 we invested more than US \$16 million in the social development of our area of influence, which encompasses two regions, four provinces, 14 districts and 89 communities and towns. We maintain regular communication with the population through Radio Surphuy, a participatory community radio station that reaches Cotabambas province.

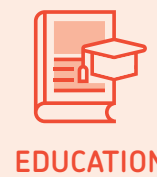
We seek to involve all social agents in development so we can achieve a sustainable future. For this purpose, we apply a strategy based on the following principles:

- > **Transparent and inclusive communication:** call for the largest number of social agents in a territory, in an inclusive manner.
- > **Leverage:** each agent contributes available resources (time, work, capital, land, etc.).
- > **Co-responsibility:** each agent has a key role.

### PROJECT EXECUTION



- > We conducted 1,222 health visits in 14 communities of our ADI through medical campaigns.
- > We recorded that 65% of the population in Fuerabamba used the health facility services.
- > We completed the Community Health project in partnership with the Regional Health Bureau, which helped to improve the health of the communities of social interest of our operation by strengthening government strategies. That action benefitted approximately 650 families.
- > We trained 30 health staff members and 93 agents on preventative health care and promoting healthy practices.
- > A total of 177 pregnant women gained access to free gynaecological care and ultrasound scans, to strengthen their health during pregnancy.



- > We provided teaching support to all the educational institutions in our ADI (22 primary schools and nine secondary schools). Our scholarship program covered 620 students.
- > The Las Bambas Educational Resources Program (PREB) benefitted 20 schools, 600 students and 500 families.
- > We granted scholarships to 116 young people (58% of which are women) to pursue technical and university studies.
- > We provided refresher courses (100 teaching hours at a minimum) to all 280 preschool, primary and secondary school teachers in our ADI.
- > We measured the learning achievements of schoolchildren and determined that from 2018 to 2019, reading comprehension increased from 11.4% to 12.3%, and mathematical reasoning increased from 5.9% to 7.6%.



- > We carried out nine works.
- > We increased our investment by US \$1.5 million as a result of including a housing improvement project in areas along the road in Huanquire community.
- > We created 330 temporary job opportunities.
- > We invested US \$860,106 in development infrastructure works.
- > We completed the specifications for four major and six minor irrigation projects.

## Contribution to the Sustainable Development Goals (SDGs)

The U.N. 2030 Agenda (namely, the 17 SDGs) is the paradigm par excellence, both of national public policies and of development management undertaken by private and non-governmental organisations.

Consequently, our socioeconomic impact is also aligned with the SDGs. We have identified those goals on which we have greater influence.



Our guinea pig breeding program has benefitted more than 700 community residents from the Manuel Seoane Corrales, Quehuira, Chumille and Choquecca Antio communities.

### Social Investment within the Framework of the SDGs

SDGs <sup>8</sup>	2018	2019	DESCRIPTION OF ACTIONS CARRIED OUT IN 2019
No Poverty 	6,710,861	8,190,350	<ul style="list-style-type: none"> <li>&gt; Projects to improve household income (tree nurseries, development of local entrepreneurs and infrastructure works)</li> <li>&gt; <b>Scope:</b> 21 beneficiary communities</li> </ul>
Zero Hunger 	3,090,187	2,338,723	<ul style="list-style-type: none"> <li>&gt; Projects with a food security approach (Andean crops, animal health, livestock development and greenhouses)</li> <li>&gt; <b>Scope:</b> 14 beneficiary communities</li> </ul>
Good Health and Well-being 	1,888,506	1,417,988	<ul style="list-style-type: none"> <li>&gt; Management of Nueva Fuerabamba Health Centre and communication campaign</li> <li>&gt; <b>Scope:</b> 17 beneficiary communities</li> </ul>
Quality Education 	2,282,985	3,191,045	<ul style="list-style-type: none"> <li>&gt; PREB to improve the level of learning (teaching support, summer school, higher education scholarships, educational and recreational infrastructure)</li> <li>&gt; US \$600,000 increase in investment in educational programs compared to 2018</li> <li>&gt; Higher investment (US \$300,000) for construction of education infrastructure in Choquemayo, Tastayoc and Huancuire communities</li> <li>&gt; <b>Scope:</b> 16 beneficiary communities</li> </ul>
Gender Equality 	743,189	616,411	<ul style="list-style-type: none"> <li>&gt; Projects to increase the participation of women and girls (guinea pig breeding, hen breeding and medical campaigns)</li> <li>&gt; <b>Scope:</b> 17 beneficiary communities</li> </ul>
Clean Water and Sanitation 	626,702	292,949	<ul style="list-style-type: none"> <li>&gt; Projects to support technical studies (major PIPs<sup>9</sup>, minor PIPs; water, sanitation and irrigation projects)</li> </ul>
<b>TOTAL</b>	<b>15,342,430</b>	<b>16,047,465</b>	

<sup>8</sup> SDGs prioritised by our social management strategy.  
<sup>9</sup> Public investment projects.



### SUCCESS CASE OUR FIGHT AGAINST ANAEMIA (CONTRIBUTION TO SDG 2)

Marisa Martínez Huamani, 29, is a resident of Fuerabamba and a mother of two. Her younger child, Christian, was diagnosed with anaemia when he was six months old. Marisa understood the serious effects of the condition and decided to get down to work.

She took her son to his medical visits on a regular basis and listened to the nutrition advice provided by the staff of the Fuerabamba Health Centre, and this enabled her to offer quality food to her child. She also strengthened her knowledge by participating in activities that educated her about fighting anaemia.

Three months later, she took her son for a haemoglobin test. She was very pleased to find out that Christian had recovered. Currently, Marisa is the health centre's spokesperson in the fight against anaemia in Fuerabamba. Her work includes encouraging the mothers of children under three years of age who suffer from anaemia,

pregnant women and mothers who are starting supplementary feeding to attend the educational sessions where she shares advice with friends from the community.

This story highlights the role of the Fuerabamba Health Centre as a partner in the fight against anaemia in children under three years of age and its role in helping reduce the incidence of this disease from 49 to 28.4% from February to November 2019.



The Fuerabamba Health Centre provides nutritional assistance, contributing to the food security of children and adolescents.



Our livestock development program helps hundreds of producers to successfully breed cattle and sheep.



**SUCCESS CASE**  
**STRENGTHENING THE CATTLE AND SHEEP PRODUCTION CHAIN IN THE COMMUNITIES (CONTRIBUTION TO SDGs 1 AND 2)**

This project has been carried out since 2016 in areas between 3,750 and 3,940 metres above sea level. It aims to build capacities and develop the production skills of small cattle and sheep producers in 11 communities, having benefitted more than 600 families so far. Some significant results are listed below:

- > Increased meat production from 7 to 13 kg/year.
- > Improved quality and fineness of wool production.
- > Produced 5,207 tonnes (t) of feed (4,923 t of oats, 147 t of alfalfa and 138 t of associated pasture).
- > Increased income of 125 beneficiary families by approximately US \$60 per month.



**Commitment to the Works in Exchange for Taxes (WxT) Method**

We think that the opportunity of contributing to the execution of priority infrastructure works in various areas of the country in partnership with the private sector is a key tactic to close infrastructure and capacity gaps. We take pride in being one of the five companies with the largest investments under this method during 2019, with an investment of more than US \$9 million.<sup>10</sup>



**SUCCESS CASE**  
**CONSTRUCTION OF THE KUTUQTAY BRIDGE (COTABAMBAS, APURÍMAC)**

This project is part of the Cotabambas Province Development Plan. According to the pre-investment study, the Kutuqtay Bridge will be 130 m long and will require an investment of US \$8.9 million. The plan is to construct it over the Apurímac River, on the border between Cotabambas (Apurímac) and Anta (Cusco) provinces.

This work has been requested by the community, which has to travel for approximately seven hours to reach the city of Cusco. The construction of this bridge would reduce the travel time by two to three hours. This work will open a new connecting route that will not only improve the travel time, but it will connect and boost the economy of 50,000 residents of the affected areas.

We expect to complete the engineering studies by July 2020 and start the construction stage.



Authorities and Las Bambas executives sign an agreement under the Works in Exchange for Taxes method for construction of the Kutuqtay Bridge.

<sup>10</sup> Source: Ranking of companies by investment amount in the WxT register of the Private Investment Promotion Agency (ProInversión).

### 3.3. LOCAL EMPLOYMENT

Direct and indirect employment helps to promote economic development in Apurímac, especially if it provides training and builds the skills of local people. In 2019 we had 1,396 local employees (24% of our workforce).

#### Key Data on Local Employment

Of the 1,792 people who are on our company's direct payroll (direct employment)

**26%** > **466** are local

Of the 3,999 people who are on our contractors' payroll (indirect employment)

**23%** > **930** are local

Of the 1,396 local employees (direct and indirect employment)

**23.3%** > **325** are women and local

Below we present the capacity-building programs we developed for local employment purposes:

#### PROGRAMS FOR LOCAL EMPLOYMENT

##### LOCAL TRAINING PROGRAM FOR MINING TRUCK OPERATOR APPRENTICES

This program started with training 82 residents from 22 local communities from Cotabambas provinces as operators of Ultra Class 320/400 trucks. This took seven months (one month of classroom training in the city of Abancay and six months of practice within our mining camp). Following the assessments, 59 residents continued with the instruction, which will end in April 2020.

##### TRAINING PROGRAM FOR LOCAL EMPLOYEES

We conducted four training programs for 102 community residents, who received training as general services and hospitality assistants. All of them were hired.

##### TRAINING PROGRAM ON BASIC CONCEPTS OF DIAMOND DRILLING OPERATIONS AND SAFETY

This program was for students of the Challhuahuacho Public Higher Technological Institute, to strengthen their technical training. We trained 35 students and hired those who ranked first, second and third in the program.





Informational meeting in a community in our area of influence.

### 3.4. GRIEVANCE AND COMPLAINT MANAGEMENT

Our Permanent Information Offices are at the disposal of the communities in our area of influence as key communication methods to submit complaints or have consultations. We have offices in Abancay, Challhuahuacho, Tambobamba and Mara (Apurímac), and in Espinar, Ccapacmarca and Velille (Cusco).

#### Grievances and Complaints

CATEGORY	2018	2019
Submitted 	423	215
Resolved 	260	177
In process of resolution 	163	38

Seventy-six percent of the grievances and complaints we received were related to contractors not paying local suppliers; 16% to alleged damages to property; 5% to promotion of local employment; 2% to environmental issues; and 1% to other types of grievances. During the reporting period we did not receive complaints for discrimination or violation of rights of the indigenous population.



### 3.5. SUPPLIERS AND SUPPLY CHAIN

Our suppliers of goods and services are highly competitive and meet the demands of our standards and good practice guidelines. The acquired supplies are mainly related to mining support services, energy, logistics and activities related to fixed and mobile plant assets.

In the past two years, the amount spent with local suppliers (most of them small and medium enterprises from Cotabambas and Grau provinces) exceeded US \$70 million. In 2019 our international purchases amounted to US \$61.5 million, while purchases from suppliers operating in Peru exceeded US \$1.13 billion.

#### Expenses in Local, Regional and National Purchases (in millions of US \$)

LEVEL	2018	2019
Cotabambas and Grau (local)	36.4	34.7
Apurímac and Cusco (regional)	42.9	41.4
National	1,008.8	1,135.6



Industrias Metálicas Muñoz, a local business in Chalhuanahuacho, provides fabrication and assembly of metalworking, civil construction, and electrical installations.

#### Development of Local Suppliers

We care about the ongoing improvement of local businesses and their access to new business opportunities. This is why we facilitate the integration of new local suppliers into our supply chain through specialised training, technical assistance and instruction on our Code of Conduct and Anticorruption Policies.

Our relationships with local businesses respond to a demand-oriented approach that enables them to join the market under a strategy that promotes competition among entrepreneurs who provide goods and/or services.

For example, during 2019, five new local businesses joined our system. These organisations provide camp

clean-up, camp maintenance, laundry and transport services. Each one of them is showing efficiency and effectiveness in their production processes.

We also provide the Directory of Local Entrepreneurs to our internal areas and strategic partners. Each company making up this directory meets our quality, safety and service standards and participates in our Local Entrepreneur Development Program (LEDP).

It is a matter of pride for us that local businesses participate in events for the mining sector. That is the case of F&H Ingenieros, Sinar del Perú and H&V Company, which were present at Perumin 2019, the convention that gathers the most important companies in the extractive industry.

### Las Bambas Local Entrepreneur Development Program (LEDP)

Our purpose is to obtain products and services from local suppliers that meet our safety, environmental, quality, technical and social responsibility standards, as well as commercial viability criteria.



Our Andean Crops project aims to double the agricultural productivity and income of small-scale food producers.

### MAIN ACTIONS IN 2019

#### FS CERTIFICATIONS

Thirty-nine local food businesses and 220 people received training and technical assistance on good practices for food handling and storage, and on health monitoring of their production processes.

#### UNIÓN PLAN

Sixteen local transportation service businesses are working with our contractors in line with our safety standards. We have identified 480 local businesses that provide some type of service to our contractors.

#### CÁRITAS

Within the framework of the National Innovation Program for Competitiveness and Productivity (Innovate Perú) – Cáritas agreement, eight local businesses that have supplier standardisation certification received technical assistance and auditing of each of their production and administrative processes. Two of these businesses obtained ISO 9001-2015 certification in 2019.

#### EQUELLE

Provided mentoring and technical assistance for implementation of a management system in line with our standards. As a result, four local businesses have obtained standardisation certificates from a prestigious certifying agency.

#### ESAN

Provided technical assistance and audits on local businesses, enabling them to gain access to CERTIPYME certification through a Peruvian entity. Six local businesses obtained that certification.



## Local Business Directory

This directory has been a very important tool for the promotion of local businesses. Sharing it with internal areas, at Las Bambas offices in Challhuahuacho and Cusco, and at the Perumin sector event has helped to establish new contracts for goods and services with local businesses.

### Results of Our Work with Local Businesses in 2019

**16.8%**

increase in local purchases made by our contractors compared to 2018.

**89**

local businesses directly worked with us as contractors and 480 indirectly as subcontractors.

**92**

local businesses trained on food, transport and civil works.

**578**

local businesses used to purchase goods and services directly and indirectly (through our contractors).

**2**

local businesses obtained certifications in quality, safety and environmental (ISO 9001, ISO 14001 and OSHAS 18001) standards.



More than 20 local business owners trained by Las Bambas Local Entrepreneur Development Program are female entrepreneurs.

## 3.6. CURRENT STATUS OF RESETTLEMENT AND POST-RESETTLEMENT

During 2019 we faced a number of factors that limited the appropriate development of our post-resettlement commitments; however, we saw significant results in areas such as health and education.

With regard to health, we continued to carry out improvement works in the Challhuahuacho Health Centre that will benefit more than 500 families. In terms of education, we helped to increase the reading comprehension and mathematical skills of the students who attend Fuerabamba Integrated School.



The housing infrastructure developed in Nueva Fuerabamba is part of the resettlement agreement reached with the Fuerabamba community.



### SUCCESS CASE

#### RESETTLEMENT: IMPROVEMENT OF THE CHALLHUAHUACHO HEALTH CENTRE (CONTRIBUTION TO SDG 3)

The Nueva Fuerabamba Health Centre provides healthcare to the resettled residents of Nueva Fuerabamba.

The centre serves more than 500 families. Our in-home care programs achieved the following:

- > One hundred percent of the population resettled in Nueva Fuerabamba has access to healthcare services.

- > 100% of grievances and/or complaints regarding care were resolved.
- > There was a reduction of chronic malnutrition from 20.1% (2016) to 7.4% (2019) in children under five years of age who receive care at the centre.

We are currently working with the community, the Ministry of Health and the Peruvian Social Security Body (EsSalud) to transfer the operation and maintenance of the centre to the Apurímac Health Bureau.



# WE MANAGE OUR IMPACT

We are committed to a production process that is in harmony with the environment. We are part of a corporation that operates to high standards and complies with the current regulations. In 2019 we prepared our Environmental Strategic Plan.

## 4.1. TRANSPARENT ENVIRONMENTAL PERFORMANCE

Extractive industries maintain a high commitment to the environment. This is not only significant because of regulatory compliance required by governments, but also because public opinion increasingly demands more proactive conduct with regard to the environment.

We are aware that open pit operations such as ours produce impacts on the environment that must be anticipated,

managed, mitigated, rehabilitated and/or compensated within the framework of regulatory requirements. Our activity has an EIS and three amendments, in accordance with legal requirements, that show the implemented operational changes.

Currently, the use of technology is the most important partner of proper environmental management to promote eco-efficiency, minimise environmental impacts on soil and the surroundings, and exercise strict control on water and air quality parameters, among others.



### Status of the 3<sup>rd</sup> EIS Amendment (EISA 3)

Currently, we are making every effort to implement the controls described in the 3<sup>rd</sup> amendment.



## Environmental Compliance

Transparency regarding our environmental conduct involves sharing information about monetary and non-monetary fines imposed on us. The reporting year was especially challenging: We received two fines equivalent to 706 tax units (UITs). The first fine was imposed by a supervisor who observed the physical instability of a waste dump; and the second was for non-compliance with one of the obligations established in our EIS.

As for the sanctioning administrative procedures in progress before the OEFA, one corresponds to a fine for 349 UITs, which has been appealed, and the other two are still in progress.

The aforementioned authority is handling four administrative procedures that have not involved fines, but rather administrative provisions.

In 2019 we received eight environmental grievances that were resolved, and one public prosecution's report filed by the Chuicuni community for air pollution by heavy metals and dust. With regard to the latter, studies that date back to 2005, 2010 and 2012 recorded the presence of heavy metals before we commenced our operations.

## Air Quality Control and Dust Mitigation Along Peru's Southern Road Corridor

We are committed to minimising our environmental impact and implementing strict controls that ensure compliance with national standards. For this reason, we must take into account the possible environmental impacts that concentrate transport or other vehicles used for logistics can cause.

Detailed below are some of the measures implemented to minimise the environmental impacts of logistics transport:

- › Maintenance and improvement of national roads, by placing cold micro-paving and black base on some sections of the route.
- › Road watering
- › Speed control using GPS, as established by the Ministry of Transport and Communications (MTC).
- › Implementation of stricter speed limits than those established by the MTC on certain sections of the national road (including some roads in the towns).
- › Use of dust suppressant sprayers, as approved by the MTC, and wetting out of roads.
- › Driver's behaviour monitoring using a video camera system
- › Restricted schedules and driving shifts not exceeding nine consecutive days
- › Rest stops

Transport of ore concentrate is one of the most critical aspects of our operation.

In 2016 we installed 10 environmental control stations to record air quality data on an ongoing basis, to conduct an appropriate analysis. In 2019 we reached an agreement with Universidad Peruana Cayetano Heredia, whereby it carried out a rigorous analysis of the statistical data recorded by those control stations.

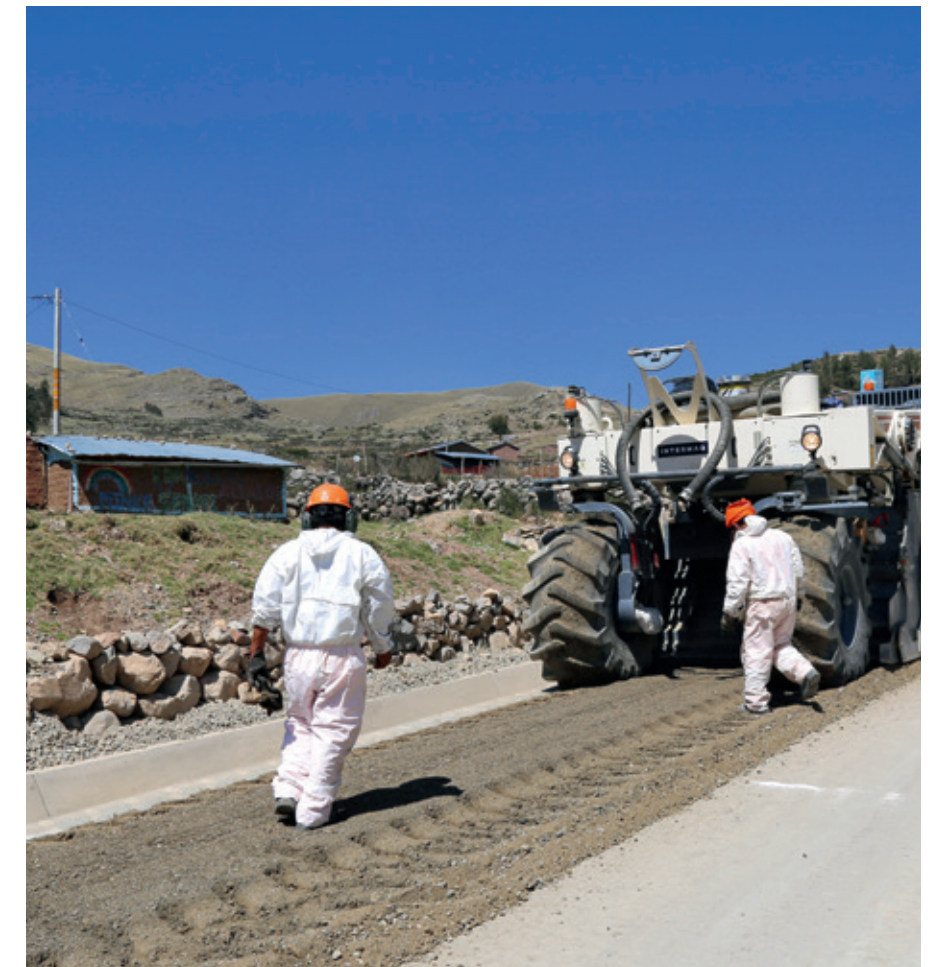
This study determined that the air quality of the 10 stations meets all the national environmental quality standards (EQS), except for the data from the Pitic control station in 2016, which is directly related to the construction period of the national road. The stations record the air quality of all possible environmental impact sources of the area where they are located, not only those related to Las Bambas' transport. Even under these conditions, the air quality recorded at the control stations is acceptable compared to the nationally required levels.

In addition, we entrusted a specialised study to Pontificia Universidad Católica del Perú (PUCP) on vibration felt in the area as a result of road traffic. The study concluded that vibration is directly related to the speed of the vehicles and not to their weight. Therefore, by controlling the speed of our vehicles, we also control the effect of vibration.

In 2019 OEFA conducted an independent environmental audit in Chumbivilcas province, approximately 100 km from our unit. The audit was carried out between May and September 2019 and included air quality control, dust and soil, among other elements.

The results showed that, as established, particulate matter PM2.5 reached 100% and PM10 reached 83% compliance with national air quality standards. Seventy-six percent of water samples meet the EQS established for that resource. There is no evidence that shows the samples that exceeded the established values correspond only to the operations at Las Bambas.

Las Bambas is committed to implementing ongoing improvements and mitigating the environmental impact along our logistics transport route. Consequently, in 2020 we have committed to install new environmental control stations, increase road watering to prevent dust emissions and continue to maintain the national roads we use to transport our products.



From 2011 to 2017 we invested more than US \$230 million in road development and maintenance.



We have reduced the volume of freshwater withdrawal from the Challhuahuacho River.

practices and standards, in addition to having obtained the respective permits. We work on three fronts: minimising freshwater use, reusing contact water and controlling sediment. The results of our management include reducing freshwater withdrawal from the Challhuahuacho River.

In 2019 we strengthened our water recirculation system, which limited the use of freshwater. As a result, we recorded a freshwater ingress of 29% throughout the year, and we built four new wells for operational needs, as the open pit is deeper and requires more dewatering.

Due to a reduction in the total ingress of freshwater to the system, we recorded greater water recirculation compared to the prior year and optimised the reuse of water. In addition, we implemented an important water infrastructure program, consisting of the diversion of clean withdrawal runoff around operational mining areas. This initiative has greatly reduced the generation of suspended sediment loads (“dirty water”), producing better water quality and a more natural flow regime for the downstream ecosystem.

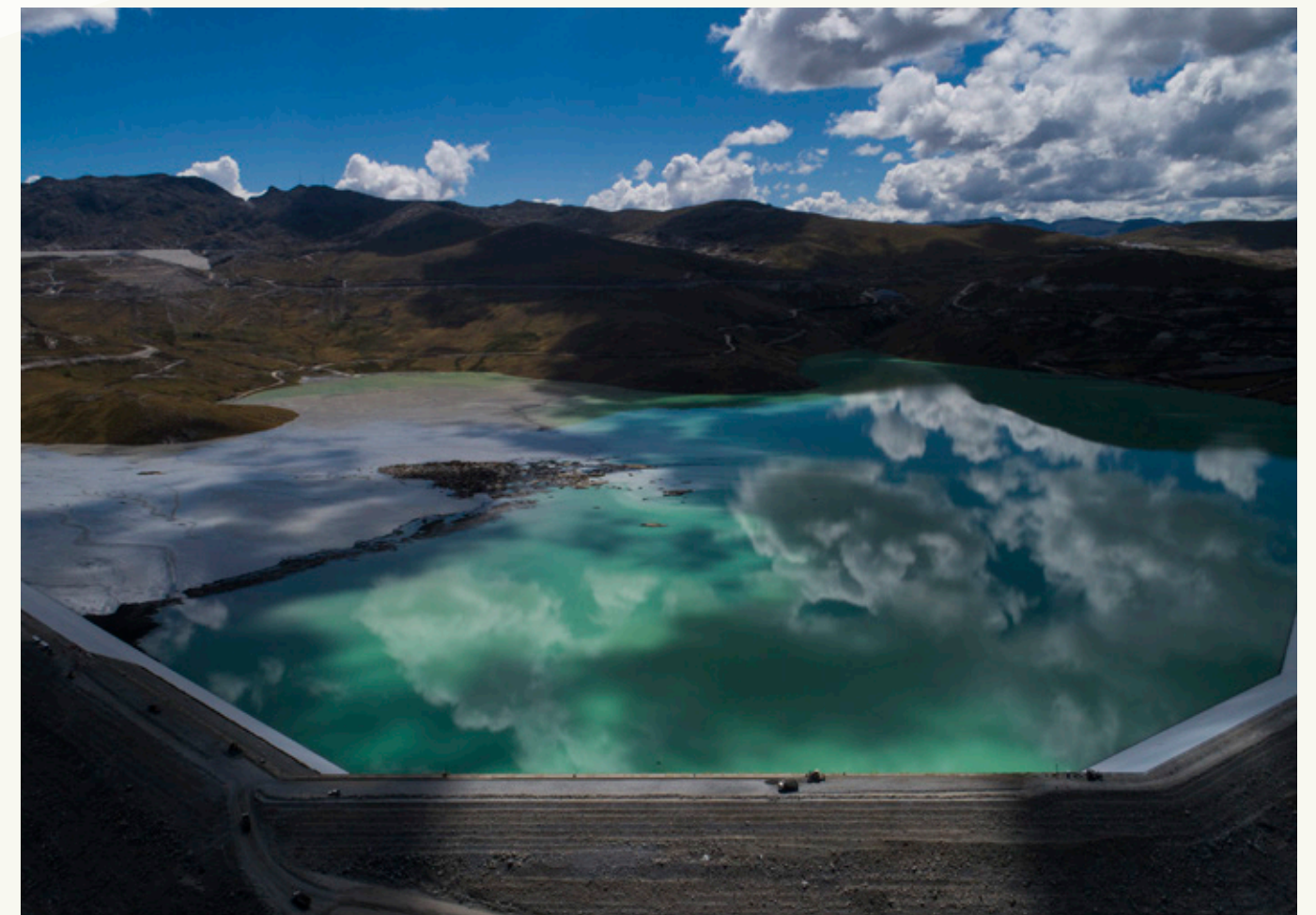


### SUCCESS CASE INTEGRATED WATER MANAGEMENT PLANNING AT LAS BAMBAS

In 2019, our Las Bambas team developed an integrated water management plan for the effective use of water throughout the operation. This includes a catchment scale water management plan that incorporates

the impact of climate change, evaluation of current and future potential scenarios and the development of integrated hydrogeological modelling.

The modelling will also enable the operation to analyse production scenarios, generate reports for the TSF, incorporate all current and planned pits, and update input data on a regular basis.



Aerial view of the Las Bambas tailings dam.



### Current and Future Challenge

Our operation uses alkaline water. We have taken on the challenge of improving our treatment controls by constructing more infrastructure for sedimentation of suspended solids.

## 4.2. WATER MANAGEMENT

Water is an important resource for the environmental, economic and social activities of the surrounding communities.

We comply with our parent company's and the ICMM's environmental guidelines to optimise our water-related

#### Total Water Withdrawal by Source (in ML)

TYPE	2018	2019
Borefields	662	1,788 <sup>11</sup>
Entrained in processed ore	1,287	2,085
Precipitation and runoff	6,672	9,271
Rivers and creeks	4,950	1,819
<b>TOTAL</b>	<b>13,571</b>	<b>14,963</b>

<sup>11</sup>The significant increase in this withdrawal compared to the prior year was due to the construction of new wells required by the operation.



## Optimal Quality

We have implemented internal audits to verify the physical stability of the two sedimentation and clarification dams.

## 4.3. WASTE, TAILINGS AND EFFLUENTS

Our effluent, waste and tailings management is based on compliance with regulations regarding licences, quality and responsible use of water, and on the requirements stipulated by our parent company.

### Mining Waste

We generate two types of mining waste:

- > tailings from the concentrator plant
- > waste rock from the Ferrobamba Pit

Tailings are disposed of at a tailings dump built to the highest standards, such as those set by the Australian National Committee on Large Dams (ANCOLD), Canadian Dam Association (CDA) and Mining Association of Canada (MAC). The second type of waste is disposed of at our Huancarane waste rock dump. Our waste rock dumps are designed for appropriate engineering performance of slopes and geochemical performance of discharge materials, which ensures their physical and chemical stability.

#### Mining Waste (in t)

TYPE	2018	2019
Mineralised – Non-Acid Forming (NAF) Waste Rock Mined	115,709,829	128,287,882
Mineralised – Tailings Generated	48,292,584	50,360,001
<b>TOTAL</b>	<b>164,001,693</b>	<b>178,647,883</b>

### Non-Mining Waste

Non-mining waste includes domestic and industrial hazardous and non-hazardous waste, among others.

Its handling and classification are very important as it can be recyclable, non-recyclable or reusable.

Our management includes the following actions based on the type of waste:

- > Domestic waste: Our unit has a landfill. In 2019 we started pilot tests to compost food waste from the cafeteria.
- > Recyclable and hazardous industrial waste: Recyclable waste (mainly plastics, paper and scrap metal) is sent to certified recycling plants. When industrial waste is neither recyclable nor reusable, and it is hazardous, it is sent to a certified landfill. In both cases, disposal is carried out outside our areas of influence.

In 2019 we recorded a significant increase in the total tonnage of recyclable and reusable waste compared to the prior year.

#### Non-Hazardous Waste (in t)

TYPE	2018	2019
Disposed of in an on-site landfill (general waste)	2,439	3,504
Recycled/reused/ treated on-site	8,312	17,883
<b>TOTAL</b>	<b>10,751</b>	<b>21,387</b>

#### Hazardous Waste (in t)

TYPE	2018	2019
Recycled/reused/ treated/combusted oil	1,665	1,162
Other hazardous waste disposed of in an off-site landfill	1,228	1,040
<b>TOTAL</b>	<b>2,893</b>	<b>2,202</b>

## Importance of our Tailings Storage Mega Structure

Our facilities meet critical design and execution requirements that are based on a risk assessment process, which is reviewed annually. These aspects focus on operating and non-operating TSFs and seek to minimise environmental and community impacts with a secondary objective to maximise operational efficiency. The risk management and control execution measures are subject to internal, external and independent audit annually.

In 2019 at our Las Bambas operation, we conducted an extensive review of our TSF design using a third-party reviewer to ensure the TSF design is robust and in accordance with accepted engineering practices. The reviewer confirmed the TSF is designed appropriately for the geological setting and for the projected tailings production.

In addition, an extensive geotechnical assessment program was implemented to confirm the tailings design parameters were incorporated into the original TSF design. The results of the assessment determined the tailings will consolidate better than initially thought, leading to more efficient storage within the facility.

We also conducted an evaluation to optimise our Life of Asset tailings storage requirements and recognised the potential for increasing the storage of the existing dam. The estimated increased capacity would allow storing all tailings within a single facility. This will minimise the environmental and social impacts of the Las Bambas tailings storage requirements, as well as ensure a minimal disturbance area for closure purposes.



Aerial view of a tailings storage mega structure.

## Effluents

Las Bambas has designed a water management system that controls the quality of the discharge of liquids and ensures compliance with the Maximum Allowable Limits (MALs).

This system consists of a water collection mechanism that first diverts water in an intermediate sedimentation dam equipped with a flocculation system. The water with less sediment is then conveyed to a final clarification dam, where it undergoes a new sedimentation and settling process that only discharges it if it complies with the MALs set by the authority. The final dam has a pumping system to recirculate water if it does not comply with the MALs. We have implemented internal audits to verify the physical stability of these two sedimentation and clarification dams.

In 2019 we made some improvements, including the implementation of new intermediate sedimentation areas through the construction of four check dams, which also added flocculants.

## 4.4. ENERGY CONSUMPTION AND CALCULATION OF GREENHOUSE GASES (GHGs)

Our comprehensive approach requires the calculation and monitoring of our ecological footprint of energy consumption and GHG emission, to create plans that help offset and/or counteract those impacts. Those plans include afforesting the land in our neighbouring communities.

### Energy Consumption (in GJ)

INDICATOR	2018	2019
Total energy consumption	9,081,012	10,500,801 <sup>12</sup>

### Greenhouse Gas Emissions (Co<sub>2</sub> Equivalent)

TYPE	2018	2019
GHG – CH <sub>4</sub> Methane Scope 1 as CO <sub>2</sub> -e	508	618
GHG – N <sub>2</sub> O Nitrous Oxide Scope 1 as CO <sub>2</sub> -e	1,040	1,254
GHG – CO <sub>2</sub> Carbon Dioxide Scope 1 as CO <sub>2</sub> -e	358,562	434,793
GHG – CO <sub>2</sub> Carbon Dioxide Scope 2 as CO <sub>2</sub> -e	271,656	293,707
<b>TOTAL</b>	<b>631.756</b>	<b>730.372</b>



Our Andean Crops project has benefitted more than 500 families in Las Bambas' area of influence.

### Other Emissions

TYPE	2018	2019
Other Emission – Oxides of Nitrogen (NO <sub>x</sub> )	18,232	11,471
Other Emission – Oxides of Sulphur (SO <sub>x</sub> )	7	7
Other Emission – Particulate Matter (PM10)	4,372	3,630
Other Emission – Volatile Organic Compounds (VOCs)	603	511
<b>TOTAL</b>	<b>23,214</b>	<b>12,352</b>

## 4.5. LAND MANAGEMENT AND REHABILITATION

One of our main objectives is to give land an equal or higher value than it had before our presence in the area. In 2019 we recorded a considerable increase in compensation payments for land.

### Land Compensation Payment (in millions of US \$)

TYPE	2018	2019
Payment	3,162,921.	8,066,565

In fact, we have been carrying out initiatives such as the native seed production program for re-vegetation purposes. In 2019 we collected

30 kg of native pasture seeds, reforested 406 ha and documented 23 operational nurseries.

### Disturbed and Rehabilitated Areas (in ha)

AREA TYPE	2018	2019
Total mine land lease area	7,773	7,781
Total land disturbed and not yet rehabilitated	2,310	2,470
Total land rehabilitated	100	100
Total land disturbed and not yet rehabilitated	2,210	2,370
Total land newly disturbed within reporting period	212	160
Total land newly rehabilitated within reporting period	0	0



### SUCCESS CASE CONTRIBUTION TO BIODIVERSITY CONSERVATION

We are in a region with high biodiversity value, as it is the gateway to the Tropical Andes. Our initiatives in this area included maintaining a database of geographic information systems (GIS) on biodiversity, preventing disturbances in critical habitats and translocating key plant species. During 2019 we carried out a project for conservation of *Nototriche armeriifolia*, an endemic plant that only grows in the land near our

operation. The only scientific registration of this species took place in Puno in 1936.

During this period, we have steadily worked on strengthening our methodology for conservation of a lizard species (*Liolaemus sp. gr. montanus*) identified in our environmental baseline studies, whose recovery is underway.

That methodological process includes five stages: rescue, health assessment, placement of tracking devices (chips) on rescued animals, release and monitoring. Between October and December 2019 alone, we rescued almost 250 specimens, including pregnant females.

We have been carrying out initiatives such as the native seed production program for re-vegetation purposes.



We identified a new lizard species (*Liolaemus sp. gr. montanus*) in the Las Bambas lease.

<sup>12</sup>The increase in our mining fleet explains this increased consumption since 2018.

### 4.6. PARTICIPATORY ENVIRONMENTAL MONITORING

We think that the active participation of local communities is fundamental to reinforce the transparency of our activity. We have established information offices where people can participate in consultations and/or submit grievances of any type, including environmental concerns. We established agreements with the communities to carry out monitoring processes and geological exploration activities. This measure has reinforced the joint work carried out with the Huancuire community with regard to the Chalcobamba site.

During 2019 we involved 226 people in participatory environmental monitoring processes, and 57% of them were women. Our goal is to establish connections with community boards to strengthen existing participation (monitoring activities, clean-up campaigns, guided visits, etc.).

### PARTICIPATION IN ENVIRONMENTAL MATTERS



#### DELIVERY OF RESULTS

We delivered a report containing results of water, air and noise monitoring activities to 23 communities.



#### INTERNAL AND EXTERNAL TRAINING

We trained 869 residents from various communities in 10 workshops.



#### GUIDED VISITS

We exceeded the target specified in EISA 3 (15 visits per year with 100 visitors) and recorded 26 visits with 496 visitors to our operation.



#### CLEAN-UP CAMPAIGNS

We launched five campaigns with the communities from areas such as Manantiales Neighbourhood, Chicñahui, Antuyo, Cconccacca, Nueva Fuerabamba and Tambobamba.

### Air Quality Monitoring

On 1 August 2020, the Prosecutor's Office carried out a procedure in coordination with the OEFA, the National Water Authority, Challhuahuacho Municipality, the Health Centre and community authorities. In particular, we carried out internal air quality environmental monitoring for particulate matter parameters PM10 and PM2.5. That procedure proved that we comply with environmental quality standards and, at the same time, proved the effectiveness of our environmental controls at the mine, as established in our EIS and its amendments.



We involved 226 people in participatory environmental monitoring processes.





If you have any questions or comments about this sustainability report, please contact **Andrea Duclos, Las Bambas Corporate Communication Specialist**, by email at: [andrea.duclos@mmg.com](mailto:andrea.duclos@mmg.com)



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