



**China's Mining Industry at Home
and Overseas**

CASE STUDIES

China's Mining Industry at Home and Overseas: Development, Impacts and Regulation

CASE STUDIES

ZIJIN MINING GROUP

Zijinshan Gold and Copper Mine, China &
Rio Blanco Copper Mine, Peru

MMG LIMITED

Sepon Copper & Gold Mine, Laos

CAMBODIA IRON AND STEEL MINING INDUSTRY GROUP
& CHINA RAILWAY GROUP

Rovieng Iron Ore Mine & Railway Project, Cambodia

China's Mining Industry at Home and Overseas: Development, Impacts and Regulation

2014

Researched and written by The Climate and Finance Policy Centre, Greenovation Hub

© Greenovation Hub
Design by Li Ming and Zhu Weiming
All rights reserved



Greenovation Hub is a grass-root environmental NGO with a global outlook. G:HUB believes development should be ecological, and only by collaborative effort can environmental problems be solved. We provide innovative tools to enable wider public participation in environmental protection and foster joint power of civil society, business and government to accelerate China's green transition.

The Climate and Finance Policy Centre of G:HUB conducts research on China-relevant issues in climate, energy and sustainable finance with a global perspective. We promote effective policy-making and implementation and support public participation and stakeholder involvement in the process, to foster a positive transition to a low carbon economy, and a sustainable and equitable development model that is climate resilient and has a reduced global ecological footprint.

This report is divided into two parts: the main report and a case study supplement. Both parts are available in Chinese and English.

The PDF version can also be downloaded from the Greenovation Hub website

English: www.ghub.org/cfc_en/mining2014

Chinese: www.ghub.org/cfc/mining2014

Contents

CASE STUDIES

04 List of Abbreviations

05 Introduction

08 ZIJIN MINING GROUP

08 Introduction

08 Company Background

11 Zijinshan Gold and Copper Mine, Fujian Province, China

13 Rio Blanco Mine Project, Piura Region, Peru

17 Implications of Environmental and Social Practices

18 Risks Associated with Overseas Investments

19 Conclusion

22 MMG LIMITED

22 Introduction

22 The Mining Sector of Laos

23 China Minmetals Corporation

25 MMG Limited

26 The Sepon Copper & Gold Mine, Laos

36 Conclusions

40 CAMBODIA IRON AND STEEL MINING INDUSTRY GROUP & CHINA RAILWAY GROUP

40 Introduction

41 China's Role in the Cambodian Mining Sector

42 The Project Developers

44 The Rovieng Iron Ore Mine & Railway Project

50 Conclusions

List of Abbreviations

ADB	Asian Development Bank
CDC	Council for the Development of Cambodia
CISMIG	Cambodia Iron and Steel Mining Industry Group
COEC	China Ocean Engineering Construction General Bureau
CRCC	China Railway Construction Corporation
CREC	China Railway Engineering Corporation (or China Railway Group)
CSR	Corporate Social Responsibility
CSRC	China Securities Regulatory Commission
EIA	Environmental impact assessment
EITI	Extractive Industries Transparency Initiative
G:HUB	Greenovation Hub
GIZ	German Technical Cooperation
GXNF	Guangxi Nonferrous Metal Group
HKEx	Hong Kong Stock Exchange
ICMM	International Council on Mining and Metals
IFC	International Finance Corporation
IPO	Initial public offering
IUCN	International Union for the Conservation of Nature
LXML	Lane Xang Minerals Limited
MBEC	China Railway Major Bridge Engineering Group
MIME	Ministry of Industry, Mines and Energy
MOU	Memorandum of understanding
NGO	Non-governmental organization
ODI	Outbound direct investment
SASAC	State Assets Supervision and Administration Commission
Sinomach	China National Machinery Industry Corporation
SOE	State-owned enterprise
SSE	Shanghai Stock Exchange
UXO	Unexploded ordnance
WISCO	Wuhan Iron and Steel Group Corp.

Introduction

The following collection of case studies provide examples of four diverse mining projects implemented by Chinese mining companies in China, Peru, Laos, and Cambodia. These case studies supplement the Greenovation Hub report, *China's Mining Industry at Home and Overseas: A Study of Trends, Impacts and Regulation*.

The cases included here were selected for a number of reasons. Principally the aim was to show the varied approaches Chinese mining companies are taking when investing in China and around the world. The cases have a broad geographical coverage – one domestic project, two in Southeast Asia, and one in South America. The cases also involve companies with diverse backgrounds, including both state-owned and private companies. Two projects included here are operational and two are in the pre-development stages.

Each case looks at the company background (and the background of the parent company where applicable), its commitments to corporate social responsibility and other relevant social, environmental and governance policies. The case studies then examine specific mining projects in more detail, looking at both potential and actual benefits, impacts, and lessons that may have relevance to other Chinese mining investments. Below is a brief summary of the three case studies.

Zijin Mining Group, China & Peru

Zijin is a publicly listed company and the largest gold producer in China. The first case study looks into the background of Zijin Mining Group and examines some of the challenges that Zijin has encountered in the last four years in terms of environmental, social and disclosure violations. This case study focuses on

two projects: the Zijinshan gold and copper mine in, China, and the Rio Blanco copper mine in Peru.

Zijin provides an example of a Chinese mining firm which is well-established domestically and is now expanding overseas in search of key mineral resources. Although the company is large in size, well-resourced and enjoys considerable influence within China, it has been faulted for a series of serious violations in recent years, most notably pollution incidents at the Zijinshan mine. In addition to the shortcomings that led to these problems, the company has struggled to appropriately deal with subsequent disclosure of data related to these incidents and their impacts. Internationally, Zijin acquired equity in the Rio Blanco mine in Peru from a UK mining company back in 2007, but due to long running opposition to the project from local people the project has stalled.

The company's domestic problems over the last few years illustrate how poor transparency, disclosure and lack of compliance with local regulation can create risks for local people, the environment and shareholders. Meanwhile, the challenges Zijin has encountered in Peru highlight the challenges companies face in entering high-risk projects without appropriate social and environmental standards and management practices for dealing with existing disputes and avoiding future conflicts. At Rio Blanco, Zijin inherited local resistance to project that was already a problem for the previous developer. The case highlights both the need for strong environmental and social policies, but also the importance of conducting strong due diligence when acquiring new overseas projects.

MMG Limited, Laos

MMG Limited is an Australia-based subsidiary of the giant state-owned mining and metals company

China Minmetals Corporation. MMG was established in 2009 after a subsidiary of Minmetals acquired the Australian mining company OZ Minerals. Minmetals acquired the majority of OZ Minerals' assets, including the Sepon gold and copper mine in Laos, which is the subject of this case study. The Sepon mine accounts for a significant percentage of Laos' total GDP and exports, and has raised over US\$1 billion in revenue through taxes and royalties since it commenced production. It has also contributed to a dramatic increase in incomes in and around the project area, which was previously an extremely poor area.

The Sepon mine has developed a reputation for having high environmental and social standards, most of which were inherited when Minmetals acquired the project from OZ Minerals. After the acquisition, MMG kept these policies and systems in place and continued to develop them. The company has also become a member of the International Council on Mining and Metals (ICMM) and supports the Extractive Industries Transparency Initiative (EITI). This acquisition could potentially represent a new trend in overseas mining investment by Chinese companies, whereby pre-existing company standards are adopted by incoming Chinese investors, rather than being replaced or abandoned.

The case study is not intended to provide an example of "best practice", as this would require more thorough investigation, in-depth interviews with those directly affected by the project, and detailed comparisons to international best practice. Rather, Sepon was chosen as the focus for this case study as it illustrates the successful Chinese acquisition of the mining assets of an established international company, and the subsequent adoption and continued implementation of the previous company's policies and management systems. The case provides an example of a subsidiary of a large Chinese state-owned company adopting comprehensive internal environmental and social policies, including policies related to labour, environmental protection and

community relations. MMG has also stated that it will apply these standards to new acquisitions, including the Las Bambas mine in Peru, which was acquired in April 2014.

Cambodia Iron and Steel Mining Industry Group & China Railway Group, Cambodia

In early 2013, Cambodian and international media ran coverage of the signing of a US\$11.2 billion dollar agreement to develop an iron ore mine, steel processing plant, railway and seaport in Cambodia. The agreement was signed between two companies. One is the relatively unknown private company Cambodia Iron and Steel Mining Industry Group (CISMIG) and the other a subsidiary of the state-owned China Railway Group, also known as China Railway Engineering Corporation (CREC). If the project goes ahead as planned, it will be the first large-scale mine to commence development in Cambodia, and the largest single investment in the country's history.

The Rovieng iron ore mine and railway project was chosen for discussion in this collection of case studies as it illustrates Chinese investment in a potentially huge project in what is an otherwise completely undeveloped mining sector. In this context, the development of a major mining project will come with unique and complex challenges. The case is also interesting as the developers come from very different backgrounds: CISMIG is an almost completely unknown private company, whereas China Railway Group is a state-owned enterprise and one of the biggest construction companies in the world.

Although the project has not yet commenced construction or operation, its announcement in January 2013 caused a great deal of concern amongst local civil society organizations and potentially affected communities due to the lack of clear information and communication from both the developers and the Cambodian government. As the



Coal barge being loaded, China, 2007
 (© Rob Loftis)

project has not yet commenced it is not possible to fully assess its potential benefits or risks. Feasibility studies have been conducted for certain elements of the project, but they are not public, and no public consultations have been conducted. It is not clear if any environmental impact assessment has yet been conducted. There still remains a serious lack of information available concerning the project, and it is not clear if it will go ahead in the near future. Due to the absence of official documentation on the project, the information contained in this case study was gathered mainly from media articles and reported comments from company representatives.

CISMIG is unknown outside of Cambodia and has no website or promotional materials. However, China

Railway Group is a major player in China's domestic and international construction industry. A subsidiary of the major state-owned company, China National Machinery Industry Corporation (Sinomach), has also reportedly been contracted to develop part of the project. These two state-owned enterprises have made commitments to uphold CSR standards, but at the time of writing had not disclosed any detailed information regarding their involvement in this project – despite the fact that the agreement was announced more than 18 months ago. This lack of transparency and access to information is a serious concern, especially given the local context in Cambodia, where corruption and weak rule of law continues to play a major factor in the management of land and natural resource investments. ■

ZIJIN MINING GROUP

Zijinshan Gold and Copper Mine, China & Rio Blanco Copper Mine, Peru

By Adina Matisoff¹

Introduction



Zijin Mining Group is a comprehensive mining company primarily engaged

in the exploration, mining, and sales of gold and other metals. Zijin claims to be China's largest gold producer, accounting for roughly 10% of all gold produced in the country in 2011. Zijin also claims the title of China's second largest producer of copper and sixth largest zinc producer.² Additionally, the company and its subsidiaries produce smaller amounts of tungsten, iron ore and other metals. Zijin ranked 1,389th on the Forbes list of top 2000 global companies in 2014.³

This case study looks into the background of Zijin Mining Group and provides an overview of its operations in China and globally. It then goes on to detail some of the challenges that Zijin has encountered in recent years in terms of environmental, social and disclosure violations. Two projects are discussed in more detail: the Zijinshan gold and copper mine in southeast China, which has experienced a number of serious pollution incidents in recent years, and the Rio Blanco mine in Peru, which has been subject to many years of conflict with local communities.

Company Background

Company Ownership

Zijin Mining Group was founded in 1986 as the Shanghang County Mining Company. Zijin has

changed its name over the years as it modified its corporate structure. Former names include the Fujian Shanghang Zijin Mining Company and Fujian Minxi Zijin Mining Industrial (Group) Co. Ltd.⁴

Originally, Zijin was a county-level state-owned enterprise operating in southeast China's Fujian Province. By 1998 the company was restructured into a stockholding company with all shares owned by employees. As part of the restructuring, Zijin established a Board of Directors and Board of Supervisors as stipulated by China's Company Law. In 2003 the company underwent further reforms when it decided to sell shares internationally on the Hong Kong Stock Exchange (HKEx). Five years later Zijin began selling shares domestically on the Shanghai Stock Exchange (SSE). By mid-2013 Zijin had a total of 894,919 shareholders and 21.8 billion shares. In 2013 Zijin's top shareholder was the Fujian-based state-owned Minxi Xinghang State Owned Assets Investment Co. Ltd, with almost 29% of the company's shares. Internationally, a few foreign-owned companies owned more than 5% of Zijin stock in 2012, including Morgan Stanley and UBS.⁵

Company History

Throughout the 1980s and 1990s the company's main activity was the exploration of gold deposits in the mountains of Fujian Province. By the early 1990s exploration in Fujian had proved that the concession had substantial gold deposits and would be developed into a large-scale mine, which the company called "Zijinshan".⁶

*Australia, Mongolia, Democratic Republic of Congo, Kyrgyzstan, Myanmar, Peru, Russia, and Tajikistan.
Countries where Zijin owns stakes in overseas mining projects (as of 2013)*



Around 2000, Zijin began expanding its operations to other parts of China. Notably, the company went westward and northward to more remote areas of China, establishing subsidiaries and buying up mining concessions in Guizhou, Xinjiang, Tibet, Inner Mongolia, and Yunnan, among others. By the end of 2011, Zijin had operations in 20 provinces, 70 subsidiary companies, and ownership of 59 mining concessions.⁷

As Zijin expanded its geographic reach it mined gold and copper, and also zinc, iron and other metals. In addition, the company set up refineries separate from its mining operations, a testing and design facility in Xiamen, and diversified into businesses such as financial services and real estate. However, gold and copper mining and processing have remained the foundation of Zijin's business, with the company's gold business comprising 56% of profits in the first half of 2013, and copper 33%.⁸ Zijinshan, the company's original mine, remains an important and lucrative component of Zijin's business. The China Gold Association identified Zijinshan as China's largest gold mine in 2008.⁹

Overseas Expansion

Zijin began seeking resources abroad in 2005. According to Zijin's website, in 2013 the company owned stakes in projects in eight countries including Australia, the Democratic Republic of Congo, Kyrgyzstan, Mongolia, Myanmar, Peru, Russia and

Tajikistan. Zijin's investments in these countries include gold mines, a copper/molybdenum mine, a nickel mine, and a mixed-metal mine. Zijin gained an interest in all of these projects through the acquisition of other mining companies and does not wholly own any of the assets. However, Zijin is the majority shareholder of several of these companies, and is responsible for the development and operation of a number of these mines. Additionally, Zijin has investments in foreign mining companies including Glencore International PLC, Equitas Resources Corp., and Inter-Citic Resources, which are all publicly listed companies.¹⁰ The company is expanding its overseas investments rapidly, and in late 2012 acquired an 89% share in Australian gold miner Norton Gold Fields, Ltd. Zijin has since utilized Norton Gold for further acquisitions of gold mines in Australia.¹¹ The company stated in 2013 that it would take advantage of the current downturn in the gold market to acquire more Australian assets.¹²

Although China has been the world's top producer of gold since 2005,¹³ domestic reserves are relatively modest. Less than five percent of the world's gold reserves have been discovered in China, and domestic mines typically have a relatively short lifespan, according to the World Gold Council.¹⁴ In 2012 China's gold consumption was over 832 tonnes, but production was only 403 tonnes.¹⁵ Therefore, looking to the future, Zijin is pursuing overseas acquisitions as "the main path for increasing resource reserves." Zijin's Vice Chairman said that the company plans to invest up to US\$5 billion internationally over the next three to five years, according to news reports from Caixin at the end of 2012.¹⁶

Corporate Structure & Management

Zijin's top management consists of seven executive directors, one non-executive director and four independent non-executive directors. The company first established a Board of Directors after it became incorporated in 1999. Key Board and executive



personnel have experience in geology, economics, accounting, business, law and government. Until recently Zijin's executives and senior managers had limited experience outside Fujian Province, however, since 2013 one independent non-executive director has international experience. None of the company's executives or directors have expertise in environmental management and protection.¹⁷ Additionally, in accordance with China's Company Law, Zijin has a Board of Supervisors which monitors the business activities of the Board of Directors and top management. The Board of Supervisors plays a role in overseeing finances, putting forward shareholder proposals, and investigating mismanagement.¹⁸

Company Financing

Zijin has raised money for its mining activities through equity and debt financing, including listing shares on stock markets, issuing bonds and receiving loans from financial institutions. Since 2003, Zijin has raised capital on the Hong Kong and Shanghai stock exchanges. When Zijin made its initial public offering (IPO) on the HKEx in 2003 it raised HK\$1.32 billion (RMB 1.41 billion). Later the company's share issuance on the SSE raised RMB 9.98 billion. By mid-2012 Zijin had issued roughly 6 billion shares on the HKEx and more than 15.8 billion shares on the SSE.¹⁹

According to Zijin's 2012 interim report, as of 30 June 2012, the company had outstanding bonds worth more than RMB 3 billion and loans worth more than RMB 9.4 billion.²⁰ The company issued US\$480

million in bonds backed by the Bank of China (Paris branch) in June and July 2011. The proceeds were to be used for the purchase of copper for processing at a large refinery in China, and for overseas operations.²¹ Additionally, Zijin has access to lines of credit from major financial institutions, with RMB 108 billion available for non-specified purposes. Some of the major banks that have provided credit to Zijin over the years include Bank of China, Industrial and Commercial Bank of China, Industrial Bank, China Agricultural Bank, China Development Bank and China Exim Bank.²²

Compliance with Environmental, Social and Governance Rules

Since 2005, provincial authorities in Guizhou, Fujian and Guangdong have found Zijin responsible for environmental violations that resulted in four major accidents. Additionally, Chinese NGOs have accused Zijin of breaking environmental rules and regulations in Hebei and Xinjiang.²³ These incidents caused casualties, massive pollution of nearby rivers and economic devastation to local fishing industries:

- In December 2006, a tailings dam at the Guizhou Zijin mine in Guizhou Province collapsed and released 200,000 cubic meters of tailings. According to a report by the company, the spill was confined to two local reservoirs, one of which is used for irrigation.²⁴
- In July 2010, two separate chemical spills at the Zijinshan mine in Fujian Province polluted

the Ting River (discussed in more detail below).

- In September 2010, a tailings dam at Zijin's Yinyan tin mine in Xinyi city, Guangdong Province collapsed, killing 22 people. An investigation found that the collapse was caused by "natural disaster as well as illegal and non-compliant works."²⁵

Zijin has been criticized for a lack of transparency in relation to its environmental accidents and violations. As a result, China's stock exchange regulatory authorities have investigated the company at least three times. In 2009, the Fujian branch of the China Securities Regulatory Commission (CSRC) found fault with the company's lack of a social responsibility framework, poor information disclosure, errors in financial accounting and misuse of raised funds.²⁶ In March 2010, the CSRC investigated Zijin for alleged violations of laws and regulations concerning information disclosure,²⁷ and again in July of that year following the Zijinshan chemical spill.²⁸

The accidents listed above have also contributed to Zijin's involvement in a number of environmental and social litigation suits.²⁹ For example, following the September 2010 tailings dam collapse at Zijin's Yinyan tin mine in Guangdong, the China Daily reported that the Xinyi City court recorded 2,499 lawsuits filed against Zijin with a total compensation demand of over RMB 340 million.³⁰ Xinyi Zijin subsequently sold Yinyan mine in order to pay compensation to the claimants. In its 2012 Interim Report, Zijin stated that environmental litigations may be affecting the Group's operating results, but did not go into further detail.³¹

Below are two examples of Zijin's more controversial projects, drawn from the company's domestic and international portfolios. The cases are included here in order to highlight some of the major challenges and fundamental issues concerning the company's management of environmental and social issues.

Zijinshan Gold and Copper Mine, Fujian Province, China

Project Description

Zijinshan is a large-scale gold and copper mine located on the banks of the Ting River in the mountains just north of Shanghang County in Fujian Province, China. Zijinshan is Zijin's first and most lucrative gold mine, as well as the largest gold mine in China. In operation since 2000, Zijinshan uses open-pit and underground mining technologies, and houses several gold and copper processing facilities on-site. In 2011, the Zijinshan mine produced more than 16 tonnes of gold, 1,409 tonnes of copper cathodes and 7,494 tonnes of copper concentrates.³²

Impact on Local Society and Economy

Zijinshan has a long-standing presence in Shanghang County, where the company's operations started as a government mineral exploration project in the early 1980s. The county also hosts the company's headquarters. Zijin pays corporate income taxes to the Chinese government at a rate of 25%,³³ and also contributes to the Fujian economy, employing 2,100 people at Zijinshan alone.³⁴ The company is philanthropic, and in 2011 donated RMB 275 million to charity. According to the company, most of the charitable funds were used for local economic development and social welfare projects.³⁵

Management of Environmental Issues

At Zijinshan, the company uses a process called heap leaching to extract gold, which requires storing chemical-treated ore covered in water in enclosed tailings ponds. If inappropriately managed, heap leaching can have serious impacts on soil and the environment as contaminated water can leak into surrounding areas. The Zijinshan mine has established a Committee of Safety & Environmental Preservation and a Management Department of Environmental Preservation & Safety. These bodies created board-approved standards for

the mine that include wastewater management and solid waste management standards. Zijin states that the company maintains the quality of water in the Ting River in accordance with national standards.³⁶

However, in July 2010, Zijin experienced two serious toxic waste spills at Zijinshan, which government investigations revealed were a result of poor environmental management.³⁷ During the first spill, which occurred on 3 July 2010, acid from the mine's tailings pond contaminated the nearby Ting River and poisoned 2,000 tons of fish, enough to feed 72,000 people for a year. At the time, news media stated that this was the worst environmental disaster at a mine in China in over two years.³⁸ According to a post-accident report by Zijin, heavy rains had unexpectedly caused a leak in the tailings pond. The company expressed regret for the "sudden leakage" and "a certain economic loss" for the local fishing industry. Company representatives vowed to conduct a full clean-up of the Ting River and gave assurances that water safety downstream was unaffected.³⁹

However, a subsequent joint investigation by the Ministry of Environmental Protection, Fujian Provincial Department of Environmental Protection, Longyan Government and Longyan Environmental Protection Department found extensive human error was the underlying cause of the disaster. The report stated that the lining of the tailings pond had been improperly constructed. Furthermore, a year before the spill, environmental protection authorities had reprimanded Zijin for illegally draining wastewater into the Ting River. The authorities had demanded that Zijin immediately rectify this problem, but no corrective measures were taken. Downstream of the mine, a broken system for monitoring the river's water quality failed to alert the local people of massive contamination, which also contributed to the extent of the disaster.⁴⁰

Lack of disclosure regarding environmental performance

For nine days Zijin delayed warning the public and its shareholders about the leak. This prevented

stakeholders from knowing both the potential health risks of using contaminated water and the economic losses that the company was likely to suffer as a result of fines and clean-up costs. Soon after Zijin's official announcement, China's media watchdog, the General Administration of Press and Publication, revealed that company representatives had attempted to bribe journalists to keep the disaster at Zijinshan out of the news.⁴¹ The attempted cover-up prompted the China Securities Regulatory Commission to investigate Zijin for violating rules for listed companies on public disclosure of major incidents.⁴² The CSRC's investigation found that Zijin violated Article 67 of the Securities Law, for which Zijin and six of its top executives were issued warnings and/or ordered to pay fines ranging from RMB 50,000-300,000.⁴³

Additional Penalties & Losses

Zijin was also penalized by provincial authorities for the July 2010 Zijinshan chemical spill. In October 2010 Fujian provincial environmental protection authorities and courts handed down fines against Zijin totalling RMB 30 million (US\$4.5 million). Two months later, the Fujian Provincial government fined Zijin's Chairman RMB 705,997 (US\$106,566) and the Vice President RMB 449,768, according to an article in China's *Caijing* news citing a Shanghai Stock Exchange announcement.⁴⁴ These fines amounted to less than one percent of the company's 2010 net income.

The local Shanghang County government ordered Zijin to reduce output at the mine to a level that could ensure environmental safety, which was predicted to cause a cut in gold output of 1 tonne.⁴⁵ At the time, the *China Daily* quoted an analyst who stated that the reduction could cause losses of RMB 200 million for Zijin (which would amount to about six percent of the company's RMB 3.5 billion net profit the previous year).⁴⁶ Zijin also incurred expenses in conducting clean-up operations and repairs and rebuilding of the damaged mine facilities. Finally, due to the 3 July accident at Zijinshan, Zijin

lost its status as “High Technology Enterprise,” which meant the company’s corporate tax rate was raised from 15% to 25%.⁴⁷

In the company’s 2011 Annual Report, the Chairman stated that the company had “profoundly learnt from the painful lessons” of the pollution incidents of 2010. According to the chairman, environmental and safety systems were improved, and efforts were made to increase environmental and safety awareness and standardize management across the various levels of the management structure and across the various Zijin enterprises. Repairs and rebuilding at the Zijinshan mine were completed during 2011 and reportedly passed examination by the State Administration of Work Safety.⁴⁸

Rio Blanco Mine Project, Piura Region, Peru

Project Description

The Rio Blanco project is a 6,472 hectare (just under 65km²) copper/molybdenum concession in the Piura region of northern Peru, close to the border with Ecuador. The deposit has not yet been exploited but contains an estimated 1.257 billion tons of copper, potentially making it one of the largest undeveloped copper resources in the world. Zijin has predicted that the Rio Blanco concession would cost US\$1.44 billion to develop into a large open pit mine.⁴⁹ A detailed feasibility study estimated that the Rio Blanco mine would produce 191,000 tonnes of copper per year for the first five years of operation.⁵⁰ At January 2013 prices, that output could have a value of over US\$1 billion a year. The feasibility study also estimated that the mine could operate for at least 20 years. In 2007, Zijin planned to raise capital for the mine construction with loans from Chinese banks and equity finance.⁵¹ In July 2010, Zijin told China’s Capital Week publication that an additional investment of an undisclosed amount was needed in order to better exploit the mineral resources.⁵² At present it is unclear if and how the additional investment was generated,

and as explained below, the project has run into difficulties and stalled.

Background of the Rio Blanco Mine Project

The Rio Blanco deposit was discovered in 1994 and since then various mining companies from Australia, the United Kingdom, the United States and Peru have been involved in its development.⁵³ The current project developer is UK-based mining company Monterrico Metals PLC. In 2007, Zijin, in partnership with two other Chinese mining companies, bought a 90% stake in the company. The Zijin consortium later sold 10% of its shares to a Korean company, and now holds an 80% equity interest in Monterrico. This consortium is called Xiamen Zijin Tongguan Investment Development Co. Its members are Xiamen Construction and Development Group Co., Ltd., Tongling Nonferrous Metals Group (Xiamen) Co., Ltd, and Zijin International Mining, which is a wholly-owned subsidiary of Zijin. At 45%, Zijin holds the largest share in the project.⁵⁴



Exploration of the Rio Blanco concession started under the ownership of Monterrico Metals in 2003. Around that time, hostilities between communities and the company began to build, as sectors of the local population accused Monterrico of conducting exploratory work without the consent of local communities, which is required by Peruvian law (to be discussed below). By the time the Zijin consortium acquired its share in the Rio Blanco project in 2007, Monterrico had concluded the exploration phase and commenced an environmental and social impact assessment for the development phase of the project. At the same time, tensions between the company and some local communities had erupted into violent conflict and the mine faced continued opposition from local people who accused the mining company of operating illegally.

When the Zijin consortium became involved in 2007, a spokeswoman for the company stated that production of the mine was expected to begin in 2011 after the company worked through environmental issues and reviewed Rio Blanco's feasibility study.⁵⁵ However, development has been on hold since 2009 due to on-going conflict with members of nearby communities. Zijin inherited a number of problems from earlier phases of the project's development, but has also been criticized for its own conduct since acquiring the majority stake in the company.

In July 2012 the company was ready to resume development of the Rio Blanco project. Leaders of communities near the mine concession told a Peruvian NGO that they received letters from the mining company stating its intention to commence a new environmental impact assessment for the operational phase of the mine.⁵⁶ However, members of the local population continue to oppose the mine, calling into question whether the project will be able to move forward.

Potential Economic Benefits to Peruvian Society

Mining is the most important economic activity in Peru, contributing 8% of the gross domestic

product⁵⁷ and 50% of income tax in 2011.⁵⁸ The government allocates half of the tax revenues from mining projects to projects in the regions and localities in which mining activities are conducted. However, misuse of public funds is a risk, as noted in a 2011 study from Ciudadanos al Dia, a Peruvian NGO, which found that on average only 59% of funds allocated to regional and local governments were spent effectively.⁵⁹ If developed, the Rio Blanco mine would not be expected to contribute revenues to the national, regional and local governments until it begins to generate income from copper sales. Although local people could benefit from employment on the project, others could have to bear the impacts of mining activities without receiving benefits for as long as 15 years before the mine begins to raise a profit.⁶⁰

Huancabamba and Ayabaca, the two districts in which the Rio Blanco project sits, are among the poorest districts in Peru,⁶¹ and, if developed, the Rio Blanco project could boost the regional economy through the creation of jobs and development of infrastructure. For example, the detailed feasibility study for the Rio Blanco project requires the construction of roads, power lines and a seaport on the Pacific coast of Peru.⁶² Although there is the prospect of the mine generating employment opportunities in the area, the mine developer has not made public its policy concerning the hiring of local people. Additionally, some scholars have noted that employment generation can sometimes result in harm as it may result in an influx of "outsiders" from other areas of the country who may come into conflict with local people, or create a class of local elites, who assume superior attitudes in their interactions with the population.⁶³

Environmental Risks

The mine concession is in a forest region in the Huancabamba Mountains, which comprise a fragile biological corridor for endangered species such as tapirs and bears, and which feed major rivers running to the coast and into the Amazon River. Local



communities fear that chemical contamination from the mine will lead to pollution of these waterways and their agricultural lands.

Early project plans designed by Monterrico Metals require toxic tailings from the processed copper to be kept in dry storage, which the company said was environmentally superior to storing the waste in water as it lowers water consumption and exposes a smaller area to contamination. Independent experts from the UK-based NGO, Peru Support Group, who visited the mine in 2006 on invitation from the mine company, found that the local population may over-estimate the area that may be affected, but underestimate the damage that may be caused downstream from the mine.⁶⁴ The Peru Support Group experts warned that the most serious environmental threat posed by the mine is from acid that can drain from piles of waste into surrounding soil and groundwater. According to their report, the area affected by this acid mine drainage is generally limited in scope, but the potential for pollution is made worse by heavy rain. Northern Piura is inundated with more than 180 centimetres of rain annually, which is concentrated during November. As a result, contamination caused by acid mine drainage is “a gift that may keep on giving for hundreds of years in the future,” wrote the Support Group experts.⁶⁵

After the Zijin consortium acquired its stake in the company, it was obliged to follow the Environmental



Evaluation Study developed by Monterrico Metals and approved by the Peruvian Government in 2003. However, in February 2008 the Peruvian government fined the company US\$100,000 for non-compliance. The government cited various violations, including:⁶⁶

- Carrying out 129 drilling operations although the environmental assessment only approved 60;
- Modifying the exploration project without obtaining the necessary environmental studies required by the Ministry of Energy and Mines;
- Exceeding limits for liquid metallurgic effluents in its exploration activities;
- Improper disposal of waste material; and
- Inadequate implementation of mitigation measures, including erosion control and closing off of access roads no longer in use.

Threat to Local Livelihoods

Communities in the area rely mainly on raising cattle and growing crops such as organic coffee, mango, avocado, and bananas for export. Many farmers also grow corn and other food crops to feed their families and sell on the local market. Peru's Ministry of Agriculture is working with farmers in this area to increase the amount of land available for agriculture and to boost production. As a result of these efforts production of organic bananas increased by more than 40% in 2005.⁶⁷ If the Rio Blanco mine

goes forward it could open up additional areas of Piura to mining, and significantly change the entire area from one primarily oriented to farming, to an industrialized mining region.

Disputed Land Rights

Disputes with local communities have existed since before Zijin became involved in the mining concession, particularly concerning the surface land rights. Under Peruvian law, rural communities (comunidades campesinas) hold surface rights to the land on which they live, although the state owns sub-surface land rights. Changes about how community land is used are decided through a two-thirds consensus vote of community assemblies. Mining companies must therefore obtain the two-thirds approval of local community assemblies before entering community land to do exploration or other activities.⁶⁸ Monterrico claim that a group of elected leaders of local communities gave their permission on behalf of the communities before the company began exploration. However, the communities dispute this and say that their leaders were not authorized to do so because the company had not gained the required two-thirds approval of local community assemblies. Additionally, in a 2007 legal referendum among several local districts, over 90% of the participating residents voted "no" when asked if they approved of mining on their communal lands.⁶⁹

In an effort to assert the legality of its operations, Monterrico stated in January 2007 that it had inherited the necessary permits to use the communal land when it bought the assets and rights to Rio Blanco from one of the project's previous owners, Minera Coripacha. According to a public statement, "the permits were granted by the communities with the unanimous approval of their assemblies in October 1997." Monterrico's stance was supported by Peru's Ministry of Energy and Mines, which stated that even though Monterrico had failed to win community approval in 2002, Peru's mining ministry accepted that land rights were passed from one company to

the next as the Rio Blanco project changed hands.⁷⁰

However, Peru's Ombudsperson's Office, an independent government agency that monitors the national government's behaviour with the aim of building legitimacy for state authorities in the eyes of its citizens, disagreed. The Ombudsperson's Office concluded that the 1997 agreement between the original mine company and the communities was solely between those parties involved, not the wider community.⁷¹ Thus, the communities maintain that operations by the mine's subsequent UK and Chinese owners do not follow the legal requirements.

Clearly, the companies that have tried to develop the Rio Blanco concession and the communities surrounding the mine site have differing interpretations of Peruvian law regarding the land rights in this case. Each side of the dispute has received support from different agencies of the Peruvian government, which further complicates the issue. Without a cohesive regulatory framework and resolution to land rights disputes, tensions have at times escalated into violent conflict.

Violent Conflict

Since 2004, the Rio Blanco project has been the site of a number of violent incidents, including the killing of five community leaders and three company personnel, although many of these incidents took place prior to Zijin's involvement in the project. For example, in August 2005, 28 people were allegedly detained and tortured by the mine's security forces after they protested at the project site. One person was killed in the incident.⁷² According to Peru's National Human Rights Coordinator and Peruvian human rights organization FEDEPAZ, members of the company's security force, private security contractors, and the Peruvian National Police were involved in the torture.⁷³ Kidnapping and torture are violations of domestic law, as well as the UN Universal Declaration of Human Rights and the UN Convention Against Torture, both of which Peru has ratified. In

early 2009, victims of the incident brought a lawsuit against Monterrico to the UK High Court, which was eventually settled out of court. In total, Monterrico agreed to pay the plaintiffs the equivalent of RMB 45.76 million in compensation. As the Zijin consortium holds an 80% equity stake in the firm it shared a loss of RMB 34.4 million associated with the lawsuit.⁷⁴

Although Zijin was not involved in the Rio Blanco project when the violent conflicts initially broke out in 2004, problems continue to plague the project and violence has continued since Zijin acquired its stake in the project. In November 2009, unidentified assailants killed three company workers in an attack on the project site. In December, two more people were killed and eight injured in a conflict with local authorities as police tried to arrest a suspect in the November attack.⁷⁵

Recent Developments

The controversy over the Rio Blanco mine project is not unique in Peru. In recent years the South American country's investor-friendly policies have attracted large numbers of foreign mining companies. Yet research has shown that the Peruvian government lacks the resources, regulatory capacity and mandate to mitigate the local impacts of mineral development and also shows that conflicts have proliferated around mining concessions.⁷⁶ Peru's Mining, Oil and Energy Society predicted in September 2011 that foreign investment in the country's mining sector would fall by 33% in 2013 due to on-going anti-mining protests throughout the country.⁷⁷

With development of the Rio Blanco mine on hold, there have been no outbreaks of violence between local communities and Monterrico since 2009. After conflict reached its climax, the Zijin consortium hired an international corporate social responsibility consultancy to assess and develop a strategy for ameliorating conflict with local communities. During its assessment in 2010, the consultancy's conflict resolution experts observed that it would be difficult

for the Zijin consortium to move forward with construction unless it was able to re-open dialogue with communities, build their trust and address core environmental and social issues.⁷⁸

In March 2011, Peruvian civil society groups CooperAccion and FEDEPAZ, in collaboration with Friends of the Earth-US and Belgian solidarity organization CATAPA, petitioned the Hong Kong Stock Exchange to ensure that Zijin Mining Group fully discloses material risks associated with the Rio Blanco Mine.⁷⁹ International media reports about the company's controversy in Peru have appeared in various newspapers and media agencies, including Hong Kong's South China Morning Post.⁸⁰

Implications of Environmental and Social Practices

Zijin has rapidly expanded its operations in China and abroad to become one of China's most important producers of gold, copper and other metals. Zijin's investments have benefitted the economies of China and other countries in which it operates through tax revenues, social development projects and job creation, but at the same time, Zijin has faced numerous challenges and has not always dealt effectively with environmental and social issues. The company has a history of environmental accidents, violations of environmental laws and information disclosure rules, as well as poor relations with local communities. These issues have caused negative environmental and social impacts including distrust among shareholders, communities and government officials, large-scale pollution, loss of livelihoods, and in some extreme cases, violent conflict.

Zijin has taken measures in response to concerns about its poor environmental and corporate governance, and as stated above, Zijin's Chairman has expressed that the company "profoundly learnt from the painful lessons" of its 2010 environmental accidents.⁸¹ In response to the Zijinshan pollution incident and other accidents the company improved



mine infrastructure in relation to safety and environmental protection, paid government fines and began to settle compensation claims related to damages to local livelihoods.⁸²

However, concerns about the company's environmental and social performance persist because of its past failures to comply with government environmental and information disclosure regulations. Notably, Zijin's management ignored a warning from environmental protection authorities in Fujian about illegal waste disposal from its tailings pond at Zijinshan for more than a year before the 3 July chemical spill occurred.⁸³ Zijin reported in December 2009 that it took corrective measures in response to issues raised by the Fujian branch of the China Securities Regulatory Commission regarding poor information disclosure and other corporate governance issues.⁸⁴ However, just six months later Zijin attempted to cover-up the chemical spill at Zijinshan. These experiences suggest that in the absence of a major scandal or incident Zijin has not taken adequate measures to bring its operations into compliance with laws and regulations intended to protect the environment and society.

As a publicly listed company registered with the stock exchanges in Shanghai and Hong Kong, Zijin also has an obligation to report to shareholders regarding the non-financial risks posed by its projects.⁸⁵ Yet, Zijin delayed disclosing to

shareholders the occurrence of the chemical spill at Zijinshan, and has failed to report conflicts with local communities over the Rio Blanco mine project in Peru. These events represent major incidents and on-going challenges to the company's operations. Without proper disclosure, shareholders are unable to evaluate the risks of investing in Zijin.

Risks Associated with Overseas Investments

Since 2005 Zijin has sought to invest in overseas projects, and global expansion is key to the company's growth strategy. However, some of Zijin's investment practices raise concerns that the company undervalues environmental, social and political risks as it goes abroad and lacks adequate internal policies and mechanisms to mitigate these risks.

As Zijin goes abroad it is investing in risky projects in order to secure affordable mineral resources, but there is evidence to suggest that it has done so without always conducting adequate due diligence to assess environmental and social risks. Zijin's president for international affairs recently told China's Caixin publication that "In less-developed countries, we pay low prices to get mines with rich resources, but they also have high risks."⁸⁶ However, in the past the company has not always properly considered the risks of investing overseas. For example, in 2009 Zijin's own Supervisory Committee found that the company may have overstated the value of some of its overseas assets because of "problems [arising] from the social and environmental protection in local society, [and] higher political, economic and cultural risk for overseas investments."⁸⁷ Conflict between Zijin and local communities regarding development of the Rio Blanco project in Peru underscores the consequences of investing in projects with high non-financial risks.

Rectifying problems related to non-financial risks is important to Zijin's overseas expansion, but is a challenge for the company. Zijin's Supervisory

Committee has recommended that the company strengthen internal policies and mechanisms for mitigating non-financial risks: “The senior management of the Company should plan and analyse carefully, adopt risk prevention measures, and build a foundation for future development.”⁸⁸ However, Zijin has been slow to take the necessary steps to resolve conflict near its Rio Blanco project. According to Zijin’s social responsibility consultants, these steps include addressing core environmental and social issues such as disputed land rights. The perception among local communities that the company’s presence in the project area is illegal contributes to continued suspicion and resentment toward the company. In the future, Zijin’s failure to recognize the land claims of local people and address conflict accordingly could result in the company making more risky investments like the Rio Blanco mine.

Conclusion

Zijin’s business is being impacted by its failure to comply with environmental laws and stock exchange rules and by the inadequacy of its internal policies and mechanisms to control non-financial risks. Some of the negative impacts on Zijin’s business highlighted in this case study include fines for environmental violations from government authorities, costs related to accident clean-up, compensation to affected communities, project delays, and reputational damage. Internationally, Zijin has made investments with high environmental and social risks, such as the Rio Blanco Mine, calling into question the company’s due diligence practices.

On the other hand, the high-profile mistakes that Zijin has made have served as a catalyst for broader government reforms and public outcry about corporate mismanagement of environmental issues. In September 2010, China’s Ministry of Environmental Protection released a draft of the Guidelines for Listed Companies on Environmental Information Disclosure. The guidelines instruct listed companies to fulfil more

explicit environmental protection responsibilities and environmental information disclosure obligations.⁸⁹ Additionally, the Chinese media and civil society have used Zijin as an example of the need for increased attention to the impacts of corporate environmental pollution and called for harsher punishments for Zijin and other companies that violate laws and regulations.⁹⁰ With stronger adherence to laws and stock exchange rules regarding environmental and social disclosure, improved due diligence prior to acquisition of new assets, and with greater respect for the concerns and rights of those affected by its projects, Zijin can be better positioned to achieve sound investments. ■

ZIJIN MINING GROUP Zijinshan Gold and Copper Mine, China & Rio Blanco Copper Mine, Peru

- ¹ At the time of writing, Adina Matisoff was an independent researcher enrolled at the School of Forestry and Environmental Studies, Yale University. This case study is based on field and desk-based research conducted between June 2012 and January 2013, as well as previous monitoring of the company’s activities conducted for the international environmental organization Friends of the Earth-US between 2009–2011.
- ² Zijin Mining Group website, *At a Glance*, <http://www.zjky.cn/publish/english/tab1012/> (accessed January 2013).
- ³ Forbes, *The World’s Biggest Public Companies 2014*, <http://www.forbes.com/global2000/> (accessed July 2014).
- ⁴ Zijin Mining Group, *2012 Interim Report* (p.24).
- ⁵ Zijin Mining Group, *2013 Interim Report* (p.26–27).
- ⁶ Zijin Mining Group website, *History*, <http://www.zjky.cn/publish/english/tab980/> (accessed January 2013).
- ⁷ Zijin Mining Group, *2011 Annual Report* (p.3).
- ⁸ Zijin Mining Group, *2013 Interim Report* (p.7).
- ⁹ Zijin Mining Group website, *At a Glance*, <http://www.zjky.cn/publish/english/tab1012/> (accessed January 2013).
- ¹⁰ Zijin Mining Group, *2011 Annual Report* (p.19, 44); Zijin website, 紫金在世界, <http://test.zjky.cn/zjword.asp> (accessed January 2013).
- ¹¹ Christian Edwards, *Opening of Chinese–Aussie Gold Mine Shows Solid Partnership Between Canberra, Beijing*, Xinhua, 22 May 2013. http://news.xinhuanet.com/english/china/2013-05/22/c_132399852.htm (accessed May 2013).
- ¹² David Stringer, *Norton Says May Seize on Gold’s Slump to Make Acquisitions*, Bloomberg, 23 May 2013. <http://www.bloomberg.com/news/2013-05-23/norton-says-may-seize-on-gold-s-slump-to-make-acquisitions.html> (accessed May 2013).
- ¹³ World Gold Council, *The World’s Biggest Gold-Mining Countries*, Goldfacts. http://www.goldfacts.org/en/economic_impact/countries (accessed April 2014).
- ¹⁴ Zhang Boling, *Miners Going Overseas for All that Glitters*, Caixin Online, 27 December 2012. <http://english.caixin.com/2012-12-27/100477531.html> (accessed May 2013).
- ¹⁵ Xinhua, *China’s Gold Consumption Up 9.35 pct in 2012*, 16 February 2013. http://news.xinhuanet.com/english/business/2013-02/16/c_132172399.htm (accessed May 2013).
- ¹⁶ Zhang Boling, *Miners Going Overseas for All that Glitters*, Caixin Online, 27 December 2012.
- ¹⁷ Zijin Mining Group website, *History*, <http://www.zjky.cn/publish/english/tab1014/> (accessed January 2013).
- ¹⁸ Zijin Mining Group, *2009 Annual Report*.
- ¹⁹ Zijin Mining Group, *2012 Interim Report* (p.24).

- ²⁰ Zijin Mining Group, *2012 Interim Report* (p.48).
- ²¹ nfocus News, *Zijin Mining (SHA:601899, HKG:2899) Unit's Bond Issue Rises to US\$480M*, Chinese Stock Information, 29 July 2011. <http://www.chinesestock.org/show.aspx?id=129477&cid=28> (accessed January 2013); and Zijin Mining Group, 2011 Annual Report (p.73).
- ²² Zijin Mining Group, *2013 Interim Report*.
- ²³ Green Sohu, NGO呼吁沪港两交易所完善上市公司信息披露制, 23 July 2010. <http://green.sohu.com/20100723/n273684648.shtml> (accessed May 2013).
- ²⁴ Zijin Mining Group, *A Production Accident at Guizhou Shuiyindong*, Hong Kong Stock Exchange, 15 January 2007. [http://notice.singtao.com/ADMA/02899/epdf/ZIJIN\(7\).pdf](http://notice.singtao.com/ADMA/02899/epdf/ZIJIN(7).pdf) (accessed May 2013).
- ²⁵ Zijin Mining Group, *Announcement*, Hong Kong Stock Exchange, 27 December 2010. www.zjky.cn/Portals/1/1228Announcement.pdf (accessed May 2013).
- ²⁶ Zijin Mining Group, 关于福建证监局行政监管措施决定书 2009【2 号】的整改报告, 29 December 2009. http://pg.jj.com.cn/acc/CN_DISC%5CSTOCK_NT%5C2009%5C12%5C29%5C02899_is_57447729.PDF (accessed May 2013).
- ²⁷ Zijin Mining Group, *2010 Interim Report* (p.26)
- ²⁸ Yu Xiao, Helen Yuan and Huang Zhe, *Stocks Regulator to Probe China's Zijin Mining on Disclosure of Acid Leak*, Bloomberg News, 15 July 2010. <http://www.bloomberg.com/news/2010-07-14/zijin-says-stocks-regulator-to-investigate-its-disclosure-of-mine-leakage.html> (accessed January 2013).
- ²⁹ Zijin Mining Group, *2011 Annual Report* (p.140) and *2012 Interim Report* (p.39).
- ³⁰ Xinhua, *Xinyi Zijin Mining Settles With Dam Collapse Victims*, China Daily, 28 December 2011. http://www.chinadaily.com.cn/bizchina/2011-12/28/content_14342364.htm (accessed January 2013).
- ³¹ Zijin Mining Group, *2012 Interim Report* (p.92).
- ³² Zijin Mining Group, *2011 Annual Report* (p.8-9).
- ³³ Zijin Mining Group, *2012 Interim Report* (p.92).
- ³⁴ Zijin Mining Group website, *Zijinshan Project Profile*, <http://www.zjky.cn/publish/english/tab947/info29281.htm> (accessed January 2013).
- ³⁵ Zijin Mining Group, *2011 Annual Report* (p.21).
- ³⁶ Zijin Mining Group website, *Environmental Protection*, <http://www.zjky.cn/publish/english/tab957/> (accessed January 2013).
- ³⁷ Zijin Mining Group, *Announcement: Progress relating to the environmental incident concerning a sudden leakage of the waste water pond at the Zijinshan Copper Mine hydro-metallurgical plant*, Hong Kong Stock Exchange, 16 July 2010.
- ³⁸ Xiao Yu & Sophie Leung, *Zijin Expansion Stymied By China Gold Industry's Worst Spill in Two Years*, Bloomberg News, 19 July 2010. <http://www.bloomberg.com/news/2010-07-19/zijin-expansion-stymied-by-china-gold-industry-s-worst-spill-in-two-years.html> (accessed March 2013).
- ³⁹ Zijin Mining Group, *Announcement in relation to an environmental incident relating to sudden leakage in the waste water pond in the Zijinshan Copper Mine hydro-metallurgical plant*, Hong Kong Stock Exchange, 12 July 2010.
- ⁴⁰ Zijin Mining Group, *Announcement: Progress relating to the environmental incident concerning a sudden leakage of the waste water pond at the Zijinshan Copper Mine hydro-metallurgical plant*, Hong Kong Stock Exchange, 16 July 2010.
- ⁴¹ Hu Meidong, Zhu Xingxin & Qian Yanfeng, *Fujian Zijin Mining Offers Bribe to Reporters: GAPP*, China Daily, 29 August 2010. http://www.chinadaily.com.cn/bizchina/2010-08/28/content_11218360.htm (accessed November 2013).
- ⁴² Yu Xiao, Helen Yuan & Huang Zhe, *Stocks Regulator to Probe China's Zijin Mining on Disclosure of Acid Leak*, Bloomberg News, 15 July 2010. <http://www.bloomberg.com/news/2010-07-14/zijin-says-stocks-regulator-to-investigate-its-disclosure-of-mine-leakage.html> (accessed January 2013).
- ⁴³ Zijin Mining Group, *2012 Interim Report* (p.45).
- ⁴⁴ Caijing, *Zijin Mining Officials Fined Over 700 mln Yuan*, 28 December 2010. <http://english.caijing.com.cn/2010-12-28/110604441.html> (accessed May 2013).
- ⁴⁵ Xinhua, *Zijin Mining Fell After Told to Limit Production*, 28 July 2010. http://www.chinadaily.com.cn/bizchina/2010-07/28/content_11060678.htm (accessed May 2013).
- ⁴⁶ Zhou Yan, *Zijin to Cut Output; Earnings Impact Mild*, China Daily, 29 July 2010. http://www.chinadaily.com.cn/bizchina/2010-07/29/content_11065476.htm (accessed May 2013).
- ⁴⁷ Zijin Mining Group, *2011 Annual Report* (p.73).
- ⁴⁸ Zijin Mining Group, *2011 Annual Report* (p.19).
- ⁴⁹ Zijin Mining Group website, *Rio Blanco Project Profile*, <http://www.zjky.cn/publish/english/tab941/info29260.htm> (accessed January 2013).
- ⁵⁰ Monterrico Metals website, *Rio Blanco Profile*, <http://www.monterrico.com/s/RioBlanco.asp?ReportID=144255> (accessed January 2013).
- ⁵¹ Chanyaporn Chanjaroen, *Zijin Says Half of Monterrico Investors Accept Offer*, Bloomberg News, 12 April 2007. http://www.bloomberg.com/apps/news?pid=20670001&refer=movers_by_index&sid=a9cPVQabPuQQ (accessed January 2013).
- ⁵² Securities Net, *Zijin Mining: Consider Investment Budget for Additional Copper and Molybdenum Mine in Peru Shirakawa / 紫金矿业: 考虑追加秘鲁白河铜钼矿投资预算*, 6 July 2010. http://www2.capitalweek.com.cn/article_4253.html (accessed May 2011).
- ⁵³ For more information about the ownership of the Rio Blanco concession see: Anthony Bebbington et al., *Mining and Development in Peru, with special reference to the Rio Blanco Project, Piura*, The Peru Support Group, March 2007 (p.14).
- ⁵⁴ Zijin Mining Group website, *Rio Blanco Project Profile* <http://www.zjky.cn/publish/english/tab941/info29260.htm> (accessed January 2013).
- ⁵⁵ Chanyaporn Chanjaroen, *Zijin Says Half of Monterrico Investors Accept Offer*, Bloomberg News, 12 April 2007. http://www.bloomberg.com/apps/news?pid=20670001&refer=movers_by_index&sid=a9cPVQabPuQQ (accessed January 2013).
- ⁵⁶ Javier Jahncke, *La Municipalidad Provincial de Huancabamba reitera que el FDSFNP es el espacio legitimado para discutir sobre el Proyecto minero Rio Blanco*, TodoSobreRioBlanco.com, 23 July 2012. http://www.todosobrerioablanco.com/index.php?option=com_content&view=article&id=1006-la-municipalidad-provincial-de-huancabamba-reitera-que-el-fdsfnp-es-el-espacio-legitimado-para-discutir-sobre-el-proyecto-minero-rio-blanco&catid=10:noticias&Itemid=26 (accessed January 2013).
- ⁵⁷ Andina, *Mining Investments in Peru Triple Totaling US\$13.7bln*, 12 July 2011. <http://www.andina.com.pe/Ingles/Noticia.aspx?Id=xLYSS1io0JM=> (accessed May 2013).
- ⁵⁸ Banco Central de Reserva del Perú, *Memoria, Public Finance*, 2011 (p.106). <http://www.bcrp.gob.pe/docs/Publicaciones/Memoria/2011/memoria-bcrp-2011-3.pdf> (accessed January 2013).
- ⁵⁹ Ciudadanos al Día, *Canon y Sobrecanon, Regalías, Renta de Aduanas y Participaciones*, 141 Boletín CAD, 16 May 2012. <http://www.ciudadanosaldia.org/publicaciones/boletines-cad/item/542-bolet%C3%ADN-cad-n%C2%B0147-canon-y-sobrecanon-regal%C3%ADAs-renta-de-aduanas-y-participaciones.html> (accessed May 2013).
- ⁶⁰ Beatriz Boza, *Canon Minero: ¿Cajica Chica O Palanca Para El Desarrollo?*, 2006 (p.31-32).
- ⁶¹ Bebbington et al., 2007 (p.16).
- ⁶² Monterrico Metals website, *Rio Blanco Profile*, <http://www.monterrico.com/s/RioBlanco.asp?ReportID=144255> (accessed January 2013).
- ⁶³ Bebbington et al., 2007 (p.36).
- ⁶⁴ Bebbington et al., 2007 (p.42).
- ⁶⁵ Bebbington et al., 2007 (p.43).
- ⁶⁶ Osingermin, *Resolucion de gerencia general organism supervisor de la inversion en energia y mineria*, Osingermin No. 444-2008-1-OS/GFM, 2 July 2008. <http://www.osinerg.gob.pe/newweb/uploads/Publico/resolucion%20444-2008.pdf> (accessed May 2013).
- ⁶⁷ Borum, Michael, *Rio Blanco: Massive Copper Project Proposed for Cloud Forest*, Oxfam America, 3 March 2009. <http://www.oxfam.org>

- oxfamamerica.org/articles/rio-blanco-massive-copper-project-proposed-for-cloud-forest/?searchterm=Rio%20Blanco (accessed January 2013).
- ⁶⁸ *The Constitution of Peru, Article 89; Law 24656 on Native and Peasant Communities; and Law 26505 on Private Investment in Economic Development.*
- ⁶⁹ El Grupo de Apoyo de la Red Muqui para el Caso Majaz, *Las 7 verdades sobre el proyecto Rio Blanco*, May 2012 (p.7).
- ⁷⁰ Bebbington et al., 2007 (p.30-31).
- ⁷¹ Bebbington et al., 2007 (p.24-25)
- ⁷² El Grupo de Apoyo de la Red Muqui para el Caso Majaz, *Las 7 verdades sobre el proyecto Rio Blanco*, May 2012 (p.6).
- ⁷³ Oxfam America, *Oxfam Calls for an Investigation of Alleged Torture of 28 in Peru*, <http://www.oxfamamerica.org/articles/articles/oxfam-calls-for-an-investigation-of-alleged-torture-of-28-in-peru> (accessed January 2013).
- ⁷⁴ Zijin Mining Group, *2011 Annual Report* (p. 211).
- ⁷⁵ El Grupo de Apoyo de la Red Muqui para el Caso Majaz, *Las 7 verdades sobre el proyecto Rio Blanco*, May 2012 (p.6); author interviews in Huancabamba, July 2012.
- ⁷⁶ For example, see Anthony J. Bebbington & Jeffrey T. Bury, *Institutional Challenges for Mining and Sustainability in Peru*, Proceedings of the National Academy of Sciences of the United States of America (PNAS) 106 (41): 17296-17301, 2009; David Szablowski, *Transnational Law and Local Struggles: Mining, Communities and the World Bank*, 2007.
- ⁷⁷ Cecilia Jamasmie, *Anti-mining Protests Take a Toll on Peru's Foreign Investment*, mining.com, 6 September 2012. <http://www.mining.com/anti-mining-protests-take-a-toll-in-perus-foreign-investment-46615/> (accessed January 2013).
- ⁷⁸ Author interview with CSR consultants in Beijing and San Francisco, March and May 2011.
- ⁷⁹ Friends of the Earth-US, *Groups Call on Hong Kong Exchange to Ensure Zijin Mining Comes Clean About Overseas Investment Risks*, 3 March 2011. <http://www.foe.org/groups-call-hong-kong-exchange-ensure-zijin-mining-comes-clean-about-overseas-investment-risks> (accessed January 2013).
- ⁸⁰ Eric Ng, *Global Green Groups Attack Mainland Miner*, *South China Morning Post*, 4 March 2011.
- ⁸¹ Zijin Mining Group, *2011 Annual Report* (p.19).
- ⁸² Zijin Mining Group, *2011 Annual Report* (p.19); Zijin Mining Group, 2012 Interim Report (p.45); Xinhua, Xinyi Zijin Mining Settles With Dam Collapse Victims, *China Daily*, 28 December 2011.
- ⁸³ Zijin Mining Group, *Announcement in relation to an environmental incident relating to sudden leakage in the waste water pond in the Zijinshan Copper Mine hydro-metallurgical plant*, Hong Kong Stock Exchange, 16 July 2010.
- ⁸⁴ Zijin Mining Group, *Written Decision of the Fujian Securities Regulatory Bureau Administrative Regulatory Measures (2009) 2nd Rectification Report / 关于福建证监局行政监管措施决定书 2009】2 号的整改报告*, 29 December 2009.
- ⁸⁵ See article 13.09(1) of the HKEx general rules for listed companies. Also, the HKEx notes the importance of reporting environmental and social risks for mining companies in article 18.05(6) of the *Amendments to the Rules Governing the Listing of Securities on the Stock Exchange of Hong Kong Limited*.
- ⁸⁶ Zhang Boling, *Miners Going Overseas for All that Glitters*, *Caixin Online*, 27 December 2012.
- ⁸⁷ Zijin Mining Group, *关于福建证监局行政监管措施决定书【2009】2 号的整改报告*, 29 December 2009.
- ⁸⁸ *Ibid.*
- ⁸⁹ Ministry of Environmental Protection, *环境保护部公开征询《上市公司环境信息披露指南》意见*, 14 September 2010. http://www.mep.gov.cn/gkml/hbb/qt/201009/t20100914_194484.htm (accessed May 2013).
- ⁹⁰ Li Taige, *Their Own Worst Enemies*, *China Dialogue*, 7 September 2010. <http://www.chinadialogue.net/article/show/single/en/3805-Their-own-worst-enemy> (accessed May 2013); and Green Sohu, *NGO呼吁沪港两交易所完善上市公司信息披露制*, 23 July 2010.

MMG LIMITED

Sepon Copper & Gold Mine, Laos

By Greenovation Hub

Introduction

State-owned China Minmetals Corporation is one of China's biggest mining companies. Like many other Chinese mining firms, Minmetals has in recent years increased its investments in overseas mining projects. In 2009 the company acquired the majority of the assets of the Australian company OZ Minerals. This included the Sepon gold and copper mine in Laos, which is the subject of this case study. The Sepon mine has grown to play an increasingly important role in the economy of Laos, and has developed a reputation for having high environmental and social standards. This case study was developed in order to explore this further. It provides a brief introduction to the current state of mining investment in Laos, followed by an overview of Chinese investment in the country. The case study then goes on to discuss the background of the parent company, China Minmetals, after which the focus moves to MMG and the Sepon mine.

This case study is the result of desk-based research conducted from Beijing and field research in Laos. Greenovation Hub met in Vientiane with international and local non-governmental organizations (NGOs), an employee of the mining company MMG LXML Sepon, several former consultants and staff of company, and a number of international consultants working in the Laos development sector.⁹¹ It is important to note that it was not possible for Greenovation Hub to travel to the project site or to gather first-hand testimony from project beneficiaries or people who may have been impacted by the mine.⁹² This case study should not be read as an endorsement of the company or its projects, but rather as an example of a Chinese acquisition of an established international mining company and the

subsequent adoption of its systems and safeguards.

The Mining Sector of Laos

Although Laos is a poor country it is extremely rich in natural resources, including timber, agricultural products, water resources, and minerals such as gold, copper, zinc, tin and lead. Although the country is resource rich, its physical infrastructure is still limited, which means that the capacity to develop its natural resources is still relatively low. The Laos Government is promoting foreign direct investment in order to reduce dependence on aid and promote national development. The country's natural resources are seen as a vehicle for increasing national revenue and eradicating poverty, and the government has identified hydropower, mining, tourism, and the timber and agricultural processing industries as high priority areas for investment and development.⁹³

A 2011 report by the International Council on Mining and Metals (ICMM) found that since 2003, the mining industry accounted for 80% of foreign direct investment in Laos and was responsible for 12% of government revenues and 10% of national income.⁹⁴ Aside from China, there are also mining companies from Australia, Vietnam, and Thailand, among others, investing in Laos' mining sector.⁹⁵ Mineral deposits have been identified in over 570 sites across the country and investment in the sector is likely to continue to grow.⁹⁶ Mining projects in Laos vary in size, and include small-scale artisanal mining, small and medium sized commercial operations, and two major mines: the Sepon mine and the Phu Kham mine (owned by Australian company, PanAust). As of 2011, the Sepon and Phu Kham mines accounted for more than

90% of national mining production in Laos.⁹⁷

Various reports indicate that the operations of small and medium size projects have been poorly regulated, and companies responsible for these projects have often been criticized for their lack of consideration for environmental impacts.⁹⁸ According to ICMM, these companies are difficult for the government to monitor “due to their large number and footloose approach to mining”. Additionally, they often lack expertise in handling toxic chemicals, and pay little or no tax.⁹⁹ This opinion was also reflected in a number of interviews conducted in Laos by Greenovation Hub, and small- and medium-scale mining companies (especially those from China and Vietnam) appear to be developing a reputation for poor environmental standards and lack of communication with affected communities.

Over the last decade China has become a major investor in Laos, and in January 2013 the Chinese Ambassador to Laos stated that China’s year-on-year investments in Laos had exceeded US\$4 billion, putting China among the top three investors.¹⁰⁰ According to a presentation by Laos’ Department of Geology and Mines, as of March 2010 there were 269 mining projects in Laos at various stages of operation. Of these projects, 186 were foreign owned, of which 102 projects were held by 59 Chinese companies.¹⁰¹ Laos has also asked the Chinese Government to provide aid to support surveying the country’s mineral resources. According to an article in the South China Morning Post, this aid would result in the Lao Government giving priority to mainland Chinese firms when approving applications for mine development rights.¹⁰²

China Minmetals Corporation



Company Background

China Minmetals Corporation is one of China’s largest mining companies and the country’s largest metals trader. Minmetals is a state-owned enterprise (SOE) under the oversight of the State Assets Supervision and

Administration Commission (SASAC). Founded in 1950, Minmetals is a well-established company, and according to the company website: “the Group has comprehensively pushed forward strategic transformation from a traditional state-owned enterprise under the planned economy to a modern independently-operated enterprise with strong competitiveness”.¹⁰³

Despite the economic crisis and unstable demand for metals, in 2010 the company’s year on year profits rose 123%, and in 2011 profits rose by 98%, reaching a record level of US\$2.03 billion.¹⁰⁴ The company’s profits dropped to US\$1.3 billion in 2012, which was blamed on falling global commodity prices and the economic slowdown.¹⁰⁵ Despite a dip in profits, Minmetals is still a global player in the mining and minerals sector, and in 2013 was ranked 192nd in the Fortune Global 500 list.¹⁰⁶

As Minmetals is a state-owned enterprise, SASAC plays the role of investor on behalf of the State. Minmetals has established a Board of Directors and Board of Supervisors to manage and oversee the company’s operations.¹⁰⁷

Minmetals’ Activities

According to the company’s website, Minmetals is China’s largest steel trading company, a major exporter of coke, coal and ferroalloys, and the largest importer of iron ore.¹⁰⁸ The company is also involved in the mining and production of various non-ferrous metals including copper, aluminium, tungsten, tin and rare earths, and is China’s largest importer of copper.¹⁰⁹

Minmetals has a global portfolio of projects, and according to its website, the company “benefits from its global marketing network with 44 overseas companies in 15 countries and regions”.¹¹⁰ Among the company’s overseas projects is a steel complex in India,¹¹¹ and joint-ventures to develop copper resources in Chile, bauxite in Jamaica, and copper

Minmetals Ranking Among China's Top Companies Investing Overseas

Year	Largest companies by ODI stock	Largest companies by foreign assets	Largest companies by foreign revenue
2006	20 th	23 rd	13 th
2007	20 th	25 th	12 th
2008	14 th	26 th	10 th
2009	14 th	18 th	11 th
2010	12 th	17 th	12 th
2011	-	-	-
2012	12 th	17 th	17 th

Note: information for 2011 not available at the time of writing.

and gold in Peru.¹¹² In March 2012, Minmetals' subsidiary MMG bought the Canadian company, Anvil Mining, for US\$1.28 billion and in the process took over Anvil's copper mine in the Democratic Republic of Congo.¹¹³ Minmetals has stated publicly that it aims to increase overseas investments in the coming years, and in 2011 the executive director stated: "We aim to multiply ferrous mining assets by tenfold during the next five years, with overseas mining assets accounting for more than 50 percent".¹¹⁴ MMG is an important vehicle for this global expansion, and in April 2014 the subsidiary led a group of Chinese companies in the purchase of Glencore Xstrata's Las Bambas copper mine in Peru for over US\$6 billion.¹¹⁵

In terms of outbound investments, assets and revenues, Minmetals has consistently ranked highly among the top Chinese enterprises investing overseas. The table below shows Minmetals' rankings among the top Chinese enterprises investing overseas in terms of outbound direct investment (ODI) stock, foreign assets and foreign revenue:¹¹⁶

Minmetals' Corporate Social Responsibility Commitments

Minmetals has made public its commitment to fulfil its corporate social responsibilities and has also made efforts to publicize its membership in the United Nations Global Compact. The Global Compact is a voluntary initiative through which companies commit

to align their operations with ten principles covering human rights, labour, the environment, and anti-corruption. Minmetals also participates in Global Compact LEAD, a platform that was set up in 2011 "to challenge highly engaged companies in the UN Global Compact to reach further, to experiment, to innovate, and to share learnings".¹¹⁷ In 2010, Minmetals' president spoke at the Global Compact Leaders' Summit and stated that "Sustainable development is not only a requirement of corporate social responsibility, but also a requirement of corporate survival and development."¹¹⁸

Minmetals' has published annual sustainability reports since 2008.¹¹⁹ These reports follow the Global Reporting Initiative's mining and metals supplement, and detail the company's progress in areas such as mine safety, environmental protection, employee and customer relations and community development. In the 2010 report, the company president states:

"We incorporate the management of stakeholders into our business operation and pursue harmonious win-win results ... We persist in conducting responsible operation around the world and jointly create sustainable global communities ... we commit ourselves to building harmonious community relations and actively get involved in community welfare and cultural heritage in China as well as Australia, Laos, Peru, Chile, etc." ¹²⁰

“Sustainable development is not only a requirement of corporate social responsibility, but also a requirement of corporate survival and development.”
President of China Minmetals Corporation, 2010

According to the company website, during 2006-2010, the company paid taxes of RMB 23.3 billion and donated more than RMB 100 million to charity and public welfare activities in education, disaster relief and poverty alleviation. ¹²¹



Minmetals' development philosophy (from company website, 2014)

MMG Limited



Company Background

In April 2009 it was announced that Minmetals had agreed a US\$1.39 billion takeover deal with Australian mining company OZ Minerals.¹²² The company headquarters are located in Australia,¹²³ and since 2010 MMG assets have been listed on the Hong Kong Stock Exchange.¹²⁴ As of June 2013, China Minmetals owned 74% of MMG shares, with the remaining 26% owned by public shareholders including global resource and investment funds. ¹²⁵

Corporate Structure and Governance

The company is governed by a board of nine directors, which formulates overall strategies and policies for the company. The board delegates day-to-day management of operations to the CEO and Executive Committee.¹²⁶ In addition to the Board, the company has established a number of committees which aim to ensure that MMG business practices maintain a high standard. These committees include an Audit Committee; Safety, Health, Environment and Community Committee; and a Disclosure Committee. ¹²⁷

MMG's Main Activities

MMG's current portfolio includes the Century, Golden Grove, and Rosebery mines in Australia, the Sepon copper mine in Laos, Kinsevere copper mine in

Democratic Republic of Congo (DRC), and the Las Bambas copper mine in Peru. MMG is one of the world's largest producers of zinc, and also produces copper, lead, gold and silver. ¹²⁸

In 2009, the President of China Minmetals was quoted in the China Daily as saying that the global economic downturn saw the share prices of many international companies drop drastically, which opened the door for Chinese companies to make low cost acquisitions abroad.¹²⁹ This is illustrated well in the acquisition of OZ Minerals, which at the time of the takeover was reportedly experiencing serious financial difficulties and deeply in debt.¹³⁰ The President has also stated that MMG will serve as an international investment platform for Minmetals through which further overseas mergers and acquisitions will be conducted. ¹³¹

MMG's Commitments to Social & Environmental Standards

MMG is clearly concerned with presenting a positive corporate image, which includes a strong public commitment to the environment and communities where the company is active. According to the company's 2011 annual report: "The care for people, environment and stakeholders is of the utmost importance and is integrated into the management of our business."¹³² MMG recognizes that promoting a responsible culture and best practice in key areas will help the company to become a leader in the global mining industry. ¹³³

In addition to a number of internal policies and management systems related to health and safety, environment, and community engagement, MMG states that it is committed to "align with international best practice in sustainability". One way in which it seeks to do this is through membership of the International Council on Mining and Metals (ICMM). MMG uses the sustainability criteria of the ICMM's Sustainable Development Framework as a benchmark for the company's performance.¹³⁴ The

Framework includes the integration of 10 principles into corporate policies, covering areas including ethical business practice, human rights, sustainable development, health and safety, and environmental performance. The company aims to align with the principles by 2014.¹³⁵

MMG is also a supporter of the Extractive Industries Transparency Initiative (EITI), and contributes financially to EITI through its membership of ICMM. The company is an active participant in the EITI candidacy of the Democratic Republic of Congo and in the implementation of an EITI pilot in Australia.¹³⁶

The Sepon Copper & Gold Mine, Laos

Project Background

In 2002, the Sepon Mine became the first major commercial private-sector mine to commence operations in Laos.¹³⁷ The project was initially owned by the mining giant Rio Tinto, who conducted exploration in the area in the 1990s. It was subsequently acquired by Australian mining company Oxiana in the early 2000s. In 2008, Oxiana merged with another Australian company, Zinifex, and the new

company was named OZ Minerals. The company fell into financial difficulties soon after the merger, and Minmetals acquired most of OZ Minerals' assets in a 2009 takeover.¹³⁸

Sepon is an open pit mine and is located in the Vilabouly District of Savannakhet Province. The mine is operated by a locally registered subsidiary called Lane Xang Minerals Limited (LXML). MMG owns 90% of LXML and the Lao Government owns the remaining 10%.¹³⁹ Initially the mine produced both gold and copper.

Sepon began producing gold in 2002 and ceased in December 2013. Gold was obtained through open pit mining of oxide gold ore, and according to the MMG website, Sepon produced over 1 million ounces of gold since commencing operations. Gold was transported from the mine to Australia and then refined into gold bullion.¹⁴⁰ In recent years, gold deposits began to dwindle, and lower global gold prices resulted in reduced profitability. In late 2013 the company announced that it would halt gold mining and instead focus on copper mining.¹⁴¹

Copper production commenced in 2005, and in 2011 the mine completed an expansion project which raised annual output from 65,000 tonnes to over 80,000 tonnes of copper cathode per year.¹⁴² The mined ore is crushed and milled using a sulphuric acid solution and any remaining copper is then removed through acid leaching.¹⁴³ The copper produced at Sepon is of high quality, and has been certified Grade A by the London Metals Exchange and is sold to markets in Southeast Asia.¹⁴⁴ Current reserves are expected to be exhausted in 2020, but the company is actively conducting exploration in areas around the current mine site which may extend the life of the mine.¹⁴⁵

In 2013 the Sepon Mine generated US\$746.2 million in revenue (down 7% on 2012), and earnings before interest and taxes stood at US\$396.5 million (down 19% on 2012). Although copper production at Sepon



Location of the Sepon Mine
(Map from Minmetals Resources 2011 Annual Report)

“At MMG Limited, we stand for progress. Not just in our day-to-day achievements, relationships and goals, but in the widest sense. It is our belief that we mine for the progress and advancement of all humanity.”
From MMG website, Company Overview, 2013

hit a record 90,030 tonnes, the mine’s earnings were reduced due to lower global commodity prices.¹⁴⁶

Positive Impacts of the Sepon Mine

Since the Sepon mine became operational in 2002, it has become a major source of revenue for the Laos Government, and has played a significant role in providing employment and facilitating development in the district of Vilabouly.

Revenues and contribution to GDP: The Sepon mine has become an important source of revenue for Laos. This has been raised mainly through profit, income, and fuel taxes, as well as royalties on gold and copper produced at the mine. According to a 2010 economic analysis of the mine conducted by an Australian consulting firm, the mine contributed 5.67% of Laos’ GDP directly and a further 2.56% indirectly. The same study found that approximately 25% of mine revenues were paid to the government in various taxes and royalties.¹⁴⁷ It was reported in April 2013 that the Sepon mine contributed a total profit tax of US\$120.2 million for 2012. Additionally, the Lao Government received US\$28.5 million in dividends from its 10% share of the company.¹⁴⁸ In September 2013, the total direct revenue raised by the mine since operations commenced reached US\$1 billion.¹⁴⁹

Increased exports: According to a 2011 report by ICMM, the mining industry in Laos accounts for 45% of total exports.¹⁵⁰ Analysis by the Centre for International Economics found that in 2010 exports from Sepon accounted for around a third of Laos’ total exports.¹⁵¹

Employment at the mine: In 2011 the mine employed on average over 2,800 people, of which 1,508 were permanent employees and the rest temporary. Over 90% of employees were Lao nationals, approximately half of which were local to Vilabouly District, where the mine is located.¹⁵² In addition to staff employed directly by MMG LXML, a further 2,654

were employed by subcontractors.¹⁵³ Increase in disposable income and need for local services has also generated downstream employment.

Increase in local incomes: According to a 2011 paper by MMG LXML, incomes in the villages closest to the mine increased significantly between 2001 and 2009. In 2001, average annual income among the local Phu Tai ethnic population was US\$80 per person, and the average income for Mahkong and Tri ethnic groups was only US\$33. This rose to US\$480 and US\$300, respectively. In some villages outside the area of direct impact, average incomes rose to over US\$250 by 2009.¹⁵⁴ ICMM’s 2011 study found incomes in the area have risen by up to seven times since the mine began operations.¹⁵⁵ Average statistics such as these can obscure how equally the benefits are shared by local people, but surveys conducted by the company have found that the breakdown of income figures for 2001 to 2009 also show a drop in inequality within and between villages in the Sepon area of direct impact.¹⁵⁶

Infrastructure development: The project has contributed to the development of local infrastructure in the form of improved roads, telecommunications, and electricity supply.¹⁵⁷ These improvements were developed in order to serve the project, but local people may also be benefiting from the improved infrastructure.

Clearance of unexploded ordnance: Laos is the most heavily bombed country in the world per capita, and over 2 million tons of ordnance was dropped on the country during the Vietnam War. Up to 30% of some types of ordnance failed to explode, and over 25% of Laos villages are still affected by unexploded ordnance (UXO).¹⁵⁸ Sepon is severely affected by UXO and local de-miners are employed to clear areas that the company wishes to enter. In 2011, 400 people were employed for UXO clearance and teams clear around 500 hectares per year. In 2011 the company claimed to have destroyed 2,952 items of UXO – bringing the total to 80,000 munitions removed from the Sepon site since exploration began

in the late 1990s.¹⁵⁹ Again, UXO is cleared in order to open areas for mine development, but local people may also benefit.

Community development: The company has several programs for channelling mine revenues into community development in Vilabouly District and the province of Savannakhet. This is discussed in more detail later in the case study.

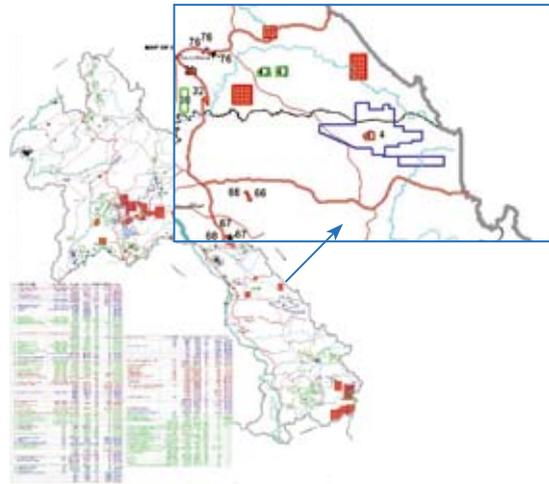
Potential Impacts, Risks and Challenges

Large-scale investments in the exploitation of natural resources come with potential economic, environmental and social risks. This is especially true when such investments are located in developing countries with weak rule of law and governance. A number of people interviewed for this study raised this concern, highlighting Laos' low levels of transparency and historically poor levels of communication between government and communities affected by development projects.

Local government budget cuts: Provinces that receive large-scale foreign investment such as mining or hydropower often see their annual provincial budgets cut by central government. This was confirmed by ICMM's 2011 study, which found that those living in the same province, but not in the vicinity of mining projects can be negatively impacted by such cuts:

“The net effect of this policy on districts far from the mines but within the same province could be doubly negative – they are located too far away from the mine-affected area to benefit from the jobs, additional infrastructure and community development funds of the mining companies but are subject to the same “mining-penalty” that reduces central government transfers.”¹⁶⁰

Market risks: The mineral market can be volatile, and this has been especially true in recent years since



Map of concession areas taken from the website of the Lao Department of Geology and Mines. The Sepon concession is marked with the number “4”.

the onset of the global financial crisis. Initially the Sepon mine was a profitable venture for OZ Minerals, with the company website describing the project as the “company maker” for Oxiana.¹⁶¹ However, when copper prices collapsed in the late 2000s, the company fell into serious financial difficulties. Production slowed down and profits dropped, and the dire economic situation ultimately led to the company's acquisition by Minmetals.

As already discussed, Sepon contributes a huge amount of revenue to the Laos Government and the local area, and products from the mine constitute a large portion of the country's exports. Fluctuations in mineral prices and mine productivity could therefore have potentially serious and far-reaching impacts on Laos' economy. ICMM has raised this concern, stating: “if commodity prices were to fall again (as they did dramatically in 2008), an overdependence on mineral revenues could result in serious macroeconomic instability as these revenues dry-up.”¹⁶²

Impacts on local communities: As of 2013, mining or exploration activities impacted on 27 communities around the mine, which included around 13,000 people. Thirteen of these communities, or 7,000 people, were considered by the company to be “directly affected”.¹⁶³

In 2013, the Sepon mine paid profit taxes totalling US\$120.2 million to the Laos Government. Since operations began, the mine has generated US\$1 billion in revenue for the government of Laos. Vientiane Times, April 2013

Initially only six villages were directly impacted, but after the copper mine's expansion in 2010, additional villages came under the area of impact.¹⁶⁴

Impacts on land: The total area of the Sepon concession covers 1,247 square kilometres, and the total area of current mining and exploration is approximately 360 square kilometres.¹⁶⁵ The mine has led to the acquisition of a large area of land, which caused the resettlement of two villages when the mine was first approved (prior to MMG's involvement). As the project has developed, there was no further resettlement and land needed for the project was purchased by the company. The project has also resulted in some loss of access to non-timber forest products for local people.¹⁶⁶ Land issues and mitigation measures are discussed in more detail later in this case study.

Impacts on ethnic minorities: Laos has a relatively small population of 7 million, but is ethnically diverse, with over 100 ethnic sub-groups within 49 ethnic groups recognized by the Lao Government. The non-Lao ethnic groups are generally economically worse off, and constitute the majority of the population in Laos' poorest districts. According to a publication of the International Work Group for Indigenous Affairs, non-Lao ethnic groups face "various livelihood-related challenges, and their lands and resources are under increasing pressure from government development policies and commercial natural resource exploitation."¹⁶⁷

The population in the area of the Sepon mine is ethnically diverse, and includes the Laos-speaking Phou Tai, and Mon Khmer-speaking Mahkong and Tri ethnic groups.¹⁶⁸ According to one report, in 2009 villagers who were unhappy with a lack of employment options at the mine organized blockades of the mining site to prevent supplies from arriving.¹⁶⁹ It was not possible to verify this report, and a company representative interviewed for this case study was unaware of the incident. However, as the mine is expanding into Mon Khmer areas,¹⁷⁰

measures will need to be taken in order to avoid future conflict with affected people. This is especially pertinent given the fact that future employment opportunities may not be as extensive as in previous stages of the mine's development – see section on future employment below.

Rapid social change in the area of the mine: The mine has led to rapid social change in the area, including considerable migration. This has included migration of Lao speakers into areas that were previously occupied solely by Mon Khmer speaking villages. Between 2001 and 2009, the population in the original mine impact area more than doubled from 1,083 to 2,245, and the population of the Vilabouly District centre has risen fourfold. Migration control measures were put in place, but they were evidently unable to deter the many people who were attracted to the area in search of employment.¹⁷¹

Environmental impacts: As mentioned above, the mine concession covers a large area, which overlaps with several areas of significant environmental importance. The Nam Kok River flows through the concession, and the edge of the concession area overlaps slightly with the Laving Lavern, Xieng Toob and Konexe-Nongma Provincial Protected Areas, although MMG LXML is not currently involved in any mining activities in any of these protected areas.¹⁷² MMG's 2011 sustainability report states that the mine site includes two areas which are "hotspots" for elephants,¹⁷³ and biodiversity studies recorded a number of animal species in the area that are included in the endangered species list of the International Union for the Conservation of Nature (IUCN).¹⁷⁴

At the time when Oxiana was first seeking financing to develop the mine, a number of non-governmental organizations raised concerns that the project would have major environmental impacts. One specific concern raised was that the project's use of cyanide heap leaching could pollute the local area.¹⁷⁵ However, according to a company employee interviewed for this study, this information was

Between 2001 and 2009, the population of the mine impact area increased from 1,083 to 2,245. The population of the Vilabouly District centre increased fourfold. MMG LXML publication, 2011

incorrect and heap leaching has never been used on the Sepon project. The gold plant does use cyanide, but also uses a detoxification circuit to treat the cyanide after the leaching process is complete. The company is certified as meeting the requirements of the International Cyanide Management Code, which requires that company operations using cyanide are audited by an independent third party to confirm compliance with the code.¹⁷⁶

Limited future employment: During the development of the project, preference in job recruitment has gone to those who lose land to the project, followed by residents of villages directly affected by the project, and finally to the residents of Vilabouly District.¹⁷⁷ The main body of the workforce was hired when the project became operational, however, future expansion of the project is not likely to lead to a significant increase in the workforce. Generally speaking, modern mining is capital but not labour intensive, and although the Sepon and Phu Kam mines contribute a significant percentage of the country's GDP and mining products account for a large volume of national exports, as of 2011, the two projects only employed 1% of Laos' national workforce.¹⁷⁸

A 2011 report by the company reflects on this, stating that the mine's future neighbours will "be difficult to please because the biggest relative gains their community can reasonably expect to obtain from the mine's presence have already been achieved."¹⁷⁹ In its 2011 report, ICMM states: "As the mines' footprint grows, land will be lost to operational requirements but it is unlikely many new jobs will be created to offset the loss of land. While compensation procedures are well established, it is jobs that the people value most highly in these poor areas."¹⁸⁰

Long-term prospects for mining and its contribution to the Lao economy: Prior to the arrival of the mine, the area was desperately poor, and the increased income and economic opportunities in the area of the mine therefore appear to have been welcomed by many local people. However, incomes remain heavily dependent on the mine. This raises challenges for

post-mine sustainability and on-going development in Vilabouly, and highlights the need to develop local skills in areas that will be profitable after the mine closes.¹⁸¹

Overview of Environmental & Social Policies in Place at Sepon

After the acquisition of OZ Mining by Minmetals, the original management team and personnel were kept in place.¹⁸² In addition, policies and systems that were established for management of health and safety, social and environmental impacts were also kept in place, and continue to develop. MMG has company-wide Sustainability Standards which apply to all operations, including Sepon, and cover the various phases of the mine lifecycle.

Policies related to community and environmental issues are implemented through the company's Social Sustainability Department and Environment Department, and the company states that it aims to be a leader in environmental management in Laos.¹⁸³ In addition, MMG has a Code of Conduct that deals with issues such as conflicts of interest, legal compliance, and management of gifts, entertainment and gratuities.¹⁸⁴ MMG applies these standards to new acquisitions, and according to a presentation on the company website, the company's newly acquired Las Bambas mine in Peru will adopt MMG standards, processes and systems.¹⁸⁵ MMG has published annual sustainability reports since 2010, which are prepared according to guidelines set by the Global Reporting Initiative.

Management of Environmental Issues at Sepon

MMG has internal environmental performance standards that set minimum standards for operations and focus on the key issues of: environmental management and compliance; land and biodiversity management; energy, greenhouse gas emissions and climate change; water management; and mine closure planning.¹⁸⁶ The company's environmental management systems received ISO 14001 certification in 2008.¹⁸⁷

“We also aim to be compliant with industry best practice, in order that we can continue to be leaders in environmental management in Lao PDR and elsewhere.”
MMG LXML Sepon, Annual Review 2011

Environmental and social impact assessments: Oxiana conducted the first environmental and impact assessment (EIA) for Sepon in 2001. This was followed by several additional assessments as different aspects of the project expanded. MMG LXML relies on the previous company’s EIAs, but also conducted additional assessments on the copper expansion in 2009 and possible future expansion of gold oxide mining. In total six EIAs were conducted between 2001 and 2009, and one Initial Environmental Examination in 2011.¹⁸⁸

Oxiana originally sought financing for the mine from the International Finance Corporation (IFC). According to an article by former Oxiana employees, the IFC played a significant role in setting the terms of reference for the gold mine’s EIA and Oxiana also adopted IFC standards when conducting the EIA for the copper mine (although the company ultimately decided not to pursue IFC financing).¹⁸⁹

Water use and management: The project draws water from the Nam Kok River for use in the processing of minerals extracted at the site. The project has an on-site water treatment facility and dedicated staff to monitor discharge. If water is found to be above the company limits for pollutants it is not discharged and is instead treated further. Water use is intensive, but a great deal of the water used during the mining process is recycled and used multiple times before being discharged.¹⁹⁰ According to a 2011 company overview, of 34,200 water samples tested 99% complied with company safety standards.¹⁹¹ While this score is high, it also indicates that over 300 samples failed to pass quality tests.

Waste disposal: Solid waste is tested and sorted into potentially acid-forming and non-acid forming. Acid-forming rock can cause acid drainage into the surrounding area if left exposed to oxygen and is therefore disposed of in on-site rock dumps where waste rock is placed in pits and covered in water.¹⁹² After copper has been extracted during the leaching process, the slurry that is left over is mixed with

limestone to neutralize acid and pumped into tailing pits.¹⁹³ While there is a comprehensive process in place for dealing with waste, some of these by-products may remain toxic long into the future. After the mine closes and the company leaves, the local government will have to arrange continued supervision and maintenance of tailing pits.

Environmental incidents: As mentioned earlier, there have been no reported major environmental incidents at the Sepon mine, and no major spills or fish kills have been reported by the company.¹⁹⁴ In interviews with NGOs active in Laos, no interviewees were aware of any such incidents occurring.

Rehabilitation: The environmental impact assessment for the Sepon mine includes a plan for the rehabilitation of the area after mining operations have ceased. As of November 2012, 97 hectares of land had been rehabilitated since 2003, leaving a further 1,570 hectares that still require rehabilitation.¹⁹⁵ There has not been a significant amount of rehabilitation to date as mining and exploration is still on-going in a number of areas and expansion to new areas is possible in the future.¹⁹⁶

Labour & Worker Safety

MMG has standards for labour which include a commitment to hire people under terms and conditions that comply with legal standards, provide safe and healthy working conditions, and ensure a fair workplace free of discrimination.¹⁹⁷ The company also works to build the professional capacities of its staff.

Local employment & training: As discussed above, MMG LXML seeks to hire local workers when possible, and the company is working to increase the localisation of its work force. Employees are given access to training and skills development programs including technical training courses, professional development, English language, and computer skills.¹⁹⁸ The company also invests in overseas training and 37 employees from Sepon graduated with vocational qualifications from the University of Melbourne in 2011.¹⁹⁹

Worker health & safety: MMG has a company-wide vision of a “Zero Harm and Fatality Free” workplace, and has stated that improving health and safety performance is a priority.²⁰⁰ The Sepon mine conducts safety training and campaigns but acknowledges that this is a challenge as: “a modern industrial safety culture is relatively new to Laos ... In particular, enforcing safety standards with subcontractor companies is an on-going challenge.”²⁰¹ The company states that its injury frequency rates compare favourably to mine sites in Australia,²⁰² but unfortunately, in February 2012 a contractor died at the Sepon Mine in a vehicle accident.²⁰³ All full time employees are entitled to an annual health check,²⁰⁴ and the company actively monitors employee health and tests the levels of lead and other metals in workers’ blood. ²⁰⁵

Community Development

MMG seeks to maintain good relations with the communities in areas where it has operations, and the company’s stated approach is to consult with, listen to and respond openly to community stakeholders.²⁰⁶ The company also makes contributions and investments in areas where it operates, and according to its sustainability report, MMG “strive to achieve community development through effective social investment, tailored to the needs of the communities around each of our sites.”²⁰⁷ In 2011 MMG invested US\$11.3 million in local communities, which was approximately 2% of net profits that year,²⁰⁸ this rose to US\$18.5 million in 2012.²⁰⁹

Sepon Development Trust Fund: After operations commenced, MMG LXML established the Sepon Development Trust Fund, which provides US\$750,000 a year to fund infrastructure development and capacity building in Vilabouly District. As of 2011 the fund had disbursed over US\$4 million.²¹⁰ A committee comprising representatives of the district, provincial government and the company has been established in order to determine how funds are spent. Funds can be spent on projects anywhere



in the Vilabouly District,²¹¹ and projects completed so far have included provision of electricity supplies, improvement of school buildings and supply of hospital equipment.²¹²

Although community development funds at Sepon and the Phu Bia mine have contributed to significant infrastructure developments in their local districts, according to the ICM, the projects selected may not always be the highest priority for local people:

“In the provision of community development funds (large sums of money to resource-poor districts), the two mines often find themselves caught between the demands and needs as perceived by the local communities (requesting educational facilities for example) and those expressed by the centrally conceived district development plans (that may prioritize, for example, infrastructure).” ²¹³

Village Development Funds: The company also established a Village Development Fund initiative,

which as of the end of 2012 involved 29 villages in Vilabouly District. Through this scheme local community members are able to “choose and implement their own development projects”. The fund provides small grants of up to US\$15,000 to support community selected projects. The fund has supported projects such as construction of new toilets, fish ponds, village meeting houses and a motor vehicle free road for children to take to school. According to the company website, the mine’s community development team provides support in how to implement projects but each village is ultimately responsible for its own project.²¹⁴ As of 2013 the budget for the funds was US\$250,000.²¹⁵

Local business groups: The Sepon mine sources many supplies and services from local business groups, which provide food, uniforms, housekeeping and laundry services.²¹⁶ In 2011, the mine generated US\$2.2 million of income for Vilabouly-based business groups.²¹⁷ According to a November 2012 company newsletter, 200 local community members work in these business groups, and their total income was US\$12 million.²¹⁸

Community health: MMG LXML supports health projects in the communities around the mining area. Working with an Australian public health research institute and the local department of health, the company has supported a mother and child health project,²¹⁹ as well as HIV awareness programs for mine employees and young people living in Vilabouly.²²⁰ The company has partnered with UNICEF since 2011 to raise funds and awareness about the benefits of micronutrients such as zinc. Through a three year project, UNICEF and the Lao Ministry of Health plan to distribute micronutrient sachets to children in Saravan, Phongsaly and Savannakhet provinces, including communities around the Sepon mine.²²¹

Community water supplies: Historically, access to reliable water supplies has been poor in the areas around the Sepon mine. Through its Community

Based Water Supply Project, the Sepon Mine has supported drilling wells in surrounding villages, at a cost of over US\$1.1 million. Sepon has also provided financial support of US\$210,000 to a UN-Habitat program which is developing piped water to the Vilabouly district capital.²²² According to MMG’s 2011 sustainability report the company’s clean water project has provided a sustainable water supply to 3,400 community members.²²³

Village banking: MMG LXML has contracted the German technical agency German Technical Cooperation (GIZ) to establish village banking in 70 communities in the district. After saving a minimum amount, group members can borrow at low interest rates.²²⁴ As of 2011 the project had established 28 village banks with 1,500 members.²²⁵

Livelihood training: The Sepon Mine supports a small training centre, which provides training to members of the mine’s host communities. The centre provides training in activities such as weaving, tailoring and silkworm raising, as well agricultural training.²²⁶

Cultural preservation: The area where the mine is located has a rich history, and mining operations have uncovered archaeological artefacts such as a 2,000 year old bronze drum which is now on display in the national museum. According to a 2011 paper commissioned by MMG LXML, an area called the “Dragon Field” which is rich in archaeological artefacts has been fenced off and the company has agreed not to mine there.²²⁷ There are 12 heritage sites within the mine area, and the company has a Cultural Heritage Management Plan in place to deal with cultural artefacts found during exploration and mining activities.²²⁸ MMG LXML has also established a Cultural Heritage Unit, and is funding the construction of a Cultural Heritage Centre in Vilabouly District.²²⁹

Dealing With Land Issues

Although the Sepon mine is located in a remote area, the project has impacted on the land of a



Sepon District, Savannakhet Province
(© Michael Dwyer)

significant number of people. Managing land issues has therefore been a considerable challenge for the company, which has developed mechanisms for the acquisition of agricultural land held by local villagers and communal land which is administered by the local authorities.

Resettlement: Initially two settlements were relocated to make way for the mine. According to one company report, these were “offshoots of other villages” and “a total of a score of households were involved”. The same report says that resettlement was conducted according to World Bank guidelines, and since 2002 no further settlements have been relocated.²³⁰ However, within Vilabouly District the Laos Government has been implementing the national policy of “village consolidation”. This policy aims to encourage remote villages to move to areas where services can be provided more easily and efficiently to a larger number of people. This policy has proved controversial and has come under considerable criticism.²³¹ According to the MMG report referenced above: “Since 2002, LXML has not had to relocate any settlement to make way for operations. However, the Vilabouly District, as a component of national policy has certainly encouraged a number of villages to move.” The report also notes that this will “remain an issue over which the company will have to act prudently for the life of the mine”.²³²

Compensation: If mining activities impact on privately held land, the company attempts to purchase the land directly from local people. Landholders are paid compensation for their land and communal land is compensated through in-kind community development support projects.²³³ According to a former company consultant, in the early days, payment of compensation was not paid in a transparent manner and purchase prices were often not consistent, which in some cases led to friction with local people. In response to this, a more systematic process was adopted with fixed compensation rates for various types of land.²³⁴

Compensation rates are set by the government and payments are made in the form of a lump sum for the land according to its size and type, plus a payment for 10 years of lost income that could have been generated if the land was in productive use. Calculations are made according to various criteria, including the type and value of crops, number of trees and age of trees. Land may be acquired temporarily for drilling, or permanently if a decision is made to mine in that area.²³⁵ As the authors were not able to interview affected people, it was not possible to assess how they viewed this mechanism. Therefore no assessment could be made of whether or not affected people were happy with the process and compensation rates. It was also not possible to assess whether or not people felt that they had the ability to decline land purchase offers, or if they felt they had no choice but to sell their land.

Hearing Local Grievances

The Sepon mine has been actively piloting a grievance mechanism designed by the ICMM. Sepon is one of nine mining companies that were originally selected to test the guidelines, and the process will result in revised guidelines that all ICMM members will follow. According to the company, the grievance procedures are a “transparent mechanism for community members to seek information or raise concerns, as well as register complaints or grievances if they feel that any aspect of mining operations has affected them negatively”. Local people can access the mechanism by contacting a Community Relations Officer at the mine or by writing a letter to district authorities.²³⁶

Most complaints are due to land disturbance, for example, when agricultural crops are damaged by flying rocks during the drilling process. In some cases livestock have been killed after straying into roads and work areas. According to an MMG LXML employee interviewed for this paper, the pilot has been reviewed and results were positive, although more needs to be done to raise community

Type of grievance	Number of incidents
Damage to private property	28
Compensation dispute	7
Safety concern	6
Unresolved dispute from previous year	4
Environmental concern	2
Employment/job opportunity complaint	2
Cultural awareness issue	1
Damage to community property	1
Other	1
Total	52

awareness of the mechanism. The company has now produced community posters to raise awareness of the process and how to file complaints.²³⁷ Grievances are resolved through a process of negotiation and mediation. When deemed necessary, compensation or repairs are provided according to a local government approved compensation schedule. In 2012 the number of registered grievances was 52, and the majority concerned damage to private property. The average time taken to resolve a grievance in 2012 was 22 days: ²³⁸

Conclusions

In recent years China Minmetals Corporation has made clear that it aims to significantly increase its overseas mining investments, and in order to do this the company seeks to acquire the assets of already established mining companies. The acquisition of OZ Minerals in 2009 led to the establishment of the Minmetals subsidiary, MMG, which now runs the Sepon mine in Laos. The Sepon project is the largest and most productive mine in Laos, and as such raises significant revenue for the government, employs thousands of local people, and contributes a large percentage of Laos' total exports. There was some criticism of the project from international

NGOs prior to its approval in 2003 (when it was still owned by the Australian company Oxiana). However, since the mine began operations there have been no major environmental or social incidents reported in the media, and the project is often highlighted as a positive example of natural resource development in the context of Laos. During interviews with staff from national and international NGOs working in Laos, reflections on the company's conduct were on balance positive.

This is not to say that the project is perfect, and as stated at the outset, this case study is not an endorsement of the Sepon mine. Although this study has outlined the company's policies and activities in the areas of social and environmental impact mitigation, the majority of the sources referred to here are company documents and publications, and there is very little in the way of independent verification. Likewise, there is only limited information available on the impacts and actual benefits of the company's community development projects, so it is not possible to regard the project as a "best practice" case based on this information alone. Rather, Sepon was chosen as the focus for this case study as it provides an example of the successful acquisition of mining assets of an established

international mining company, and the subsequent adoption and continued implementation of the previous company's comprehensive policies and management systems. The Sepon case is especially important in this respect, as China Minmetals is a major state-owned enterprise with extensive global interests which it is eager to expand. Lessons learned at Sepon could potentially influence future investments elsewhere.

A number of interviewees suggested that the approach of this company could not simply be “copy and paste” to other Chinese overseas investments in Laos and elsewhere. As explained above, in this case Minmetals acquired a project that already had in place systems and policies established by the previous Australian developer. However, Chinese companies are increasingly investing in overseas joint-ventures with non-Chinese companies and acquiring equity in foreign companies with more experience working with international guidelines and best practices. It will be interesting to see in the coming years if these experiences start to translate to improved practice of Chinese parent companies, and it will also be useful to monitor whether these standards also filter back into China's domestic mining sector.

With regards to Chinese investment in Laos in general, it is clear that there are concerns about the business practices of some Chinese firms operating in the country. This was reflected in interviews with NGOs and development professionals working in Laos, as well as searches of online media reports related to foreign investment in the country. Although MMG LXML appears to have a good reputation, a number of projects in the resource sector involving other small- and medium-sized Chinese companies have attracted very negative attention. This is not just a problem with Chinese companies and it is also true of similar sized companies from Thailand and Vietnam. This reflects both the poor practices of the companies involved, but also the weaknesses in local regulation and oversight.

In the early days of the Sepon project, concerns were raised by international NGOs that the project would cause serious environmental and social impacts, and a number of organizations lobbied financiers such as the International Finance Corporation and European Investment Bank, calling on them not to finance the project. Perhaps in response to this, first Oxiana, then OZ Minerals, and later MMG, have all gone to great lengths to present the company as both socially and environmentally responsible. While environmental and social governance standards were adopted before Minmetals acquired the project, MMG has made considerable effort to publicize its commitment to following and building on these standards.

MMG has ambitious goals to expand rapidly and become one of the top mid-tier mining companies in the world. To make this a reality, a strong corporate image and reputation is important. A number of studies have identified Sepon as being a good example for other projects in Laos, but it remains to be seen whether or not the experiences of MMG inform the implementation of other projects owned by Minmetals and its subsidiaries, both overseas and in China. ■

MMG LIMITED
Sepon Copper & Gold Mine, Laos

- ⁹¹ Desk-based research was conducted in 2012–2013 and field research in January 2013.
- ⁹² Greenovation Hub made a request to the company to visit the mining site, but non-essential travel to the site was not permitted at the time due to annual maintenance work.
- ⁹³ Lao People's Democratic Republic, *National Growth and Poverty Eradication Strategy (NGPES)*, 2004 (preface, p.5).
- ⁹⁴ International Council on Mining and Minerals, *Utilizing Mining and Mineral Resources to Foster the Sustainable Development of the Lao PDR*, April 2011 (p.10)
- ⁹⁵ Eravanh Boungnaphalom (Department of Mines, Laos Ministry of Energy and Mines), *Mineral Development in Lao PDR*, presentation at International Conference on Mining "Staking a Claim for Cambodia" , Phnom Penh, 26–27 May 2010.
- ⁹⁶ International Council on Mining and Minerals, 2011 (p.3).
- ⁹⁷ International Council on Mining and Minerals, 2011 (p.17, 18)
- ⁹⁸ Phouphet Kyophilvong, "Mining Sector in Laos" , in Uchikawa Shuji (Ed.), *Major Industries and Business Chances in CLMV Countries*, Japan External Trade Organization Institute of Developing Economies, 2009.
- ⁹⁹ International Council on Mining and Minerals, 2011 (p.18).
- ¹⁰⁰ Vientiane Times, *Chinese Investment Rises in Laos*, 23 January 2013.
- ¹⁰¹ Eravanh Boungnaphalom, 2010.
- ¹⁰² South China Morning Post, *Laos Looks to Beijing for Minerals Help*, 13 May 2013.
- ¹⁰³ China Minmetals website, *About Minmetals*, <http://www.minmetals.com/english/introduction.jsp> (accessed April 2014).
- ¹⁰⁴ Du Juan, *Minmetals Breaks Through Profit Barrier in 2011*, China Daily, 13 January 2012. http://usa.chinadaily.com.cn/business/2012-01/13/content_14437140.htm (accessed April 2014); Xinhua, *China Minmetals 2011 Profits Surge 98%*, 13 January 2012. http://www.chinadaily.com.cn/bizchina/2012-01/13/content_14438149.htm (accessed April 2014).
- ¹⁰⁵ Du Juan, *Minmetals Profits Drop in 2012*, China Daily, 17 January 2013. http://www.chinadaily.com.cn/business/2013-01/17/content_16133122.htm (accessed April 2014).
- ¹⁰⁶ CNN Money, *Fortune Global 500 2013*, http://money.cnn.com/magazines/fortune/global500/2013/full_list/?iid=G500_sp_full (accessed April 2014).
- ¹⁰⁷ China Minmetals Corporation, *2012 Sustainability Report* (p.5).
- ¹⁰⁸ China Minmetals website, *Ferrous Metals*, <http://www.minmetals.com/english/business.jsp> (accessed April 2014).
- ¹⁰⁹ China Minmetals website, *Non-Ferrous Metals*, http://www.minmetals.com/english/business.jsp?article_milliseconds=1209006822984&column_no=10 (accessed April 2014).
- ¹¹⁰ China Minmetals website, *Business: Overseas Operations*, http://www.minmetals.com/english/business.jsp?article_milliseconds=1209006600219&column_no=10 (accessed April 2014).
- ¹¹¹ China Minmetals website, *Ferrous Metals*.
- ¹¹² China Minmetals website, *Non-Ferrous Metals*.
- ¹¹³ China Daily, *Minmetals to Buy Copper Miner Anvil for \$1.3b*, 30 September 2012. http://www.chinadaily.com.cn/business/2011-09/30/content_13829081.htm (accessed April 2014).
- ¹¹⁴ Zhang Qi, *Minmetals to Buy More Assets*, China Daily, 2 March 2011. http://www.chinadaily.com.cn/cndy/2011-03/02/content_12098889.htm (accessed April 2014).
- ¹¹⁵ MMG Limited, *Acquisition of Las Bambas Presentation*, April 2014. <http://www.mmg.com/en/Investors-and-Media/Acquisition-of-Las-Bambas.aspx> (accessed April 2014).
- ¹¹⁶ Information taken from *China's Outward Foreign Direct Investment Statistics Bulletin* published by China's Ministry of Commerce, State Administration of Foreign Exchange & National Bureau of Statistics between 2006 and 2012.
- ¹¹⁷ United Nations Global Compact website, *Global Compact LEAD: LEAD Participants*, http://www.unglobalcompact.org/HowToParticipate/Lead/lead_participants.html (accessed April 2014).
- ¹¹⁸ Xia Huan, *Minmetals Setting Sustainable Example*, China Daily, 2 August 2010. http://www.chinadaily.com.cn/cndy/2010-08/02/content_11078521.htm (accessed April 2014).
- ¹¹⁹ China Minmetals website, *Social Contribution*, <http://www.minmetals.com/english/social.jsp> (accessed April 2014).
- ¹²⁰ China Minmetals Corporation, *2010 Sustainability Report* (p.3).
- ¹²¹ China Minmetals website, *About Minmetals*, <http://www.minmetals.com/english/introduction.jsp> (accessed April 2014).
- ¹²² Jiang Wei, *Nimble-Footed Minmetals Snaps Up Aussie Miner*, China Daily, 12 June 2009. http://www.chinadaily.com.cn/bizchina/2009-06/12/content_8964839.htm (accessed April 2014).
- ¹²³ MMG website, *Company Overview*, <http://www.mmg.com/en/About-Us/Company-Overview.aspx> (accessed April 2014).
- ¹²⁴ MMG website, *Company History*, <http://www.mmg.com/en/About-Us/Company-Overview/Company-History.aspx> (accessed April 2013).
- ¹²⁵ MMG website, *Major Shareholder*, <http://www.mmg.com/en/About-Us/Company-Overview/Major-shareholder.aspx> (accessed April 2014).
- ¹²⁶ MMG website, *Role of Board and Executive Committee*, <http://www.mmg.com/en/About-Us/Structure-and-management/Role-of-Board-and-Executive-Committee.aspx> (accessed April 2014).
- ¹²⁷ MMG website, *Corporate Governance*, <http://www.mmg.com/en/About-Us/Structure-and-management/Corporate-governance.aspx> (accessed April 2014).
- ¹²⁸ MMG website, *Company Overview*.
- ¹²⁹ Jiang Wei, *OZ Gets Revised Minmetals Bid*, China Daily, 2 April 2009. http://www.chinadaily.com.cn/cndy/2009-04/02/content_7641107.htm (accessed April 2014).
- ¹³⁰ Bryan Frith, *Debt Forces OZ Minerals to Sell Assets Cheap to China*, The Australian, 13 May 2009. <http://www.theaustralian.com.au/news/ozmin-sell-assets-to-china/story-ef6fng6-1225711570835> (accessed April 2014).
- ¹³¹ Zhang Qi and Zhou Yan, *Minmetals Begins Restructuring*, China Daily, 17 December 2010. http://europe.chinadaily.com.cn/business/2010-12/17/content_11725930.htm (accessed April 2014); Zhang Qi, *Minmetals Plans More Overseas M&As*, China Daily, 17 June 2010. http://www.chinadaily.com.cn/cndy/2010-06/17/content_9981514.htm (accessed April 2014).
- ¹³² Minmetals Resources Limited, *Annual Report 2011: Focus, Progress, Potential* (p.1–35).
- ¹³³ MMG website, *Sustainability and Community*, <http://www.mmg.com/en/Sustainability-and-Community.aspx> (accessed April 2014).
- ¹³⁴ MMG website, *Company Overview*.
- ¹³⁵ MMG Limited, *2012 Sustainability Report* (p.11).
- ¹³⁶ Extractive Industries Transparency Initiative website, *Stakeholders: MMG*, <http://eiti.org/supporters/companies/mmg> (accessed April 2014).
- ¹³⁷ MMG website, *Sepon: Mining Fosters Sustainable Development in Laos*, <http://www.mmg.com/en/Our-Operations/Mining-operations/Sepon/Living-in-the-community/Mining-fosters-sustainable-development-in-Laos.aspx> (accessed April 2014).
- ¹³⁸ OZ Minerals website, *Overview: History*, <http://www.ozminerals.com/about-oz-minerals/overview/history.html> (accessed April 2014).
- ¹³⁹ MMG website, *Mining Operations: Sepon*, <http://www.mmg.com/en/Our-Operations/Mining-operations/Sepon.aspx> (accessed April 2014).
- ¹⁴⁰ MMG website, *Mining Operations: Sepon*.
- ¹⁴¹ MMG Limited, *HKEx Announcement: Cessation of Gold Production at Sepon Mine*, 18 November 2013.
- ¹⁴² Minmetals Resources Limited, *Annual Report 2011: Focus, Progress, Potential* (p.1–19).
- ¹⁴³ MMG website, *Sepon: Processing*, <http://www.mmg.com/en/Our-Operations/Mining-operations/Sepon/Processing.aspx> (accessed April 2014).
- ¹⁴⁴ MMG website, *Mining Operations: Sepon*.
- ¹⁴⁵ MMG LXML Sepon, *Why Does the Sepon Mine Matter? And other questions answered*, April 2012 (p.12).
- ¹⁴⁶ MMG Limited, *Annual Report 2013: We Mine for Progress* (p.22, 59).
- ¹⁴⁷ Centre for International Economics, *The Economic Impact of the Sepon Mine*, April 2010 (p.5, 22).
- ¹⁴⁸ Vientiane Times, *Sepon Mine Generating Significant Tax Revenues*, 5 April 2013.
- ¹⁴⁹ Vientiane Times, *Sepon Marks 10 Years of Mining Achievements*, 20 September 2013.
- ¹⁵⁰ International Council on Mining and Minerals, 2011 (p.10)
- ¹⁵¹ Centre for International Economics, *The Economic Impact of the Sepon Mine*, April 2010 (p.21).
- ¹⁵² MMG LXML Sepon, *Annual Review 2011*, 2011 (p.19).
- ¹⁵³ *Ibid.* (p.20).
- ¹⁵⁴ Richard Jackson, *The Sepon Gold and Copper Mine: Neighbours Past, Present and Future*, MMG LXML Sepon, 2011 (p.30–31, 32, 33).
- ¹⁵⁵ International Council on Mining and Minerals, 2011 (p.46)
- ¹⁵⁶ Richard Jackson, 2011 (p.30–34).
- ¹⁵⁷ *Ibid.* (p.34–35).

- 158 MAG International, *Where We Work: Lao People's Democratic Republic*, <http://www.maginternational.org/iaopdr#.UYGsmrXEeSo> (accessed April 2014).
- 159 MMG LXML Sepon, *Annual Review 2011* (p.25).
- 160 International Council on Mining and Minerals, 2011 (p.40)
- 161 OZ Minerals website, *Overview: History*, <http://www.ozminerals.com/about-oz-minerals/overview/history.html> (accessed April 2014).
- 162 International Council on Mining and Minerals, 2011 (p.11)
- 163 According to information provided by MMG LXML Sepon employee in email correspondence, June 2013.
- 164 According to information provided by MMG LXML Sepon employee during interview, January 2013.
- 165 According to information provided by MMG LXML Sepon employee in email correspondence, June 2013.
- 166 According to information provided by MMG LXML Sepon employee during interview, January 2013.
- 167 Cæcilie Mikkelsen (ed.), *The Indigenous World 2010*, The International Work Group for Indigenous Affairs, 2010 (p.375).
- 168 Richard Jackson, *The Sepon Gold and Copper Mine: Neighbours Past, Present and Future*, MMG LXML Sepon, 2011 (p.27).
- 169 Cæcilie Mikkelsen (ed.), 2010 (p.378-9).
- 170 Richard Jackson, 2011 (p.42).
- 171 *Ibid.* (p.27, 29, 37).
- 172 According to information provided by MMG LXML Sepon employee in email correspondence, June 2013.
- 173 Minmetals Resources Limited, *2011 Sustainability Report* (p.60).
- 174 IUCN website, *Working With Our Partners – Sepon Mine Considers Biodiversity Offset Plan*, 1 July 2011. http://www.iucn.org/about/union/secretariat/offices/asia/asia_news/?7692/Working-with-our-partners---Sepon-mine-considers-biodiversity-offset-plan (accessed April 2014).
- 175 Friends of the Earth International, *Hands Off! Why international financial institutions must stop drilling, piping and mining*, December 2003 (p.13).
- 176 According to information provided by MMG LXML Sepon employee in email correspondence, June 2013.
- 177 Richard Jackson, 2011 (p.38).
- 178 International Council on Mining and Minerals, 2011 (p.6).
- 179 Richard Jackson, 2011 (p.41).
- 180 International Council on Mining and Minerals, 2011 (p.6).
- 181 *Ibid.* (p.43, 45).
- 182 China Minmetals Corporation, *2010 Sustainability Report* (p.36).
- 183 MMG LXML Sepon, *Annual Review 2011* (p.15).
- 184 Minmetals Resources Limited, *2011 Sustainability Report* (p.12).
- 185 MMG Limited, *Acquisition of Las Bambas Presentation*, April 2014. <http://www.mmg.com/en/Investors-and-Media/Acquisition-of-Las-Bambas.aspx> (accessed April 2014).
- 186 MMG website, *Environmental Management*, <http://www.mmg.com/en/Sustainability-and-Community/Environmental-management.aspx> (accessed April 2014).
- 187 Centre for International Economics, *The Economic Impact of the Sepon Mine*, April 2010 (p.36).
- 188 According to information provided by MMG LXML Sepon employee in email correspondence, June 2013.
- 189 Tony Manini & Peter Albert, *Exploration and Development of the Sepon Gold and Copper Deposits, Laos*, no date. <http://www.smedg.org.au/Tiger/Sepon.htm> (accessed April 2014).
- 190 According to information provided by MMG LXML Sepon employee during interview, January 2013.
- 191 MMG LXML Sepon, *Annual Review 2011* (p.15).
- 192 According to information provided by MMG LXML Sepon employee during interview, January 2013.
- 193 MMG website, *Sepon: Processing*, <http://www.mmg.com/en/Our-Operations/Mining-operations/Sepon/Processing.aspx> (accessed April 2014).
- 194 According to information provided by MMG LXML Sepon employee during interview, January 2013.
- 195 MMG LXML Sepon, *Sepon Mine Today – The Newsletter of MMG LXML Sepon*, November 2012 (p.3).
- 196 According to information provided by MMG LXML Sepon employee during interview, January 2013.
- 197 Minmetals Resources Limited, *2011 Sustainability Report* (p.21).
- 198 MMG LXML Sepon, *Sepon Mine Today – The Newsletter of MMG LXML Sepon*, November 2012 (p.2, 3).
- 199 MMG LXML Sepon, *Annual Review 2011*, 2011 (p.2).
- 200 Minmetals Resources Limited, *Annual report 2011* (p.1-37).
- 201 MMG LXML Sepon, *Annual Review 2011* (p.23).
- 202 *Ibid.* (p.19).
- 203 Minmetals Resources Limited, *2011 Sustainability Report* (p.2).
- 204 MMG website, Sepon: *Community Health*, <http://www.mmg.com/en/Our-Operations/Mining-operations/Sepon/Community-health.aspx> (accessed April 2014).
- 205 Minmetals Resources Limited, *Annual report 2011* (p.1-37).
- 206 MMG website, *Supporting Our Communities*, <http://www.mmg.com/en/Sustainability-and-Community/Supporting-our-communities.aspx> (accessed April 2013).
- 207 Minmetals Resources Limited, *2011 Sustainability Report* (p.44).
- 208 *Ibid.* (p.40).
- 209 Mining and Minerals Group, *Annual Report 2012* (p.3).
- 210 MMG LXML Sepon, *Why Does the Sepon Mine Matter? And other questions answered*, April 2012 (p.4).
- 211 Information provided by MMG LXML Sepon employee during phone interview, March 2013.
- 212 MMG website, *Sepon: Sepon Development Trust Fund*, <http://www.mmg.com/en/Our-Operations/Mining-operations/Sepon/Living-in-the-community/Community-programs/Sepon-development-trust-fund.aspx> (accessed April 2013).
- 213 International Council on Mining and Minerals, 2011 (p.9).
- 214 MMG website, *News: Sepon Mine Expands Village Development Fund*, 31 May 2012. <http://www.mmg.com/en/Investors-and-Media/News/2012/05/31/Media-Release.aspx?backitem=D8ABE6789F2440EC946E3C207A67FA66> (accessed April 2013).
- 215 Information provided by MMG LXML Sepon employee during phone interview, March 2013.
- 216 MMG website, Sepon: *Local Business Groups*, <http://www.mmg.com/en/Our-Operations/Mining-operations/Sepon/Living-in-the-community/Community-programs/Local-business-groups.aspx> (accessed April 2013).
- 217 MMG LXML Sepon, *Annual Review 2011* (p.3).
- 218 MMG LXML Sepon, *Sepon Mine Today – The Newsletter of MMG LXML Sepon*, November 2012 (p.1).
- 219 MMG website, Sepon: *Community Health*, <http://www.mmg.com/en/Our-Operations/Mining-operations/Sepon/Community-health.aspx> (accessed April 2013).
- 220 MMG LXML Sepon, *Sepon Mine Today – The Newsletter of MMG LXML Sepon*, November 2011 (p.3).
- 221 MMG website, *Partnership with UNICEF to Improve Child Health*, <http://www.mmg.com/en/Sustainability-and-Community/Supporting-our-communities/Partnership-with-UNICEF-to-improve-child-health.aspx> (accessed April 2013).
- 222 MMG LXML Sepon, *Why Does the Sepon Mine Matter? And other questions answered*, April 2012 (p.16).
- 223 Minmetals Resources Limited, *2011 Sustainability Report* (p.47).
- 224 MMG website, *Sepon: Village Banking*, <http://www.mmg.com/en/Our-Operations/Mining-operations/Sepon/Living-in-the-community/Community-programs/Village-banking.aspx> (accessed April 2013).
- 225 MMG LXML Sepon, *Annual Review 2011* (p.3).
- 226 MMG website, *Sepon: Houaykong Training Centre*, <http://www.mmg.com/en/Our-Operations/Mining-operations/Sepon/Living-in-the-community/Community-programs/Houaykong-Training-Centre.aspx> (accessed April 2013).
- 227 Richard Jackson, 2011 (p.13, 16).
- 228 MMG, *The Drift: MMG's Employee Magazine*, Issue 13, December 2012 (p.18).
- 229 MMG website, *News: Sepon Mine helps Preserving Local Cultural Heritage in Vilabouly*, 10 July 2012. <http://www.mmg.com/en/Investors-and-Media/News/2012/07/10/Media-Release.aspx?backitem=D8ABE6789F2440EC946E3C207A67FA66> (accessed April 2013).
- 230 Richard Jackson, 2011 (p.36).
- 231 See for example: Ian G. Baird & Bruce Shoemaker, *Aiding or Abetting? Internal Resettlement and International Aid Agencies in the Lao PDR*, Probe International, August 2005.
- 232 Richard Jackson, 2011 (p.36).
- 233 Information provided by MMG LXML Sepon employee during interview, January 2013.
- 234 Information provided by former MMG consultant during interview, January 2013.
- 235 Information provided by former MMG consultant during interview, January 2013.
- 236 MMG LXML Sepon, *Sepon Mine Today – The Newsletter of MMG LXML Sepon*, November 2011 (p.1).
- 237 Information provided by MMG LXML Sepon employee during phone interview, March 2013.
- 238 Data provided by MMG LXML Sepon employee via email, June 2013.

CAMBODIA IRON AND STEEL MINING INDUSTRY GROUP & CHINA RAILWAY GROUP

Rovieng Iron Ore Mine & Railway Project, Cambodia

By Greenovation Hub

Introduction

In early 2013, Cambodian and international media covered the signing of a US\$11.2 billion dollar agreement to develop a major project including an iron ore mine, steel processing plant, railway and seaport in Cambodia. The agreement was signed between two companies, one is the relatively



Cambodia's Royal Palace, Phnom Penh, 2014
(© Dipika Sherchan)

unknown Cambodia Iron and Steel Mining Industry Group (CISMIG) and the other is a subsidiary of the state-owned China Railway Group, also known as China Railway Engineering Corporation (CREC). A subsidiary of China's state owned Sinomach has also been sub-contracted to develop part of the project.

The companies involved plan to develop an iron ore mine in the northern province of Preah Vihear. Ore from the mine will be processed at a newly developed steel mill, and then transported along a new 400km railway to a purpose-built port on the southwest

coast. At present there are no industrial-scale mining operations in Cambodia, and the mining industry is limited to a number of stone quarries and small scale gemstone and gold mines. If the Rovieng mine and railway goes ahead as planned, it will be the first large mine to commence development in Cambodia, and the largest investment in the country's history.

The project could have a huge impact on Cambodia's economy, stimulate growth of the mining sector, increase exports, produce steel for domestic use, and generate employment. However, the mine, plant, railway and seaport will impact on five provinces, and will therefore impact in the land and livelihoods of many thousands of Cambodians. At the time the project was announced in January 2013 no consultations had been conducted with local people and no environmental impact assessment conducted – despite the fact that the company chairman stated construction would commence in July 2013. At the time of writing, the project had still not commenced construction, reportedly due to a funding shortage.²³⁹ Cambodia has also gone through a period of political instability since general elections in July 2013, which may also have slowed down the investors' attempts to move the project forward.²⁴⁰

There still remains a lack of information available on the project, and it is not clear if it will go ahead in the near future. However, due to the scale of the project and potential impacts that it could have, its announcement in January 2013 caused a great deal

of concern among local civil society organizations and potentially affected communities. The case study below elaborates on the planned project in more detail, looks at the companies' plans to turn Rovieng into the centre of a future steel industry in Cambodia, and provides an overview of the potential benefits and risks of the project. This case study is the result of desk-based research conducted from Beijing and field research in Cambodia. Greenovation Hub met in Phnom Penh with international and local non-governmental organizations (NGOs), a Cambodian network monitoring the impacts of mining in Cambodia, and community members from Rovieng District, Preah Vihear Province. ²⁴¹

China's Role in the Cambodian Mining Sector

Cambodia's mineral industry remains relatively undeveloped and most mining companies currently active in the country are still at the stage of exploration. These companies are exploring for a wide range of resources, including bauxite, gold, copper, coal, and iron ore.²⁴² According to the director of the Department of Mineral Resources at Cambodia's Ministry of Industry, Mines and Energy (MIME), as of March 2013, 91 companies held mineral licenses, this includes 139 exploration licenses and 13 exploitation licenses.²⁴³ However, at the present time the majority of the country's mining activity is in small-scale and artisanal mining, as well as quarrying for construction materials such as laterite, marble, granite, limestone, gravel and sand. The development of Cambodia's mineral industry is held back in part by a lack of infrastructure in key areas including electricity supply, access to water, and weak road and rail networks. The government has prioritized developing physical infrastructure and is promoting foreign direct investment in infrastructure such as power generation.²⁴⁴ As infrastructure improves, it is possible that the mineral sector could develop rapidly.

There is not currently any publicly accessible official database of mining licenses in Cambodia. However,

it is clear that both domestic and international companies are active in exploring for minerals in Cambodia. International investors include companies from a range of countries, including Australia, Canada, South Korea, China and Vietnam.²⁴⁵ The majority of licenses are currently held by domestic, Chinese and Vietnamese investors.²⁴⁶ According to a Secretary of State from MIME, as of 2011, there were 23 Chinese mining companies actively exploring for minerals in Cambodia. ²⁴⁷

For a number years, Chinese steel companies have shown an interest in exploring for Cambodian iron ore, and in addition to the Rovieng project, several other companies have been connected to iron ore exploration and processing in Cambodia. In 2007 four of China's biggest steel companies announced a joint venture to explore for iron ore in Preah Vihear Province. The four companies, Wuhan Iron and Steel Group Corp. (WISCO), Shanghai Baosteel Group Corporation, Anshan Iron & Steel Group,



Bayon Temple in Siem Reap, northwest Cambodia
(© Mark Grimsditch)

and Shougang Co. Ltd. established a joint venture company to pursue this.²⁴⁸

After returning from a trip to China in 2012, the Cambodian Prime Minister announced that he had secured agreement for a US\$2 billion industrial park in Cambodia, including a steel processing plant to be developed by another Chinese company, Delong Holding Group.²⁴⁹ The Chinese state-owned company Guangxi Nonferrous Metal Group (GXNF) also has an interest in Cambodia's iron ore deposits, and in 2009 established a local subsidiary and secured exploration rights for gold and iron ore.²⁵⁰ GXNF's exploration area is also located in Rovieng.²⁵¹ Although all of the above projects have been reported in the media and company press releases, none have developed operations beyond the preliminary stages.

The Project Developers

The two main companies attached to the Rovieng mine and railway project are Cambodia Iron and Steel Mining Industry Group (CISMIG) and China Railway Major Bridge Engineering Group (MBEC). MBEC is a wholly owned subsidiary of the state-owned company China Railway Group which is also known as China Railway Engineering Corporation (CREC). A third

company, China Ocean Engineering Construction General Bureau (COEC), has been contracted to construct the seaport.

Cambodia Iron and Steel Mining Group (CISMIG)

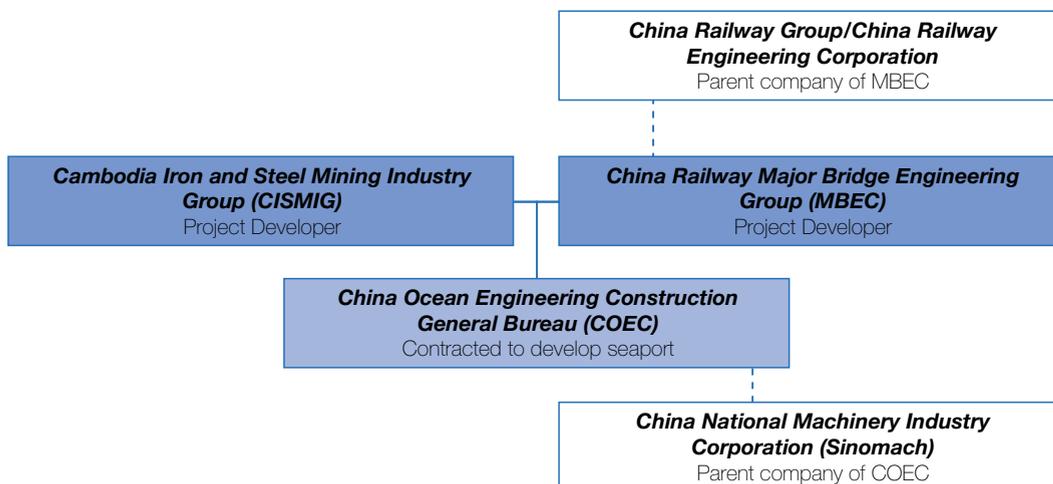
Cambodia Iron & Steel Mining Industry Group is locally registered in Cambodia, but according to media reports the company is reportedly owned by three Chinese nationals.²⁵² CISMIG is not well known in Cambodia, and online searches of the company in both English and Chinese reveal very little information about the company. According to the company chairman, CISMIG is backed by four major Chinese steel firms,²⁵³ but it is not clear who these companies are.

China Railway Major Bridge Engineering Group Co. Ltd. (MBEC)

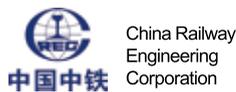


China Railway Major Bridge Engineering Group Co. Ltd.

Media reports from January 2013 indicate that the other major company involved in the project is the China Railway Major Bridge Engineering Group.²⁵⁴ MBEC is a wholly-owned subsidiary of the China Railway Group, which is also known as China Railway



Engineering Corporation (CREC). China Railway Group is one of the top companies working on bridge, railway and road construction within China. The company is listed on both the Shanghai and Hong Kong stock exchanges and according to the company website has constructed over 1,500 bridges in China and overseas. The company also claims to have advanced China's strategy of going global and has developed projects in various countries including Vietnam, Burma, Bangladesh, South Africa, Pakistan and Australia.²⁵⁵



As stated above, MBEC is a wholly-owned subsidiary of China Railway Group. The company is a limited liability joint-stock company, and as a state-owned company is under the supervision of the State Asset Supervision and Administration Commission. China Railway Group has 46 subsidiaries, and within China the company has been involved in the construction of more than 4,230 kilometres of bridges, 3,900 kilometres of tunnels, 3,400 kilometres of highway and 566 kilometres of railways. Since the 1970s, the company has worked on more than 230 overseas projects in more than 55 countries including railway, highway, bridge, and tunnel projects.²⁵⁶

The construction industry website, Engineering News Record, ranked China Railway Group as the largest construction company in the world in 2012,²⁵⁷ and the company ranked 102nd in the 2013 Fortune Global 500.²⁵⁸ The company is listed on the Hong Kong and Shanghai stock exchanges. In 2004 China Railway Group joined the UN Global Compact²⁵⁹ but it was de-listed in 2010 for failing to communicate on its progress.²⁶⁰

China Ocean Engineering Construction General Bureau (COEC)

Information on the company's website shows that the China Ocean Engineering Construction General Bureau (COEC) has been contracted to design and construct the seaport component of the project.²⁶¹

COEC is a wholly-owned subsidiary of China National Machinery Industry Corporation (Sinomach),²⁶² which is the largest machinery producer in China, and is also a Global 500 company.²⁶³ Sinomach is a member of the UN Global Compact and has been since 2011.²⁶⁴



Corporate Social Responsibility Commitments of the Investors and Developers

Very little is known about CISMIG and the company has no website or published materials, so it is not possible to ascertain whether or not it has any specific social or environmental policies. China Railway Major Bridge Engineering and China Ocean Engineering Construction do not include any corporate social responsibility (CSR) documents on their websites, but their parent companies do.

Both Sinomach (parent company of COEC) and China Railway Group (parent of MBEC) release annual social responsibility reports, and discuss CSR commitments on their websites. China Railway Group states that it has established a management system that incorporates scientific development, safety management, environmental protection, staff development, and public welfare. It also states that before any project commences, experts conduct environmental assessments, develop environmental protection programs and develop a detailed program for ecological protection.²⁶⁵ Sinomach states that as a global leader in its industry, it must take on its corporate responsibilities and repay society. The company states that it makes efforts to protect the environment in its operations, and aims to achieve sustainable development utilizing "green technologies, green products, green designs and green engineering projects."²⁶⁶ As mentioned above, Sinomach is a member of the UN Global Compact. Under this voluntary framework, signatories are committed to aligning their operations and strategies with ten principles in areas including human rights, labour,

environment and anti-corruption.

There is no information publicly available on how the project will be financed. In an interview with the People's Daily in February, CISMIG's chairman stated that loans and guarantees were being provided by Hong Kong banks, but he provided no further details.²⁶⁷ More recent reports suggest that the developers have still not secured adequate funding to move the project forward. However, if and when funding is secured, it is possible that additional social and environmental safeguards may apply, depending on the policies of the financier(s) involved.

The Rovieng Iron Ore Mine & Railway Project

Project Background

CISMIG and MBEC signed a memorandum of understanding (MOU) for the development of the Rovieng mine and railway project on 31st December 2012, and in the following days there was a huge amount of coverage in local and international press.



Map of CISMIG concession
(From Equitable Cambodia & Focus on the Global South, 2013)

The following summary is based for the most part on information taken from this media coverage, and from a briefing paper published by the NGOs Equitable Cambodia and Focus on the Global South. While this is not ideal, and it would be preferable to reference official sources and company documents, no such documents have yet been made available by either investors or the Cambodian government.

The December MOU was signed in the presence of Cambodia's Minister of Public Works and Transport²⁶⁸ and the President of China Railway Group.²⁶⁹ The total value of the project is a staggering US\$11.2 billion.²⁷⁰ Although there are no publicly available documents that indicate the project has been approved by the Cambodian Government, a representative of the Council for the Development of Cambodia (CDC) was quoted in the media as saying that the plans have already been officially approved.²⁷¹ A CISMIG company representative also told the media that the project has the backing of the Cambodian Prime Minister.²⁷²

The proposed project includes an iron ore mine and steel processing plant located in the Rovieng District of Preah Vihear Province, and a purpose built port on an island off the coast of Koh Kong Province in the south of the country. The plant will be connected to the port by over 400km of railway tracks, and a 3km bridge will join the port to the mainland. The various components of the project are discussed in more detail below.

The iron ore mine: CISMIG has a license to conduct exploration for iron ore within an area of 1,306 square kilometres in Rovieng District, Preah Vihear Province.²⁷³ The map on the left shows the extent of this exploration area – covering just under 10% of the entire province.

The company chairman has publicly stated that mineral exploration has found the area to be rich in

At a cost of US\$11.2 billion, CISMIG and China Railway Group plan to develop:

- an iron ore mine,
- a steel plant covering 10 km²,
- a 400 km railway,
- a 3 km bridge, and
- a new sea port.

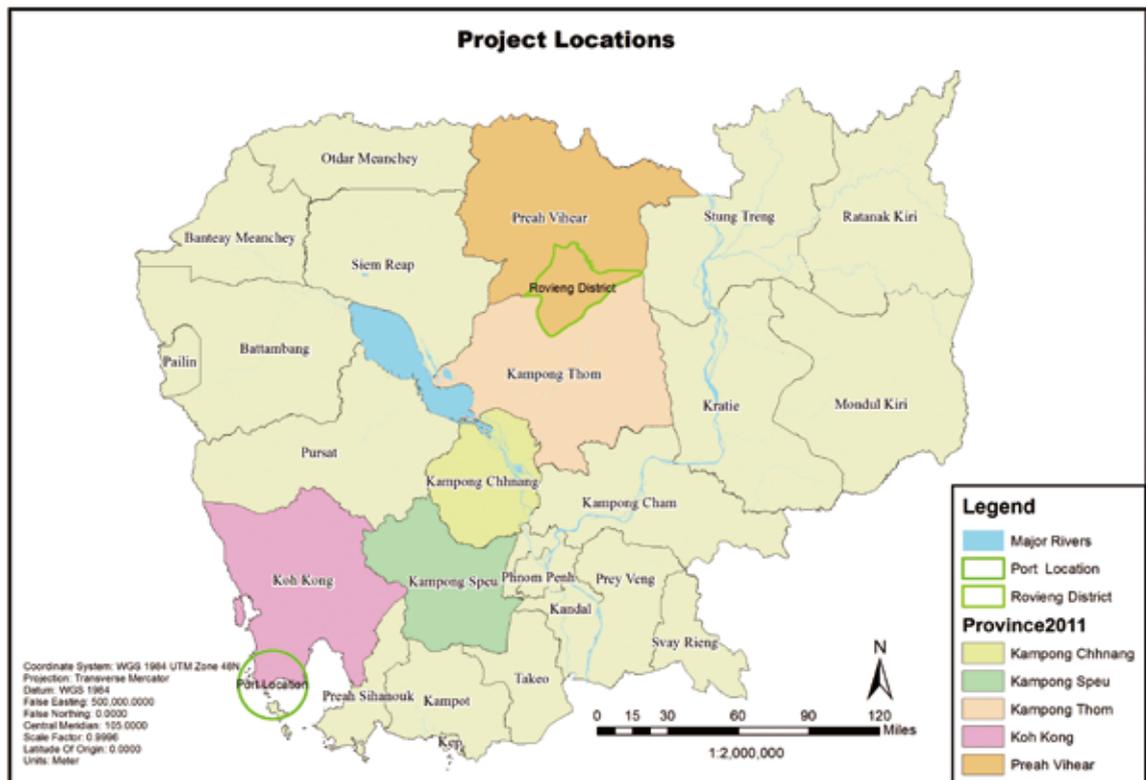
According to company statements reported in the media, 2013

iron ore.²⁷⁴ There has only been limited exploration in the area in the past, and therefore little is publicly known about the distribution and quantities of iron ore in Preah Vihear, but the CISMIG chairman was quoted in the local press as saying that the company expects to produce 1 million tonnes of steel per year.²⁷⁵ A site manager from the company was also quoted as saying that the quality of iron ore at the site is extremely high.²⁷⁶

The steel plant: In addition to the iron ore mine, the developers plan to construct a steel processing plant in Rovieng, which will reportedly cover an area of over 10 square kilometres.²⁷⁷ When interviewed in January 2013, the chairman of CISMIG stated that the plant

will commence construction in July 2013²⁷⁸ and take two and a half years to complete.²⁷⁹ As noted earlier, the project has been delayed and construction has not yet started.

The railway: It is also proposed that a railway will be built to connect the steel plant in Rovieng to a new seaport on the southwest coast of Koh Kong Province. This railway will run almost the total length of the country from north to south and will be over 400 kilometres in length. On route to Koh Kong the tracks will also pass through Kampong Thom, Kampong Chhnang, and Kampong Speu provinces.²⁸⁰ A feasibility study for the proposed railway line was conducted in 2011 by China Railway



Map of Cambodia, Rovieng District in the north, and the seaport in the southwest. Potentially impacted provinces are highlighted. (From Equitable Cambodia & Focus on the Global South, 2013)

Group, but the results are not public and it is not known what exact route the railway will take.²⁸¹ Local media reported that 11 stations will be built along the railway between Preah Vihear and Koh Kong.²⁸² In January 2013, the CISMIG chairman stated that a ground-breaking ceremony would take place for the railroad by the end of the month²⁸³ and that the railway would be completed by 2017.²⁸⁴ It is not clear if this ceremony ever took place, but construction has not yet commenced.

The Koh Kong port: After the railway reaches the coast in Koh Kong, the developers plan to construct a 3 kilometre bridge connecting the mainland to an island where a seaport will be developed.²⁸⁵ CISMIG's chairman has stated that the port will be able to process around 50 million tons of goods per year.²⁸⁶ CISMIG signed an agreement in April 2012 with China Ocean Engineering Construction General Bureau to conduct the design and construction on the port development. A COEC press release explains that the project will include private piers, a private general cargo terminal and facilities for handling and storing goods.²⁸⁷

Potential Positive Impacts of the Project

As the project has not yet commenced construction or operation, it is not possible to fully assess its potential benefits or risks. Feasibility studies have been conducted for certain elements of the project, but they are not public, and no environmental impact assessments or public consultations have yet been conducted, therefore the information below is based on statements from the company as reported in the media.

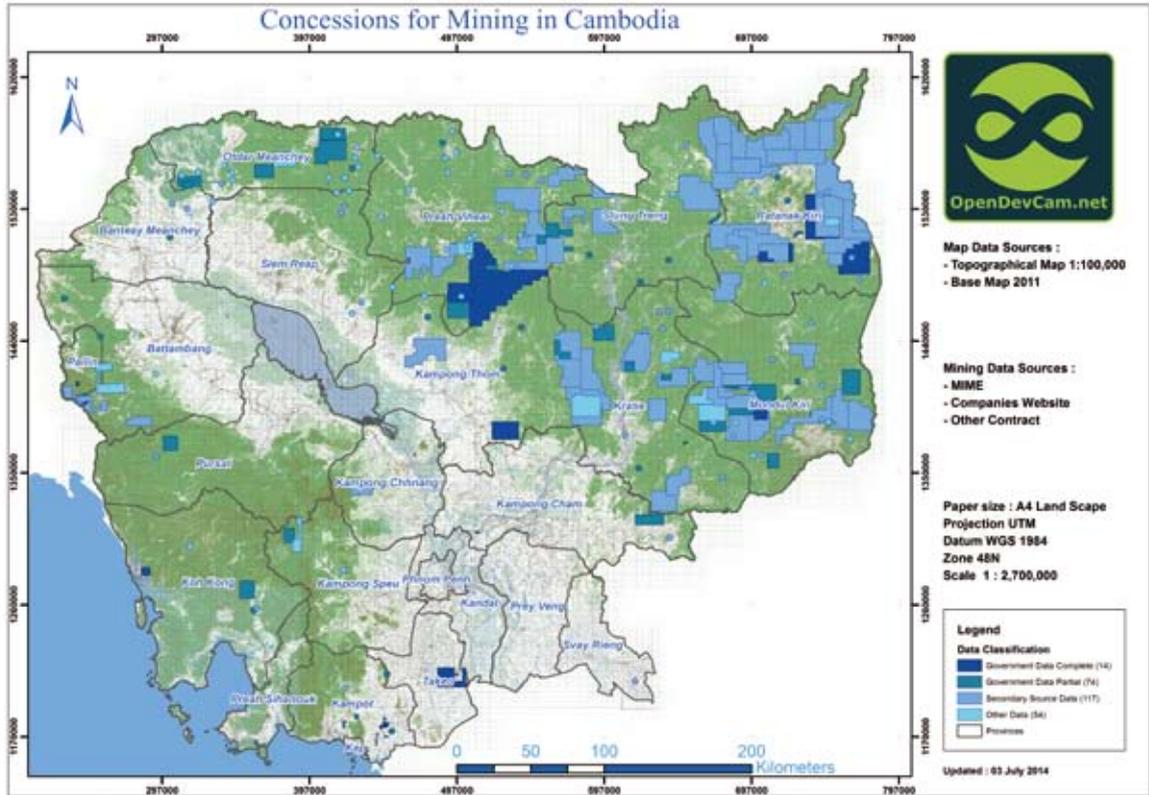
Employment: One company source was reported in the Chinese language press as saying that the project will employ more than 20,000 Cambodians and 3,000 Chinese workers.²⁸⁸ According to the governor of Preah Vihear, employment at the mine will increase living standards and contribute to poverty eradication in the area.²⁸⁹ These figures are impossible to verify without seeing detailed project plans, but they appear to be extremely high.

National revenues: If the project does go ahead, it could lead to generation of huge revenues for Cambodia's national budget. This could come in the form of profit taxes, income tax, royalties, and land rental fees.

Local development: CISMIG has made contributions to the community in the area of the proposed mine, principally in the construction of a primary school in Rovieng District. The company has also stated that it will build dormitories, hospitals, shops and more schools.²⁹⁰ CISMIG's chairman has stated that Rovieng will become a "steel town" in the next few years,²⁹¹ and the governor of Preah Vihear stated that exploitation of the district's resources will turn Rovieng into an engine of growth for the whole province.²⁹²

Development of the Cambodian mining industry: As mentioned earlier, Cambodia's mining industry remains largely undeveloped. This potentially huge investment in the mineral sector could encourage further investment from local and international companies, as could the improved transport links provided by a new railway. The company has been quoted in the media as saying that the project would source raw materials from other mines in Cambodia, including mines located in Preah Vihear, Rattanakiri, Kampong Thom and Stung Treng provinces.²⁹³ There are currently no iron ore mines in these areas, but the development of smelting facilities could provide stimulus for expansion in iron ore exploitation. As can be seen in the map below, many licenses have been granted to companies to explore for minerals in Cambodia.

Development of other industries: Although the principle function of the railway is to transport steel from the processing plant to the port, it has been suggested by the Minister of Public Works and Transport that the railway could also carry agricultural products, industrial goods and passengers.²⁹⁵ The railway will go through a total of five provinces and will pass many plantations on the way to the port. These plantations depend on transport links to get goods to market, and improved rail links could also contribute to the development of



Map of known mining license areas in Cambodia, 2013
(Taken from Open Development Cambodia website²⁹⁴)

these industries. Manufacturing industries could also benefit from these enhanced transport connections and links to the port and export markets.

Increased self-reliance and increased exports: The project developers state that the project will be able to meet Cambodia's total domestic demand for steel, which will reduce reliance on expensive imports.²⁹⁶ As well as meeting Cambodia's domestic needs, the project will enable Cambodia to export steel.²⁹⁷ Cambodia's exports at present are dominated by garments and textiles, and the government is eager to diversify. In addition to exporting steel, the port will reportedly be able to handle around 50 million tons of goods per year, which suggests that it will have capacity to process goods from various industries.

Potential Adverse Impacts, Risks and Challenges

Again, as there has been no full environmental assessment and there is no detailed information publicly available regarding the project, it is difficult to fully assess the potential impacts of the project. The section below speculates on the potential impacts, risks and challenges that may emerge if the project goes ahead as currently proposed.

No environmental impact assessment: All mining, railway and port projects must first be subject to an environmental impact assessment (EIA). This is a requirement of both Cambodia's Law on Environmental Protection and Natural Resource Management²⁹⁸ and the Law on Mineral Resource Management and

Exploitation.²⁹⁹ Although the company has stated that feasibility studies have been completed for the project,³⁰⁰ in January 2013 Cambodia's Environment Minister stated that no EIA had yet been submitted for the project.³⁰¹ This is a serious concern considering the developers originally planned to break ground on the railway in that month and commence construction of the steel plant in July 2013. Although the project has since been delayed, the developers clearly had no plans for a lengthy EIA and consultation period.

Lack of transparency and information: If it does go ahead, the Rovieng mine and railway project will be the biggest single development project in Cambodia's history. However, information on the project is extremely scarce. Most of the information presented in this case study was gathered from media sources, and no official documents have been made publicly available by either the company or the government.

Even Cambodian government officials seem to be in the dark about the project, and when local media interviewed officials to discuss the project, most were unable to respond to detailed questions. When interviewed in January, the provincial governors of Koh Kong, Kampong Speu and Kampong Thom stated that they had not received any detailed information on the project and had not yet been officially notified.³⁰² Local officials referred questions to the Ministry of Public Works and Transport, but the Minister was also unable to provide information to journalists, and told some media sources that he did not know much about the project himself.³⁰³

No public consultation: To date there have been no public consultations on the project, despite the fact that it is likely to impact on five provinces and a potentially huge area of land. Due to the lack of consultation, there is very limited awareness about the project. This has caused alarm among those people in Rovieng that have heard about the project, as they cannot find information on how the project is likely to affect them.³⁰⁴

Environmental and social impacts: As there is still no information available on the exact route that the railway will take or where the mine and steel processing plant will be situated, it is impossible to identify exactly which areas and how many people will be impacted by the project. However, it can be expected that such a large project is likely to have serious impacts on people and on the environment. If the project does go ahead, a comprehensive EIA would have to include the development and implementation of a strong environmental management plan in order to mitigate and deal with these impacts. However, at the time of writing no EIA is known to have been completed for the project.

The mine and processing plant are likely to require land clearance, as will the railway. This will impact on residential and agricultural land, and recent experiences show that land acquisition and relocation in Cambodia is often the source of serious conflict. Another railway project funded by the Asian Development Bank (ADB) and the Australian Government's aid program aimed to rehabilitate old railway lines connecting Phnom Penh to the coast and to the west of the country. However, the compensation and resettlement process has been highly problematic, and affected people have criticised inadequate compensation rates and poor conditions at resettlement sites.³⁰⁵ This project has run into these difficulties despite the fact that ADB resettlement guidelines and procedures were in place. The Chinese companies involved in the Rovieng mine and railway project do not have such sophisticated safeguard mechanisms, and could be at even greater risk of running into problems if proper mechanisms are not put in place for adequate consultation, compensation and resettlement.

The project may also require forest clearance, and as can be seen from the map below, the railway is likely to run through a number of protected areas, forests and wildlife sanctuaries.

Unclear economic justifications: It is possible that the project could raise national revenues and also

2013.³⁰⁶ If resource revenues begin to flow before institutions are in place that can properly deal with them, there is a significant risk that these revenues will further fuel corruption and that the people of Cambodia will not benefit fully from the benefits of the project.

Conclusions

The Rovieng iron ore mine and railway project was chosen for discussion in this collection of case studies as it shows a potentially huge project in what is an otherwise completely undeveloped mining sector. In this context, the development of a major mining project will come with unique and complex challenges. The case is also interesting as the developers come from such different backgrounds: CISMIG is an almost completely unknown private company, whereas MBEC is a subsidiary of China Railway Group, which is a state-owned enterprise and one of the biggest construction companies in the world.

The proposed project would take a number of years to develop, but after completion there is the potential for generating government revenue through taxes and royalties, and the investment could also stimulate further growth in mineral and other industrial sectors. Construction would no doubt require a large labour force, although this would most likely reduce significantly after the project becomes operational. Company representatives and officials from Preah Vihear have stated that the project will become an engine of both local and national growth, but there are concerns about the manner in which the project was announced and the subsequent lack of clarity regarding development plans. Despite the size of the project, publicly available information is very limited. There have been no public consultations and no EIA process, and when asked for details by journalists, many Cambodian government officials claimed to know very little about the project themselves.

Although the developers planned to commence construction as early as July 2013, key information is still lacking regarding the exact location of the various project components, the economic justifications of the project and its expected cost/profit analysis, and if and when a full social and environmental impact assessment is likely to be conducted. The lack of transparency and access to information regarding the project is a clear concern, especially in the context of Cambodia, where corruption and weak rule of law continues to play a major factor in the management of land and natural resource investments. Investors and financiers from various countries have become involved in conflict with local people because of disagreements over land rights and resource access. Without proper handling of competing land claims, companies risk violating the rights of local people and could become embroiled in long-running and complex disputes over land and resource access. This again emphasises the need for openness and consultation with potentially affected people.

Crucially, Cambodia does not as yet have any experience in managing resource revenues acquired from large-scale mineral, oil or gas projects, and while every country needs to start somewhere, examples from around the world have shown that when resource revenues are managed inadequately, benefits fail to reach the poor, conflicts can increase and corruption worsen. When entering this complex legal, political and social landscape, it is crucial for investors such as CISMIG and the China Railway Group to proceed with caution, fully understand the local context, and ensure that business is done in an open and transparent manner, fully in compliance with local law and regulations.

This case also has implications beyond Cambodia. In order to support the major railway construction companies going out, China's leaders have promoted high-speed rail development during trips to various nations across the world.³⁰⁷ Due to growing competition in the domestic market, Chinese construction companies have been expanding

globally and diversifying into areas including mining. In a 2012 financial report, China Railway Group stated: "In the future, mining revenues will become a new growth point for the company."³⁰⁸ In recent years China Railway Group has sought several major investments in overseas mining. Prior to the signing of the Cambodia agreement, the company's largest contract was a US\$7.5 billion railway and mine project in Venezuela, which was announced in August 2009. This project has also stalled as the Venezuelan Government was reportedly unable to cover the cost of the contract.³⁰⁹ China Railway Group's main competitor, China Railway Construction Corporation (CRCC), is also expanding into the mining sector, with a large investment in Ecuador approved in 2012. As the major railway companies go out and diversify into the mining sector, it is crucial that international standards are adopted and implemented. ■

CAMBODIA IRON AND STEEL MINING INDUSTRY GROUP & CHINA RAILWAY GROUP Rovieng Iron Ore Mine & Railway Project, Cambodia

- ²³⁹ Toh Han Shih, *China Railway Bullish On Overseas Business*, South China Morning Post, 9 April 2014. <http://www.scmp.com/business/china-business/article/1469891/china-railway-bullish-overseas-business> (accessed April 2014).
- ²⁴⁰ Daniel de Carteret, *Lack of Funds Delays Railway*, Phnom Penh Post, 22 April 2014. <http://www.phnompenhpost.com/business/lack-funds-delays-railway> (accessed April 2014).
- ²⁴¹ Desk research was conducted between February and April 2013, and a fieldtrip to Cambodia took place in March 2013. In March 2013, the NGOs *Equitable Cambodia* and *Focus on the Global South* published a briefing paper on the project, which served as a useful resource in the development of this case study and can be found here: <http://focusweb.org/content/briefing-paper-chinese-north-south-railway-project>.
- ²⁴² Yadira Soto-Viruet & Yolanda Fong-Sam, *The Mineral Industry of Cambodia*, US Geological Survey 2011 Minerals Yearbook: Cambodia Profile, March 2013.
- ²⁴³ Chrea Vichett, *The Current Situation of Mining Industry in Cambodia*, presentation of Ministry of Industry, Mines and Energy, General Department of Mineral Resources, Tokyo, March 2013.
- ²⁴⁴ Royal Government of Cambodia, *National Strategic Development Plan Update 2009-2013*, June 2010.
- ²⁴⁵ See *Open Development Cambodia* website for a list of known mining license holders: <http://www.opendevdevelopmentcambodia.net/company-profiles/concessions-of-mining/> (accessed April 2014).
- ²⁴⁶ Xinhua, *Cambodia Grants Mine Exploratory Licenses to 24 Firms in 2011: Gov't Report*, 9 March 2012. <http://english.people.com.cn/90777/7753471.html> (accessed April 2014).
- ²⁴⁷ Xinhua, *China Leading Investments in Some Fields in Cambodia: Official*, 6 April 2011. <http://english.peopledaily.com.cn/90883/7732827.html> (accessed April 2014).
- ²⁴⁸ Xu Yuli, *四大钢厂开发海外矿产 首个项目为柬埔寨铁矿*, China Securities News, 24 May 2007. <http://money.163.com/07/0524/10/3F8JP76800251RJ2.html> (accessed April 2014).
- ²⁴⁹ Chhay Channyda & Rachel Will, *PM Secures US\$2 Billion Steel Project From Chinese*, Phnom Penh Post, 4 September 2012; *Economics Today*, China to invest US\$2 billion industrial park, 4 September 2012. <http://www.etmcambodia.com/viewlatestnews.php?newsid=52> (accessed April 2014).
- ²⁵⁰ Reuters, *China's Guangxi Nonferrous Plans M&A, IPO of Tin Arm*, 13 September 2010. <http://www.reuters.com/article/2010/09/14/guangxinonferrous-idAFTOE68C09220100914> (accessed April 2014).
- ²⁵¹ Phnom Penh Securities, *Research Paper: Mining Sector in Cambodia*, 7 June 2011.
- ²⁵² Andrew R.C. Marshall & Prak Chan Thul, *Chinese Plan to Invest in Cambodia is Big, but Vague*, Reuters, 14 February 2013.
- ²⁵³ Phorn Bopha & Simon Lewis, *Minister of Transport Says He Knows Little About Railway Project*, Cambodia Daily, 3 January 2013.
- ²⁵⁴ May Kunmakara, *China to Invest \$9.6b in Cambodia*, Phnom Penh Post, 1 January 2013.
- ²⁵⁵ China Railway Major Bridge Engineering Group website, *Company Profile*, <http://www.ztmbec.com/ztmbecen/newslst.jsp?upid=8&typeid=2> (accessed June 2013).
- ²⁵⁶ China Railway Engineering Corporation website, *Corporate Introduction*, <http://www.crec.cn/en/tabid/176/Default.aspx> (accessed June 2013).
- ²⁵⁷ Engineering News Record, *The Top 225 Global Contractors 2012*, <http://enr.construction.com/toplists/Top-Global-Contractors/001-100.asp> (accessed June 2013).
- ²⁵⁸ CNN Money, *Fortune Global 500 2013*, http://money.cnn.com/magazines/fortune/global500/2013/full_list/?iid=G500_sp_full (accessed April 2014).
- ²⁵⁹ China CSR Map website, *China Railway Engineering Corporation (CREC)*, http://www.chinacsmap.org/Org_Show_EN.asp?ID=998 (accessed June 2013).
- ²⁶⁰ UN Global Compact website, *859 Companies Delisted for Failure to Communicate on Progress*, 1 February 2010. <http://www.unglobalcompact.org/news/8-02-01-2010> (accessed April 2014).
- ²⁶¹ China Ocean Engineering Construction General Bureau website, *News: COEC and CISMIG Hold Signing Ceremony*, April 10 2012.
- ²⁶² China Ocean Engineering Construction General Bureau website, *Company Profile*, http://coecg.com/about_e.asp?cid=1 (accessed June 2013).

- 263 Sinomach website, *Profile*, http://www.sinomach.com.cn/templates/T_common_en/index.aspx?nodeid=147 (accessed June 2013).
- 264 UN Global Compact website, *Participants & Stakeholders*, <http://www.unglobalcompact.org/participant/15952-China-National-Machinery-Industry-Corporation> (accessed April 2014).
- 265 China Railway Group website, *Corporate Social Responsibility*, <http://www.mzcan.com/china/601390/irwebsite/index.php?mod=csr> (accessed June 2013).
- 266 Sinomach website, *CSR*, http://www.sinomach.com.cn/templates/T_common_en/index.aspx?nodeid=219 (accessed June 2013).
- 267 Sun Guangyong, 柬埔寨钢铁矿业集团董事长张传利表示—柏威夏省至国公 密港铁路2013年7月开工, *The People's Daily Online*, 9 February 2013.
- 268 Simon Lewis & Sun Mesa, *Locals in the Dark to Chinese Rail Project*, *Cambodia Daily*, 2 January 2013. <http://www.cambodiadaily.com/business/locals-in-the-dark-to-chinese-rail-project-7128/> (accessed April 2014).
- 269 Xinhua, Cambodian, *Chinese Firms to Build Railway, Seaport*, *China Daily Online*, 1 January 2013. http://www.chinadaily.com.cn/business/2013-01/01/content_16074239.htm (accessed April 2014).
- 270 Reuters, *Chinese Companies to Invest Billions on Cambodia Projects*, *New York Times*, 3 January 2013. http://www.nytimes.com/2013/01/04/business/global/chinese-companies-to-invest-billions-on-cambodia-projects.html?_r=0 (accessed April 2014).
- 271 May Kunmakara, *China to Invest \$9.6b in Cambodia*, *Phnom Penh Post*, 1 January 2013.
- 272 Lu Bingyang, 中国中铁96亿美元参建柬埔寨铁路项目, *Caixin Online*, 4 January 2013. <http://companies.caixin.com/2013-01-04/100479624.html> (accessed April 2014).
- 273 Ministry of Industry, Mines and Energy, *Exploration License No868, Cambodia Iron and Steel Mining Industry Group*, 8 October 2008.
- 274 Xinhua, Cambodian, *Chinese firms to build railway, seaport*, *China Daily Online*, 1 January 2013.
- 275 May Kunmakara, *China to invest \$9.6b in Cambodia*, *Phnom Penh Post*, 1 January 2013.
- 276 Andrew R.C. Marshall & Prak Chan Thul, *Chinese Plan to Invest in Cambodia Is Big, but Vague*, *Reuters*, 14 February 2013. http://www.nytimes.com/2013/02/15/business/global/chinese-plan-to-invest-in-cambodia-is-big-but-vague.html?pagewanted=all&_r=0 (accessed April 2014).
- 277 May Kunmakara, *China to Invest \$9.6b in Cambodia*, *Phnom Penh Post*, 1 January 2013.
- 278 Reuters, *Chinese Companies to Invest Billions on Cambodia Projects*, *New York Times*, 3 January 2013.
- 279 May Kunmakara, *China to Invest \$9.6b in Cambodia*, *Phnom Penh Post*, 1 January 2013.
- 280 Railway Gazette, *Railway planned to link steel plant and port*, 4 January 2013. <http://www.railwaygazette.com/news/single-view/view/railway-planned-to-link-steel-plant-and-port.html> (accessed April 2014).
- 281 Simon Lewis and Sun Mesa, *Locals in the Dark to Chinese Rail Project*, *Cambodia Daily*, 2 January 2013.
- 282 May Kunmakara, *China to Invest \$9.6b in Cambodia*, *Phnom Penh Post*, 1 January 2013.
- 283 Reuters, *Chinese Companies to Invest Billions on Cambodia Projects*, *New York Times*, 3 January 2013.
- 284 Railway Gazette, *Railway planned to link steel plant and port*, 4 January 2013.
- 285 Reuters, *Chinese Companies to Invest Billions on Cambodia Projects*, *New York Times*, 3 January 2013.
- 286 Xinhua, Cambodian, *Chinese firms to build railway, seaport*, *China Daily Online*, 1 January 2013.
- 287 China Ocean Engineering Construction General Bureau website, *COEC and CISMIG Hold Signing Ceremony*, April 10 2012. http://coec.com/newshow_e.asp?cid=7&id=1238 (accessed January 2013).
- 288 Lu Bingyang, 中国中铁96亿美元参建柬埔寨铁路项目, *Caixin Online*, 4 January 2013.
- 289 China Sichuan and Chongqing Chamber of Commerce in Cambodia website, 柬埔寨钢铁矿业集团援建柏威夏革命小学校舍竣工启用, 17 May 2012.
- 290 China Sichuan and Chongqing Chamber of Commerce in Cambodia website, 柬埔寨钢铁矿业集团援建柏威夏革命小学校舍竣工启用, 17 May 2012.
- 291 Cambodia Sin Chew Daily, 柏威夏省国内首座大型钢铁厂. 料2012年底产钢, 10 June 2009.
- 292 *Ibid.*
- 293 May Kunmakara, *China to invest \$9.6b in Cambodia*, *Phnom Penh Post*, 1 January 2013.
- 294 <http://www.opendevdevelopmentcambodia.net/maps/> (accessed July 2014).
- 295 Sun Mesa & Simon Lewis, *Chinese Firms Sign Deal to Build 400-km Railway Line*, *Cambodia Daily*, 1 January 2013.
- 296 *Ibid.*
- 297 May Kunmakara, *China to invest \$9.6b in Cambodia*, *Phnom Penh Post*, 1 January 2013.
- 298 *Law on Environmental Protection and Natural Resource Management*, 1996 (Article 6).
- 299 *Law on Mineral Resource Management and Exploitation*, 2001 (Article 21).
- 300 May Kunmakara, *China to Invest \$9.6b in Cambodia*, *Phnom Penh Post*, 1 January 2013.
- 301 Simon Lewis and Sun Mesa, *Locals in the Dark to Chinese Rail Project*, *Cambodia Daily*, 2 January 2013.
- 302 *Ibid.*
- 303 Phorn Bopha & Simon Lewis, *Minister of Transport Says He Knows Little About Railway Project*, *Cambodia Daily*, 3 January 2013. <http://www.cambodiadaily.com/business/minister-of-transport-says-he-knows-little-about-railway-project-7198/> (accessed January 2013).
- 304 Information gathered during discussion between G:HUB and community network members from Rovieng, March 2013.
- 305 Bridges Across Borders Cambodia, *Derailed: The Resettlement Process and Impacts of the Rehabilitation of the Cambodian Railway*, 2012. <http://www.babcambodia.org/railways/> (accessed February 2013).
- 306 Transparency International, *Corruption Perceptions Index 2013*, <http://cpi.transparency.org/cpi2013/results/> (accessed April 2014).
- 307 Toh Han Shih, *China Railway Bullish On Overseas Business*, *South China Morning Post*, 9 April 2014. <http://www.scmp.com/business/china-business/article/1469891/china-railway-bullish-overseas-business> (accessed April 2014).
- 308 Gu Yongqiang, *Rail Builders Shift Interest to Overseas Mines*, *Caixin Online*, 28 May 2012. <http://english.caixin.com/2012-05-28/100394647.html?p0#page1> (accessed April 2014).
- 309 Toh Han Shih, *China Railway Group's project in Venezuela hits snag*, *South China Morning Post*, 11 April 2013. www.scmp.com/business/china-business/article/1211846/china-railway-groups-project-venezuela-hits-snag (accessed April 2014).

Greenovation Hub would like to thank its funders, partners, and friends for supporting the work of the organization and helping to make this report possible. Hu Kewei provided support during the research stage of the report, and translation was provided by Yang Mingzhu, Ren Shizheng, Feng Jia and Hu Kewei. A number of people contributed their comments and advice on the initial research design and reviewed drafts of the report and case studies. We are extremely grateful to everyone who provided advice, comments and words of support.

Special thanks to Adina Matisoff who gave her valuable time to contribute a case study for the supplement to this report.

Finally, Greenovation Hub would like to extend sincere thanks to all those who provided information, shared documents, and agreed to be interviewed for this report.

The PDF version can also be downloaded from the Greenovation Hub website

English: www.ghub.org/cfc_en/mining2014

Chinese: www.ghub.org/cfc/mining2014

 中国北京市东城区甘雨胡同53号万博写字楼410室, 100006
Room 410, Wanbo Office Building, No.53, Ganyu
Hutong, Dongcheng District, Beijing, China, 100006

 +86 10 8447 7697

 E-mail: policy@ghub.org

 www.ghub.org/cfc

 气候与金融面面观

创绿中心是一个扎根本土，放眼全球的环保公益组织，我们相信人类的发展应以生态为本，解决环境问题须多方协力。机构旨在提供创新的工具和渠道促进公众参与环境保护，融合社会、企业和政府的力量，共同推动中国的绿色转型。

Greenovation Hub is a grassroots environmental NGO with a global outlook. G:HUB believes development should be ecological, and only by collaborative effort can environmental problems be solved. We provide

innovative tools to enable wider public participation in environmental protection and foster joint power of civil society, business and government to accelerate China's green transition.

