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Economic Evolution of Underground Mining in the Chambishi Copper Mine

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Abstract: Chambishi commenced a research project to improve revenue at the plant. The research involves plant optimization, improved technology at the plant to improve recoveries and a global market study to identify suitable concentrates from which high value metals such, CHAMBISHI Copper Smelter (CCS) has assured its 1,600 employees that their jobs are safe despite challenges the mining sector is facing. The programs of nationalization were ill-timed. Events that were beyond their control soon wrecked the country's well-laid plans for economic and national development. However, surging copper prices from 2004 to the present day rapidly rekindled international interest in Zambia's copper sector with a new buyer found for KCCM and massive investments in expanding capacity launched. China has become a major investor in the Zambian copper industry, and in February 2007, the two countries announced the creation of a Chinese-Zambian economic partnership zone around the Chambishi copper mine Chambishi also boasted of a couple of well stocked shops although most of the shopping was conducted at Nkana (Kitwe). Chambishi is predominantly a mining town, with two of open pits mines at China’s Non Ferrous Africa Mining Corporation (NFCA) and the newly opened SINO Metals’ Mwambashi Mine. Apart from the underground mine at NFCA, another one has been opened at a place that used to be Nchanga Farms called South East Ore Body (SEOB) with an investment of $850 million. It also has a couple of multimillion-dollar smelting plants-Chambishi Copper Smelter and Chambishi Metals. SINO Metals has also opened up the Mwambashi Open Pit Mine in the southern part of the town and made a copper processing plant near Chambishi.

1. Introduction

The Zambian economy has historically been based on the copper-mining industry. The discovery of copper is owed partly to Frederick Russell Burnham, the famous American scout who worked for Cecil Rhodes [9]. By 1998, however, output of copper had fallen to a low of 228,000 tones, continuing a 30-year decline in output due to lack of investment, and until recently, low copper prices and uncertainty over privatization. In 2001, the first full year of a privatized industry, Zambia recorded its first year of increased productivity since 1973. Today copper mining is central to the economic prospects for Zambia and covers 85% of all the country's exports, but concerns remain that the economy is not diversified enough to cope with a collapse in international copper prices. Chambishi is predominantly a mining town, with two of open pits mines at China's Non Ferrous Africa Mining Corporation (NFCA) and the newly opened SINO Metals' Mwambashi Mine. Apart from the underground mine at NFCA, another one has been opened at a place that used to be NchaFarms called South East Ore Body (SEOB) with an investment of $850 million. It also has a couple of multimillion-dollar smelting plants- Chambishi Copper Smelter and Chambishi Metals. The Company made a profit before tax of K43.42 million (US$4.4 million) (2015: Net loss of K260.83 million (US$40.1 million) and its current liabilities exceeded its current assets by K2, 776.79 million (US$270.6 million) (2015: net current liability position of K1, 885.63 million (US$289.9 million). The Company also had a deficit in shareholder funds of K1,232.42 million (US$120.1 million) (2015: Deficit in shareholder funds of K809.80 million (US$124.5 million).The Eurasian Resources Group has confirmed its intention to continue to provide financial support to the Company to enable it to continue its operations and meet its obligations, During the financial year ended 31 December 2015, Chambishi Metals Plc (Chambishi) generated total revenues of K2,015.3 million (US$204 million) (2014: K1,883 million (US$289.50 million). The net loss was at K396.1 million (US$40.1 million) (2014: K88.5 million (US$13.6 million).ZCCM-IH has been engaging with Chambishi on the perennial losses and it was agreed that Chambishi would have to scale up production to be able to generate enough gross profits to cover all its operational costs and to generate profits. This would necessitate creating further capacity particularly for copper beyond the current capacity of 55,000 tones. A study is being undertaken to assess the financial implications of this proposal.

2. Processing Operation

In the copper industry, salaries are generally divided between a "basic pay" and a variety of allowances that are standard across the industry. For example, miners receive a "housing allowance" as a percentage of their basic pay: at both the Chinese-owned NFCA and the Indian-owned KCM, miners receive 30 percent of their monthly basic pay. However, since KCM pays its underground miners roughly three to four times the basic pay NFCA does, the housing allowance is likewise more substantial. Other additional monthly payments given to miners include fixed amounts for transport when a miner lives outside the company's bus system; "shift differentials" for working the night shift; production bonuses; lunch allowances; and, occasionally, education allowances to cover costs for a miner's child. Not all mining companies provide each of these allowances, but, particularly because of housing allowance disparities, the allowances generally. Increase the basic pay difference when totalling a miner's gross pay in a non-Chinese versus Chinese-run mine.

As shown, the Chinese companies, CCS and Sino Metals, generally pay one-third to one-sixth the salaries of their competitors from other countries—even for identical work. Thus, an acid-plant operator in CCS's smelter told Human Rights Watch that his basic pay was 715,008 Kwacha (US$149), whereas an acid plant operator in KCM's smelter told Human Rights Watch that he made 3.2 million Kwacha (US$667). Annex V provides a full breakdown of the salaries at Sino Metals and CCS, showing also that the majority of employees fall within the lower end of the pay scale.

As seen in the second column of Table 1, companies provided pay increases between 9 and 12 percent for the 2011 collective bargaining agreements. The Chinese companies both provided 12 percent increases, although workers demanded much higher and, at CCS, originally went on strike over the 12 percent proposal.

Table 1: Pay in Zambian Copper Smelting and Processing Operations as of September 2011 (Chinese Companies in Italics)

company	Pay Increase in 2011	Lowest Group Monthly salary range	Middle Group Monthly salary range	Highest Group Monthly salary range
Smelting processing, and Engineering				
Chambishi Copper Smelt (CCS)	12%	US$117(G9)	$141 to 154 (G7, half the employees)	$261-$340(G2/G1)
KCM(surface)	11.5%	$544-$634(KCM 1)	$631-$756 (KCM 3)	$665-$808 (KCM 4)
(hot metal)[192]		$596-$694	$691-$828	$728-$885
Mopani (surface)	11.5%	$466-$503 (M8)	$508-$545 (M7)	$562-$717 (M6)
(hot metal)		$497-$536	$541-$580	$596-$764
processing, and Engineering only				
Sino Metals	12%	$101-118 (L10 Cleaners, attendants)	$116-$161 (Most Works, L9-L7)	$213-$287 (L4 to L2)
Chanbishi Metals	9%	$360	$475	$655
kansanshi	9.9%	$348	$481-$625	$130

Table 2 shows salaries at the underground copper mining operations in Zambia, as well as at Lumwana, a surface-only copper mining operation. Although the differences are not as pronounced as in the processing and smelting operations, the Chinese companies are again consistently the lowest payers, with NFCA generally paying about one-half to one third what underground competitor's pay for the same work. Prior to 2008, the differences in salaries between the main copper mining companies often did not reflect that some companies contracted out substantial portions of their operations to subcontractors that then paid a fraction of the wages for the same work done by permanent employees of the parent company. One report found that in September 2006 almost 40 percent of the copper mine employed by subcontractors, with wages for some subcontractors only 40 to 50 percent those paid by the main company for the same work [1]. The two largest mining companies, the Indian-owned Konkola Copper Mines and the Swiss/Canadian-owned Mopani Copper Mines, both had sizeable parts of their workforces employed by subcontractors [2]. However, government officials and business representatives told Human Rights Watch that the Ministry of Labor outlined in 2008 that subcontractors had to pay salaries that were at least 80 percent of that paid by the main company to permanent employees, reducing the previous disparity [3-5]. As a result, while both the Chinese companies and other multinationals still use subcontractors, the wages below reflect salaries achieved through collective bargaining with unions for the employees of the parent mining companies. China Luanshya Mine (CLM) is slightly more competitive in its pay than NFCA—particularly for the most skilled workers—but this appears to be a result of the context in which the Chinese investor took over the mine. While, as detailed in the Background, the Chambishi underground mine lay dormant for over a decade before NFCA reopened the mine and started production, Luanshya's mine was dormant for less than a year. More.

Table 2: Basic Pay in Zambian Copper Mining Operations as of September 2011 (Chinese Companies in Italics)

company	Pay Increase 2011	Lowest Group Monthly salary range	Middle Group salary range	Highest Group salary range
NFCA (underground)	10%	$229-$245 (L8)	$262-$296 (L5)	$385-$485 (L1)
China luanshya Mine (CLM) (underground)	12%	$358-$370 (UG7)	$375-$564 (UG4)	$450-$712(UG1)
Mopani (underground)	11.5%	$521-$563 (M8)	$566-$608 (M7)	$625-$808 (M6)
KCM (underground)	11.5%	$623-$726 (KCM1)	$722-$866 (KCM3)	$771-$925 (KCM4)
Chibuluma (underground)[323]	13.5%	$416-$489 (G8)	$461-$534 (G5)	$618-$691 (G1)
Lumwana (open-optionally)	12%	$440-$506 (J6)	$609-$699 (J4)	$930-$1070 (J1)
Sandvik[324] (2010 salary level) (L	n/a	$460-$560 (helper, lower level artisans)		$955-$1156 (higher skilled technicians and artisans)

NFCA reopened the mine and started production, Luanshya's mine was dormant for less than a year. More than a dozen miners at CLM, as well as national union officials, told Human Rights Watch tat the Chinese management was forced to essentially carry over the previous conditions of service— including pay—when it started production [6]. Even a high-level Zambian member of management at CLM, who otherwise defended the actions of the Chinese owners there, echoed this explanation as to why CLM paid better than the Chambishi-based operations.

2.1. Improvements

Underground miners at NFCA, the Chinese-owned copper mine in Chambishi, told Human Rights Watch that during the first years after the mine became operational in 2003, they routinely worked 12-hour shifts underground. After pressure from miners and the unions— given the danger involved in working underground—NFCA established an 8-hour standard workday, with many of the underground operations splitting into morning, afternoon, and night shifts. Although slow in coming, this reform shows that Chinese management in the copper mines can be responsive to labor concerns. However, this change did not end the practice of forcing miners to work a double

shift—up to 16 hours underground, often without overtime pay or sufficient rest to make up for the double time. An electrician at NFCA described being forced to work a second shift without.

2.1.1. Good Investors

While almost every miner from Chinese mining operations interviewed by Human Rights Watch complained about their conditions of service, particularly pay and safety practices, many expressed appreciation for the large amount of capital investment that the Chinese investors have brought to the copper industry. As noted in the background, CNMC has taken over several operations that previous investors abandoned. In addition to reopening these mines, the Chinese-run mines are drastically expanding operations. Miners, including an electrician at China Luanshya Mine (CLM), repeatedly expressed gratitude to the Chinese for the investment, noting that it had saved or created thousands of jobs: “The investment has changed greatly with this investor. So much more money is coming into the mine. The last one [Enya Holdings] completely neglected the mine, letting it fail; we were dormant for a year. Now, the Chinese have come and we’re growing, we’re set to open up a new mine [7].” A management representative from CLM told Human Rights Watch that the Chinese were investing US$170 million to upgrade the Baluba underground shaft that was originally constructed in 1936; another $350 million was being invested to create the Muliashi open-pit mines that will begin production in late 2011 and add more than 1000 new jobs.86 The Chinese constructed Chambishi Copper Smelter from scratch, opening in 2008 and now employing 900 workers—with ongoing construction to expand further. The smelter, according to union officials and miners who work there, is state-of-the-ar In addition to appreciation for the renovation and expansion work, several miners and union officials noted that the Chinese investors have also made welcome improvements to equipment and technology in the current mines. A NUMAW union leader told Human Rights Watch that the Chinese companies are “modernizing the mines, making them more efficient and making the jobs easier. The CCS smelter, for example, is fantastic, largely computerized [8].” A draftsman, responsible for planning the drilling underground at CLM, said similarly: “They have brought a lot of computers and technology. In the past, we used a pencil to plot out the drilling pattern; now, each.

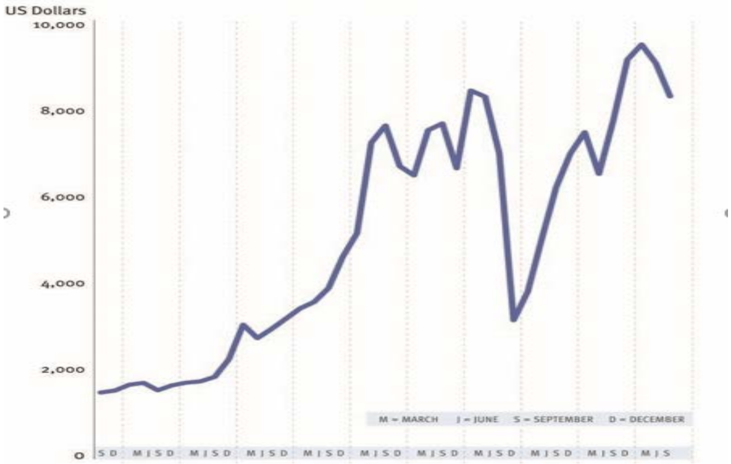

Fig 1 World Market Copper per metric Ton of Grade A Cathode

3. Conclusion

This Copper mines that were dilapidated under previous investors, with almost no capital upgrading or even maintenance, are being modernized and expanded by the Chinese-run companies. Yet the goodwill from these efforts is offset by workers’ complaints about labor abuses. There is no question that since first beginning operations, the Chinese-run companies have improved health and safety conditions as well as union relationships. Yet there is likewise no question that they remain in routine violation of Zambian and international law on these same issues, and perform considerably worse from a labor standpoint than their competitors from other multinationals in Zambia’s copper industry. Still, the improvements make clear that there is neither an inherent link between Chinese investment and poor labor practices nor a complete inflexibility on their part. Indeed, they appear responsive to pressure from host governments and care greatly about their image. The role of the host state is therefore fundamental, as it is in the protection and fulfillment of all human rights. In Zambia, the Chinese-run copper mining companies have taken advantage of the ineffectual Mines Safety Department and a Labor Ministry that endorses collective bargaining agreements containing provisions that conflict with Zambian and international labor law. Human Rights Watch's large body of work on business and human rights shows that this is of course neither unique to Zambia nor to Chinese companies operating overseas. Many Western companies likewise take advantage of weak labor standards and enforcement around the world, exploiting local workforces. But in Zambia, while other multinationals are responsible for certain labor abuses, the Chinese-run companies are generally the worst on issues involving health and safety, hours of work, and the right to organize.

The situation in Zambia could change rapidly as a result of longtime opposition leader Michael Sata's election as president. President Sata promised to improve the lives of average Zambians within his first 90 days in office, and his first weeks have been met with a flurry of activity related to mining and the economy more generally. Miners—and workers in other Zambian industries—have appeared to feed off of Sata's often vitriolic language and gone on wildcat strikes around the country. While some reports indicate promises by Chinese management to drastically increase miners' pay, other Chinese mining companies appear to be taking a hard line in response to the strikes—even dismissing employees. In its October 8 letter to Human Rights Watch, CNMC promised to "conduct more detailed, comprehensive and in-depth investigations, focusing on the issues that you have raised, or have yet to raise…. [W]e strive to work hard as a team in raising our standards, as well as push for our enterprises to be enterprises with a positive image." Like the Sata government, if its future action meets its rhetorical commitment, Zambia may soon provide a model for how Chinese business ventures in Africa can benefit all parties involved: from China, to the host government, to the so-far forgotten workers in these companies.

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