



CHIFENG  
GOLD

SEPON



Corporate  
Responsibility  
Performance  
Report

2021

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SEPON





# 1. Introduction

This report, for all our stakeholders, provides an insight to our commitment to sustainability and good governance.



# About this report

The scope, boundaries, and performance data of this report cover Lane Xang Minerals Limited (LXML) operating activities in Lao People's Democratic Republic (Lao PDR). The report provides disclosures for key environmental, social and governance (ESG) topics relevant to our business and stakeholders and details our performance and many of our teams' achievements over the past year.

Except where indicated otherwise (including with respect to certain initiatives advanced by the company in early 2022 described herein), all information and performance data in the report are current as of 31 December 2021. Unless noted otherwise, all currency amounts are stated in U.S. dollars.

We are developing our plans for annual corporate responsibility as part of the continued growth and development of Chifeng Gold. We plan to update our materiality assessment, and hence our presentation of key risks and opportunities, and to confirm our approach to future disclosures. We will aim to meet the needs of various stakeholders through our reporting, considering frameworks such as the Global Reporting Initiative (GRI), the UN Sustainable Development Goals (the SDGs), the Task Force on Climate-Related Financial Disclosures (TCFD) and other sector-specific disclosure initiatives. The intention of this current report, therefore, is to provide a concise overview of our management approach and to focus on key performance information covering 2021, with the aim to expand our qualitative and quantitative disclosures in the years ahead.

We welcome feedback on this report and on the approach we are taking to reporting in general. Please direct any feedback on the report to <https://lxml.la/contact-us/>

# Our organisation

LXML is the registered name of the company which owns and operates the Sepon Gold and Copper Project in Savannakhet province in Southern Laos. Chifeng Gold owns a 90% interest in LXML and the Government of the Lao PDR (GoL) owns 10%. LXML has been operating the Sepon project since initial approval was granted by the GoL in 2002.

Chifeng Gold Mining group is a joint stock company listed on the Shanghai Stock Exchange class A share main board, mainly engaged in the mining and refinery of gold, copper and non-ferrous metals, and is one of the key gold producers in China.

By the end of 2021, the gold mines in China had approximately 53 tons of gold resources, and the processing capacity of the processing plant was 1 million tons/year; the Sepon mine had approximately 158 tons of gold resources, and the processing capacity of the processing plant was three million tons/year; Golden Star (Wassa), in Ghana, had approximately 365 tons of gold resources, and the processing capacity of the processing plant was three million tons/year.<sup>1</sup>

The company's core value is 'to benefit more people through the development of Chifeng Gold'. We focus on safety, corporate governance, maintaining international standards, social benefits through community development, and environmental protection while improving economic benefits and rewarding investors with high performance. Chifeng's operations have been recognised as green mines at the national/provincial (autonomous region) level in China.



<sup>1</sup> Resource estimates have been made under Chinese resource classification standards.



# Introductory message from the Chairman and CEO of Chifeng Gold

As the Chairman and CEO of Chifeng Gold Group, I would like to extend a warm welcome to our stakeholders and friends and share this corporate responsibility report.



The past year has been exciting for our company's growth and development. At Sepon, we continued to develop plans for gold mining expansion, including the expansion of existing open pits and advancement of plans for underground mining to extend the life of the mine until 2033, and beyond. We also carried out assessment work to expand tailings storage facilities to support this expansion. In short, the Sepon operation is growing – and Chifeng plans to increase production rates and increase the life of the mine.

In addition to these developments in Laos, we initiated and completed the purchase of Golden Star Resources, marking the acquisition of our first mine in Ghana. The strategic investment will help expedite exploration and expansion programmes at Wassa in Ghana and secure the company's platform for growth in Africa.

Chifeng Gold promotes sustainability and governance. We strive to grow together with local communities so that more people can benefit from our activities. In support of this,

we will continue to advance our progress in supporting the United Nations Sustainable Development Goals. We will continue with the many partnerships and programmes established throughout the year to achieve these goals.

The future is exciting for Chifeng Gold and our stakeholders as we advance towards becoming a global leading gold mining company. We look forward to working with all our stakeholders and partners during this next phase of our company's growth.



**Mr Wang Jianhua**  
Chairman and CEO  
of Chifeng Gold



## Message from Paul Harris, LXML President

LXML is a proud partner in the development of the mining industry in the Lao PDR. Sepon mine began operations in 2003 with the commencement of gold production and the commencement of copper production in 2005. In 2023, we will celebrate twenty years of production.

LXML has contributed more than US\$1.6 billion in direct revenue to the Lao Government through taxes, royalties and dividends since operations began in 2003, in addition to hundreds of millions of dollars in indirect benefits through employment, training, community, and local business development.

Our goal is for LXML to continue to grow and expand in Lao PDR. We are working to make Sepon the biggest mining operation in Laos. We are developing the first modern underground mine in the country, setting a good example of international safety and operational standards.

In all this, the support of our parent company, Chifeng, is invaluable. Chifeng enables us to continue to invest in the growth of Sepon, and in the growth of Chifeng LXML in Laos. This investment will help us to tackle the challenges we face.

We are also working closely with the Lao Government and the local community to ensure Sepon's continuing success as we further develop and grow LXML Sepon and the mining industry in Laos.



**Paul Harris**  
President of Lane Xang Minerals Limited





# Key Data: 2021



## Zero

fatalities, and significant improvement in TRIFR



## 826

workplace safety inspections completed by operational leaders



## 95%

of total workforce are Lao nationals



## 20%

of workforce are female



## Zero

cases of conflicts of interest with employees or contractors



## Training

rolled out on code of conduct and equitable treatment



## 100%

compliance with planned water quality monitoring



## 33.66Ha

33.66 hectares of land rehabilitated, against forecast plan of 20.65



## Covid

Minimal impact from COVID-19 due to effective management



## \$5m

invested in health outreach and maternal and child nutrition programmes



# 2. Sustainable governance

Our framework of policies and controls helps to make sure we operate with integrity and can deliver long-term value for our stakeholders.







# Our approach

Our code of conduct provides a framework for the behaviours we expect from all of our people, and what they, in turn, can expect from the company. It supports and gives detail on how our values can be made real in day-to-day work.

## Anti-bribery and corruption

As set out in our code of conduct, LXML has zero tolerance of bribery and corruption. Bribes, pay-offs, unlawful commissions or unlawful benefits are prohibited and LXML people should never give or accept, or agree to give or accept benefits of this nature.

The anti-corruption requirements in this framework apply to all LXML employees, officers, contractors (including contractors' subcontractors and their respective employees), and agents. It is the responsibility of each LXML person to ensure they comply with the framework and applicable anti-bribery laws.

We have clear provisions that prohibit the offer of facilitation payments without prior written approval, and prohibit the offer of gifts, meals, travel or entertainment to any outside party where doing so would provide an improper benefit.



## Fraud prevention

Similarly, we have zero tolerance of fraud. Our risk management system ensures that the prevention, detection, and investigation of suspected fraudulent activity is incorporated into our processes, practices and internal controls. We encourage our staff to raise issues wherever they feel there might be a conflict of interest.

## Conflicts of interest

A conflict of interest will arise where an LXML person makes, influences, or participates in, any decision where doing so could give rise to a conflict between their duties to LXML and a duty owed to a third party, or to their own personal interest.

Any employee or persons engaging with LXML must declare any known relationship that could be seen as advantageous to a situation. A conflict of interest form can be obtained from our Human Resources department and must be signed by a line manager and other approval lines depending on the nature of the potential conflict. All conflict of interest forms are lodged with HR and the area owner. Auditing is carried out as part of our regular process.

## Proper use of information

Our code of conduct also sets out measures relating to the proper use of business resources and information, including the protection and proper use of assets and IT systems. We require honest, accurate



*At LXML, our values define how we treat each other. We are committed to a diverse, inclusive and empowered workforce – because we know that this contributes to our success.*



# Our approach

and timely record keeping to support responsible decision making and we work to manage sensitive commercial information in accordance with our disclosure framework and related standards.

### Grievance management and whistleblowing

LXML maintain an Equitable Treatment Standard and a Complaints and Grievance Management procedure. These procedures provide a framework where individual or collective concerns can be raised and managed in an equitable manner without discrimination or judgement.

### Providing for safe and healthy operations

Our Safety, Health and Environment (SHE) policy is supported by an integrated management system that is maintained, audited and reviewed by the LXML SHE department.

### Supplier management

Our principles for managing relationships and transactions with suppliers are documented in our Contracts and Procurement policy

and procedure. Its provisions seek to ensure that all engagements are managed in a fair, transparent, and auditable manner that align with our principles and values. We use

### Principles of supplier management

- The general approach to sourcing goods and/or services from suppliers or contractors is through competitive bidding, unless procedurally otherwise allowed or specifically authorized.
- Establishing clear segregation of duties in our respective processes to enhance process integrity.
- All commitments made on behalf of LXML with suppliers or contractors may be subject to periodic review by internal or external auditors. It is therefore essential that clear, concise and accurate records of all commitment transactions at all stages of the process are maintained centrally. Records must depict a clear audit trail.
- Competitive bidding wherever possible and have policies and procedures in place to ensure the integrity and transparency of our procurement processes.
- Commitments, in the form of purchase orders and/or contracts, must be made ahead of the supply of goods or commencement of the services.
- All procurement and contract documents are confidential in nature, and all personnel involved in these activities are responsible for maintaining that confidentiality.
- When acting on behalf of LXML, individuals shall not take unfair advantage through manipulation, concealment, abuse of privileged information, misrepresentation of material facts, or other unfair-dealing practices.





# Our approach

## Supporting sustainability

In line with our values and our vision, LXML is committed to aligning with the International Council on Mining and Metals sustainable development principles, through our Sustainability Policy. We will:

- Implement and maintain ethical business practices and sound systems of corporate governance.
- Integrate sustainable development considerations within the corporate decision-making process.
- Uphold fundamental human rights and respect cultures, customs and values in dealings with employees and others who are affected by our activities.
- Implement risk management strategies based on valid data and sound science.
- Seek continual improvement of our health and safety performance.
- Seek continual improvement of our environmental performance.
- Contribute to conservation of biodiversity and integrated approaches to land use planning.

- Facilitate and encourage responsible product design, use, re-use, recycling and disposal of our products.
- Contribute to the social, economic and institutional development of the communities in which we operate.
- Implement effective and transparent engagement, communication and independently verified reporting arrangements with our stakeholders.



*At LXML, we mine for progress. We mine to create wealth for our people, host communities, and shareholders. Our success in underpinned by our long-term outlook, our pride in mining, our commitment to shared international standards and our respect for people, land and culture.*

## We will deliver against the Sustainability Policy principles by:

- Implementing and maintaining ethical and transparent business practices and sound systems of corporate governance.
- Integrating our sustainability objectives with all life of asset business planning and decision-making processes.
- Developing and implementing sound enterprise-wide risk management processes.
- Seeking continual improvement in safety, health and environmental performance through using robust management systems and effective assurance processes.
- Understanding, respecting and promoting fundamental human rights within our sphere of influence, respecting traditional rights and cultural heritage.
- Contributing to the long term economic, social and institutional development of our communities, including Indigenous Peoples.
- Building trusting relationships by engaging clearly, openly and honestly with our host communities and other key stakeholders.
- Contributing to the conservation of biodiversity and integrated approaches to land use planning in areas where we operate.
- Ensuring the responsible handling and transport of our materials and products from mine site to customer.
- Integrating early closure planning into Life of Asset and ensuring adequate financial provisions have been made.



*“To be successful, we need strong contributions from all employees. Men and women contribute different strengths to deliver the best possible outcome. As a manager, I provide equal career opportunities and appropriate support for all employees. Our department has many women in key leadership positions, setting an example that others can follow.”*

**Phonesavanh Khamvongsa, Mining Manager**

## Performance

### Business ethics and integrity

The code of conduct is regularly reviewed and discussed with employees, particularly in relation to safety, any conflict of interest, appropriate behaviour, and other ethical issues.

### Anti-corruption

We issue an annual anti-bribery commitment to all our contractors and suppliers. They are expected to confirm their acceptance and adherence to it. This was done for the first time in 2021 and focused on contractors. It will now be an annual requirement for all contractors and local suppliers.

### Conflicts of interest

The management of potential and actual conflicts of interest is covered in the LXML code of conduct and requires all employees to formally disclose any such issues. The code is also referenced in LXML employee and supplier contracts as well as being included in employee onboarding and induction processes. There were no reported cases of conflicts of interest with employees or contractors during 2021.

### Whistleblowing

In 2021, there were a limited number of reports and queries raised through LXML contact lines. Reported concerns related primarily to personnel conduct within the workplace. In all cases, thorough investigations were completed independently by the Human Resources department and corrective actions formalised and put in place as part of performance improvement plans. Subsequent information and training sessions on the LXML code of conduct and Equitable Treatment Standard were rolled out across the company in the latter half of 2021, drawing particular attention to expected standards of conduct.

### Managing suppliers

Supplier and contractor performance is measured on a regular basis. Pro-active and reactive corrective measures are instituted as and when required.

### Promoting Board and Executive diversity

The LXML Board comprises several different nationalities and previously included one woman (the Lao Government representative, Ministry of Finance).



# 3. Our people

Our people are responsible for helping LXML achieve our vision. We believe it is very important that our employees seek and achieve personal development while working at LXML.





# Our approach

## Fair treatment and equal opportunity

LXML is committed to ensuring that all employees are treated equitably, in a workplace that values diversity and inclusion in terms of gender, age, culture and ethnic background, religion, sexual orientation or disability. We look to provide challenging and rewarding work in an environment free from harassment.

## Training and development

We provide training and development opportunities consistent with the needs of the business. We support open communication and regular feedback and recognise

employees when their actions support our vision and values. Employees are able to raise concerns if they arise and can expect them to be addressed in a timely and fair manner.

## Professional behaviour

The professional behaviours we expect of our staff, and the responsibilities of supervisors and managers, are clearly set out in our code of conduct.

## Keeping our people safe

We are committed to the safe, socially and environmentally responsible operations of

our assets. We know that all incidents injuries, fatalities and occupational exposures are preventable and that no task is so important that it cannot be done safely.

Our SHE policy, which emphasises compliance, effective leadership, risk management, engagement, and training is supported by standards and processes that define how we operate. The policy sits alongside a set of life saving rules and injury prevention principles. These, in turn, are underpinned by detailed operational standards and guidelines.

We develop a SHE performance scorecard, which is an essential part of how we assess and

manage organisational goals. It includes target setting in areas such as harm avoidance, risk management, and training and development. Our SHE management system has 13 main elements with various sub-elements that align the ISO 45001 Health and Safety Management and ISO 14001 Environment Management system. A drive for continuous improvement underpins our system and our approach.

The LXML Safety and Health Management Plan applies to all LXML personnel including employees, contractors, and visitors. Its requirements are integrated into all contracts, and risk management processes within the relevant business unit. All mine sites including offices, exploration leases, accommodation, mining areas, workshops, and other areas are covered by it.

We continue to build a culture in which safety is integrated into everything we do. We promote visible field leadership, for example, to ensure managers and team leaders spend time in the field coaching, mentoring and listening to their teams about safety issues. We see this as an important demonstration of management commitment, and we measure how frequently visits are carried out, among other leading performance indicators.



*We put safety at the heart of our operation. Nothing is more important than ensuring our employees can return home safely at the end of each day. Our operation has consistently maintained total recordable injury frequency rate (TRIFR) well below our target and compared to our peers in the industry, this safety performance is exceptional and considered one of the best in the world."*

Paul Harris, LXML President





# Performance

## Workforce composition

Our total workforce numbered 2,097 in 2021, of whom 77% were from the local district or province and 20% were female.

## Training and development

We provide a range of training opportunities, including field-based training, assessments, classroom-based and online. We provided a total of 44,483 training hours in 2021, covering approximately 8,400 trainees by course. The courses provided covered topics such as induction, safety, technical matters, permitting, language skills and professional development. Our approach is to align training to an individual's needs and role and the business's requirements.

## Competency-based training

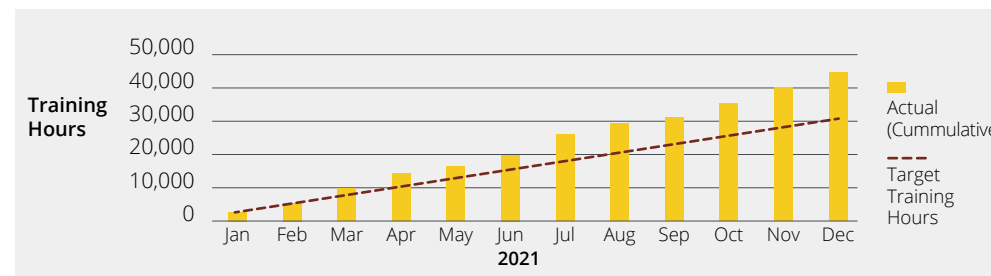
This training aims to support people in operational roles to develop the skills and competencies required in their roles.

The programme involves coaching and on-the-job training by area assessors, supervisors and expatriate technical advisors. LXML is currently running this initiative for 980 employees. This programme provides employees with practical skills that can be used outside Sepon.

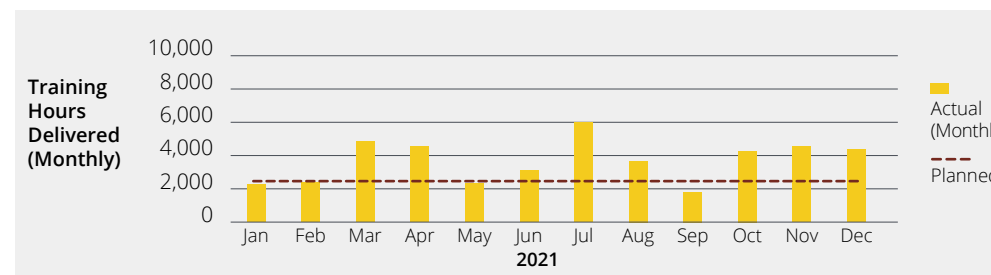
## Workforce

Employment type 2021	Number	Number female	% of total FTE
Lao employees from Vilabouly district	1,240	303	60
Lao employees from Savannakhet province	365	53	17
Lao employees from other provinces	380	52	18
Expatriate employees	112	4	5
<b>TOTALS</b>	<b>2,097</b>	<b>412</b>	<b>100</b>

## LXML Total training hours in 2021



## LXML Monthly training hours in 2021



## Competency-based training



Department	Number of participants
Mining	470
Processing	131
Maintenance	184
Site infrastructure and mobile maintenance	88
Mine technical services	86
Supply and contracts	21



# Performance

## Internships

LXML provides support to educational institutions and students through an internship programme. We have provided internship opportunities to 36 interns in 2021. Internships are mainly in environment, mechanical, mobile equipment, mining, geology, processing, laboratory and information technology.

### Internship Programme



Institution	Number of interns
Savannakhet University	7
Savannakhet Polytechnic College	5
Polytechnic College, Vientiane	11
Lao-Geman Technical College	3
National University of Laos	7
Human Resource Development College	1
Guizhou Minzu University	2

## Employee engagement

We carry out a range of activities to ensure our workforce are made aware of developments in the business and are actively engaged.

For example, we hold weekly meetings between HR representatives and department leadership to explore whether there are any employee concerns and what support may be required. We provide updates to employees, normally by the company President, on company performance and business developments.

In regular operations, we hold pre-start meetings to communicate key messages related to safety or to create awareness of company values. We issue an LXML newsletter monthly to update the entire workforce on company performance and to highlight external issues that may have an impact on our employees. We regularly meet and discuss issues with trade union officials.

## Safety & Health

The safety and health management plan is actively used by line managers and made available to employees for implementation at all levels.

The management team has responsibility for ensuring that all employees in their area of responsibility are fully conversant with the plan and that compliance with it is maintained throughout all LXML operations.

During 2021, LXML Sepon had a total of 17 work-related injuries including one lost time injury, seven medical treatment injuries and nine first aid injuries.

Our TRIFR improved in 2021 in comparison to 2020 and has improved consistently over the past 15 years. The total number of injuries has decreased significantly over this longer period, as highlighted in the graph below.



### Total injuries

Operation	Fatalities			All injuries			Total Recordable Injuries		
	2019	2020	2021	2019	2020	2021	2019	2020	2021
Sepon	0	0	0	9	21	28	1	3	1

### Total recordable injury frequency rate (TRIFR) and All injury frequency rate (AIFR)\*

Operation	AIFR			TRIFR		
	2019	2020	2021	2019	2020	2021
Sepon	1.14	2.11	2.14	0.38	1.20	0.84

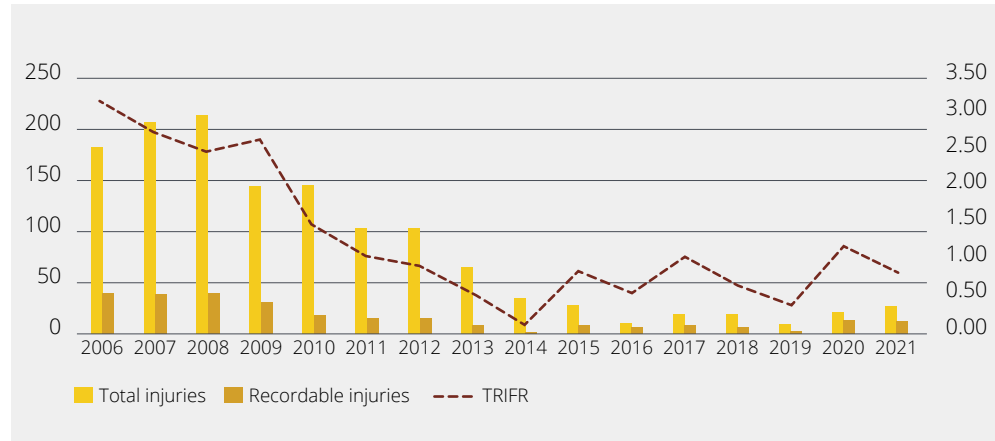
\* Rolling 12-month average, combined employees and contractors, per million hours worked.





# Performance

## LXML safety performance



We continue to work with employees and contractors to establish a safe working environment. Our 'Creating Safe Work campaign' seeks to achieve zero harm and ensure that we remain fatality free. Its goal is to build a strong safety culture that makes the entire workplace a safer environment.

Refresher training and the reinforcement of operational risk management was the focus throughout 2021. This included operation-wide awareness campaigns on hand safety, field risk assessment, and fatal risk management compliance reviews.

A total of 826 workplace inspection were completed, plus 763 visible field leadership inspections carried out by operational leaders.

### Occupational health

We carried out a range of occupational health monitoring activities in 2021 including monitoring of over-exposure to chemicals, metals, and noise. We have developed an improvement plan based on the health surveillance monitoring.

### Emergency response

In addition to regular inspection and monitoring of emergency response equipment, we carried out training for emergency responders and ran several mock exercises in 2021 to test response procedures. Our site emergency team responded to several serious incidents in 2021.

### COVID-19 response

COVID-19 prevention and management remains a priority at LXML with awareness campaigns continuing throughout the year focusing on sanitation, social distancing, health screening, and the effective management of COVID positive staff.

Throughout 2021, the Sepon site medical team conducted 38,770 COVID-19 antigen tests for employees and contractors with a total of 33 positive cases detected. Just under 12,000 COVID vaccination doses have been administered.

LXML has donated more than 35,000 rapid antigen test kits plus PPE suits, medical gloves, face mask and other medical supplies to district and local hospitals to support the treatment and prevention of COVID-19.





# 4. Social excellence

We look to build and maintain positive relationships with our external stakeholders.





# Our approach



### Government relations

LXML is committed to fostering respectful and cooperative relationships with the governments in countries where we do business. In our dealings with governments, we seek to listen to and address local issues and build cooperative relationships. Understanding

the priorities of governments, especially when entering a country for the first time, helps build the foundations of successful relationships.

### Suppliers and partners

Maintaining strong working relationships with suppliers and business partners is also important in enabling LXML to conduct business fairly, efficiently and in a manner consistent with our vision.

We seek to engage like-minded suppliers and business partners who operate in a fair and competitive manner. We make appropriate enquiries to confirm that potential suppliers

or business partners align with our values. We regularly review their conduct to help ensure our business integrity.

### Communities

LXML Sepon's community development strategy focuses on four key pillars: health; education; food security through sustainable agriculture; and livelihoods.

LXML's community development programmes aim to sustain resilient livelihoods in cooperation with local communities, laying the foundation for a successful post-mining economy in Savannakhet province.



*LXML is improving livelihoods through access to basic services, and by empowering villagers to achieve their own development priorities. The company targets programmes for disadvantaged groups.*



# Performance

We support the local community, not only through the jobs we create but by enabling and supporting wider economic and social opportunities.

We have consistently achieved positive community development outcomes over twenty years of operations in partnership with the Lao Government and host communities. This contributed to Vilabouly District being removed from the government’s list of poorest districts in 2015.

### Health – improving basic provision, and maternal and child health

In cooperation with the Lao Ministry of Health, Lao Women’s Union, and UNICEF, LXML Sepon has invested approximately \$5 million in health outreach and maternal and child nutrition programmes.

The ‘1,000 Day’ project, which seeks to improve maternal and child health, reached 250,000 children, distributing 2.7 million nutrition sachets of micro-nutrients, and trained 2,000 volunteers, midwives, and Lao Women’s Union members.

LXML invested \$270,000 with Australia’s MacFarlane Burnet Institute to deliver maternal and child health programmes in Vilabouly District.

LXML has supported the Lao Paediatric conference, organized by Health Frontiers, for thirteen years.

LXML has provided financial support and medical equipment to Vilabouly hospital, rural clinics in Vilabouly District, Savannakhet hospital, and Mittaphab hospital in Vientiane, building new wards and latrine blocks, purchasing ambulances, water supply systems, incubators for premature births, and other essential medical equipment to support primary health objectives that benefit women and children.

### Community-led projects

LXML Sepon is improving livelihoods by providing access to basic services, and by empowering villagers to achieve their own development priorities.

We target programmes for disadvantaged groups. In consultation with community leaders in 72 villages around Sepon mine, LXML has invested approximately \$15 million in the Village Development (now called the FADG, or Fund for the Assistance of Disadvantaged Groups) and Community Trust Fund since 2003 to build schools, roads, latrines, fishponds, a potable water supply, and small livelihood projects benefiting more than 40,000 people.



# \$5m

Sepon has invested approximately \$5 million in health outreach and maternal and child nutrition programmes.

The Community Trust Fund is designed to improve service delivery and mitigate the impact of the Sepon mine in alignment with Lao Government’s National Socio-Economic Development Plan.

Our Village Development Fund offers grants of between \$8,000 and \$16,000, based on the number of households. In total, more than 260 projects have been implemented across 47 communities, with a total investment of \$3 million to date. Projects are selected by villagers, who contribute a counterpart of at least 10% of the total value, through finance, time, or in-kind support to encourage ownership.



# Performance

We have established several large and small irrigation projects to provide a consistent water supply for local communities to support food security in and around Vilabouly District.

## Improving access to and quality of education

LXML has provided scholarships for Lao employees to study in Australia and Thailand and offers financial support for disadvantaged Lao students to travel from Vilabouly District to study in Vientiane. The company offers apprenticeship and other training programmes for local people to improve local capacity. We have a long-standing relationship with Savannakhet Technical College to provide trades training in mechanical and electrical engineering, skills that can be transferred to other enterprises.

Since 2003, LXML has invested millions of dollars to establish and maintain the Huay Kong Training Center in Vilabouly District. On the banks of a large water reservoir constructed by LXML to provide irrigation to local farms and potable water supply for villages, the Huay Kong Training Center has provided training courses for local community members in agriculture (mushrooms, fisheries, citrus), dressmaking, economic self-sufficiency,



# \$1m

We have invested approximately \$1 million to develop a citrus industry in Vilabouly District.

sericulture, and other specialized courses to meet local needs.

## Income generation

LXML's business development aims to improve and diversify local income opportunities, create a climate for new businesses to flourish, and to help build sustainable livelihoods beyond mine closure.

LXML purchases at least \$3 million worth of fruits, vegetables, and local produce through 30 local businesses – around 75% of its produce and generating a combined income of over \$50 million for local people.

In cooperation with the Netherlands Development Organization, LXML increased incomes for smallholder farmers in rice production by improving the quantity and stability of quality milled rice for 1,900 farmers through improved farming methods. Rice farmers produced 2.2t/ha of rice before the project, and increased output to 3.5t/ha, providing greater food security for the district.

We have invested approximately \$1 million to develop a citrus industry in Vilabouly District through an Australian company – Ironbark – with 20 years' experience exporting citrus fruits.



# Performance

With technical support, 48 families planted 26,000 trees in 43 hectares. In 2022, production of citrus fruits in Vilabouly District reached over 400 tons. LXML has supplied irrigation and other support to increase production.

We have also taken steps to improve access to credits and savings services, thereby supporting rural access to finance.

In cooperation with GIZ and AusAid since 2012, we have established agricultural microfinance facilities supporting 55 villages in Vilabouly and Sepon Districts with 5,929 participating members reporting \$2,452,546 in savings and \$1,476,860 in current loans.

### Cultural heritage

Vilabouly is acknowledged internationally as one of the first mining and metallurgy sites in Southeast Asia. Ancient mining practices continued there until about 1,300 years ago, (700 AD), where people excavated rich copper ore and refined it in Peun Baolo and Thong Na-Gneuak (Dragon or 'Naga Serpent' field) locations.

Since 2008, LXML has invested more than \$1.8 million to conserve 3,000 years of Lao history through an archaeological programme in cooperation with the Department of Heritage in the Ministry of Information, Culture and

Tourism, National University of Laos, and James Cook University in Australia.

The project team has invited international research experts, including from Chinese universities and government departments in Yunnan Province, and Japan. Evidence of ancient copper mining shafts and ingots traded across South East Asia demonstrates the importance of mining in development and provide a fascinating window into ancient civilizations.

LXML's cultural heritage programme unites a diverse research community at local, national, and international levels. Volunteers from Vientiane, local villagers, students, archaeologists, and Lao officials cooperate closely to conduct research and conserve national heritage artefacts.

### Infrastructure support

Since operations commenced in 2003, LXML has invested more than \$20 million to build and maintain local roads. All villages in Vilabouly District are now accessible by road.

LXML also invested approximately \$34 million to build the national electricity grid from Thakhek to Maxahay in cooperation with Électricité Du Laos (EDL), extending development to rural and remote areas.



### Displaying cultural artefacts

Artefacts discovered through the cultural heritage programme are on display at the Lao National Museum in Vientiane, Savannakhet Museum, and Vilabouly Cultural Hall. LXML has handed over some 8,000 important cultural artefacts to the Lao government for the collection.

These include mining equipment such as wooden ladders, pulleys, mallets, painted bamboo baskets, and rope made from lianas; a large 'Dong Son' bronze era drum (on display at the National Museum); crucibles, copper ingots, jewelry, ceremonial items, weapons, pottery, and other artefacts highlighting Laos' pivotal place in regional history and trade.

To preserve cultural traditions and community events, LXML's Community Trust Fund supported the casting in Vientiane Capital of the impressive Ongteu Outamasok Buddha (3m wide, 4.20m high) and five other statues (Pakhou Khihom) with a combined community investment of approximately \$103,000.



# 5. Protecting the environment

LXML is committed to minimising the impact of our operations on the environment and operating to international mining standards of environmental management, protection and biodiversity conservation.



# Our approach

## Risk identification and management

We assess environmental risks, considering the potential impact and consequence of specific incidents and events as well as longer-term risks. We regularly update operations risk registers and carry out actions to mitigate and control risks. For example, our improvement plan includes implementing improved site chemical and waste management in relation to the storage, handling, and disposal of hazardous and chemical waste.

## Environmental monitoring and measurement

We carry out extensive environmental monitoring, in accordance with our Environmental and Social Management and Monitoring Plan (ESMMP), which contains compliance guidelines and guidance derived from national and international agreements and standards. We report on our environmental monitoring programme and compliance annually.

Our water monitoring schedule is reviewed twice annually, in April and November, corresponding with wet and dry season programmes. We monitor the condition of village well supply water and water provided to

our worker camp locations. We monitor dust deposition and conduct real time noise, blast, vibration, and particulate matter monitoring.

## Robust audit and assurance

Our risk and control assurance processes are developed in line with our Audit and Assurance Standard, which incorporates 'three lines of defence': internal manager assurance; functional assurance reviews undertaken by the General Manager; and external independent auditing and assurance examining the management of material risks.

## Tailings management

We own and operate two tailings storage facilities, the operations of which are overseen by an Engineer of Record. Both facilities are audited by an independent expert annually. As of late 2021, we also supply tailings to the Khanong pit as part of an integrated backfill closure strategy.

We draw on the Australian National Committee on Large Dams Incorporated (ANCOLD) - Guidelines on Tailings Dams when categorizing the hazard associated with these facilities. Closure plans are in place for both facilities and monitoring activities are in line with



*Replacing tailing pipelines is an important step to address leaks and prevent further incidents. This investment will ensure potential negative impacts to the environment and communities are minimized. Sepon has maintained regular communication and transparent engagement with local communities and the government.*



national regulatory requirements. The Tailing Storage Facility operating manual provides a clear framework for roles and responsibilities, regular operations, monitoring, inspection, maintenance, data collection and reporting, and emergency response.

## Rehabilitation and mine closure planning

Our aim is to restore land areas that are no longer operational, with staged mine rehabilitation to stakeholder-agreed final landforms.

We plan for mine closure from the earliest stages of project development and update our mine closure plans in line with local regulatory requirements, stakeholder consultation, and international best practice guidance such as that provided by the International Council of Mining and Metals Good Practice Guide. Closure planning is an iterative process with options identified early and gradually refined as the site moves towards closure. Refinement is based on stakeholder consultation and improved technical understanding.





# Performance

## Environmental monitoring

Routine scheduled ambient surface water quality monitoring was undertaken at 27 locations in 2021. Routine scheduled effluent surface water quality monitoring was undertaken at 69 locations in 2021.

We achieved high levels of compliance with our ESMMP targets for ambient surface water monitoring, with just under 99% of all samples and analyte results below guidelines values, and within the annual target.

## Water

A total of 2,807 ML of water was extracted from the Namkok River for LXML Sepon operations use, higher than last year's water extraction by 210 ML.



A total of 21,982 ML of treated water was discharged offsite in 2021 in accordance with the operation's Water Discharge Authorisation (WDA) process, lower than last year by 6,046 ML. Mine dewatering of pits increased water discharges offsite from January to March 2021 to support waste in pit rock backfill operations.

We maintain extensive water monitoring programmes in our catchment areas to help ensure we meet or surpass water quality requirements. In 2021, we maintained 100% compliance with our operations' scheduled water sampling and near 100% to our water quality requirements. We have set a similar target for 2022.

## Energy consumption and greenhouse gas emissions

Fuel is used for transport to site and on site for mining operations such as hauling trucks and equipment. We use grid power for electricity, which is mostly from hydropower sources. We are actively developing our data gathering and calculation methodologies for reporting on scope 1 and 2 greenhouse gas emissions and will continue to refine our approach and systems so that we can report publicly on this in future.

## Tailings management (m³)

Location	2019	2020	2021
Sepon	9,335,107	10,245,240	<b>9,653,256</b>

## Energy consumption

Source	2019	2020	2021
Fuel diesel bulk (litres)	26,064,496	37,016,738	<b>48,243,702</b>
Gasoline bulk (litres)	14,753	13,999	<b>23,087</b>
Electricity (Kwh)	176,516	258,412	<b>252,958</b>
LPG (kg)	49,375	85,011	<b>108,125</b>
Jet A1 fuel (litres)	220,000	210,000	<b>180,000</b>



# Performance

## Waste management

Waste management activities during 2021 included high density polyethylene lined and leachate-controlled landfill disposal, hazardous waste management improvement and disposal, including the installation and operation of a high temperature incinerator.

Recycling programmes were implemented for a wide range of recyclable materials. Administrative controls, such as workplace inspections to reduce and improve waste management in work areas, and Sepon clean-up activities, were also carried out.

Total waste generated and disposed across site disposal facilities increased in 2021 compared to 2020. The difference was due to increased construction activity, process plant throughput and camp resident numbers.

General waste received at the landfill was 352 tonnes. Hazardous waste disposed through the high temperature incinerator was 806 tonnes. A total of 348,400 litres of waste oil and 806 tonnes of scrap steel were recycled, sold and removed from site by local recycling contractors. A range of other materials are also recycled such as plastic, rubber, cardboard, empty drinking bottles which are separated and compacted (if possible) at the landfill site before being sent for recycling.

Awareness raising of administrative controls focused on the delivery of waste management workplace inspection across site to LXML employees and contractors on how to manage, reduce and dispose of waste within the workplace. Waste management generally improved at work areas as staff became more aware and gained knowledge about site waste management processes.



*We believe LXML environmental standards are an example of excellence in Laos.*

## Waste disposal and recycling

Non-hazardous waste disposed to landfill (tonnes)			Food waste			Non-hazardous recycling			Hazardous recycling – waste oil		
2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021
112	125	352	277	338	364	385	451	806	43	57	344

## Waste rock (kt)

2019	2020	2021
23,004	28,333	35,369

## Sludges (m³)

2019	2020	2021
255,360	250,740	265,486





# Performance

## Rehabilitation and mine closure

LXML Sepon continued a progressive mine rehabilitation programme for operations areas in 2021. The programme includes annual area and resource planning and programme implementation.

We link the programme to the regional climate by beginning rehabilitation works at the beginning of the wet season when soil moisture content is sufficient to maximize the successful rate of vegetation establishment and growth, thus minimising sediment erosion and transportation during wet season conditions. It is also guided strategically by the broad objectives outlined in the closure plan,

which is regularly updated via consultation with relevant stakeholders.

Rehabilitation activities included earthworks to reshape waste dump and other mine or exploration operation disturbed landforms, topsoil application and spreading, mulch application and erosion control bamboo or jute matting and fencing, contour ripping, hydroseeding and hand seeding for vegetation establishment, hand planting of nursery propagation stock and plant maintenance of weeding, composting, fertilising, mulching, and watering.

The new mine rehabilitation areas completed totalled 33.66 Hectares (Ha) against a forecast

plan of 20.65 Ha. Progressive rehabilitation works completed were above plan due to the availability of additional areas. New land disturbance activities in 2021 was approximately 401 Ha, from gold mining deposit areas and exploration drilling prospects.

We updated the Mine Rehabilitation Standard Operating Procedure in 2021, including revision of staged methodologies of bamboo and drainage erosion control, hydroseeding and planting and plant maintenance to improve rehabilitation performance.

### Rehabilitation

Activity	Area (Ha)
New disturbance 2021	401
Total disturbance 2003-2021 (includes planned gold pits)	2,685
Rehabilitation areas completed in 2021	33.66
Total rehabilitation areas 2003-21	451.97
Rehabilitation maintenance activities in 2021	1.1
Total Disturbance Area (unrehabilitated)	2,233



Hinsom Valley – topsoil spreading



Hinsom Valley – second stage rehabilitation



Phabing C backfill – topsoil cover



Phabing C backfill – first stage rehabilitation



# Performance

## Mine closure planning

The 2021 mine plan maintains mine operations (mining and processing of ore) until approximately 2033. LXML Sepon continues to progress closure planning processes and make appropriate financial provisions through to end-of-mine life, as part of normal operations.

The LXML Sepon Mine Closure Plan (MCP) was last updated in 2020, its third iteration. The closure plan is developed as part of our ongoing closure planning process and is developed by a team of international experts. The plan provides an appropriate level of detail for a conceptual closure planning phase of mine operating life. It is adaptable, provides a good basis to develop further closure planning options and is consistent with good practice

guidance provided by the International Council of Mining and Metals for Integrated Mine Closure.

It includes conceptual closure strategies and guidance for 23 open pits, 20 waste rocks dumps, low grade ore stockpiles and Run-of-Mine (ROM), two tailings storage facilities, 64 water management facilities, roads and various infrastructure including processing plants, accommodation camps and maintenance workshops. Additional pits mined and landforms and facilities constructed are included in further iterations of the closure plan.

We recognise the need to undertake closure planning in close consultation with stakeholders. The Sepon Mine Closure

Committee (SMCC) has met eight times since its inception in 2010 but did not meet in 2021 due to COVID restrictions. Implementation activities focussed in 2021 on waste rock landform rehabilitation and in-pit mine backfill operations at a variety of sites.

## Mine closure

Location	2019	2020	2021
Total area of exploration leases (EL) (Ha)	124,235	124,235	<b>124,235</b>
Total area of mining leases (ML) (Ha)	9,890	9,890	<b>9,890</b>
Land disturbance to MLs / ELs in current year (Ha)	239	42.34	<b>401</b>
Total disturbance to MLs and ELs to date (Ha)	2,206	2,284	<b>2,685</b>
Land rehabilitated in current year (Ha)	25.22	28.42	<b>33.66</b>
Land fully remediated to date (Ha)	383.55	411.97	<b>451.97</b>

Note: Values are rounded to the nearest hectare.





**CHIFENG  
GOLD**

**SEPON**

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