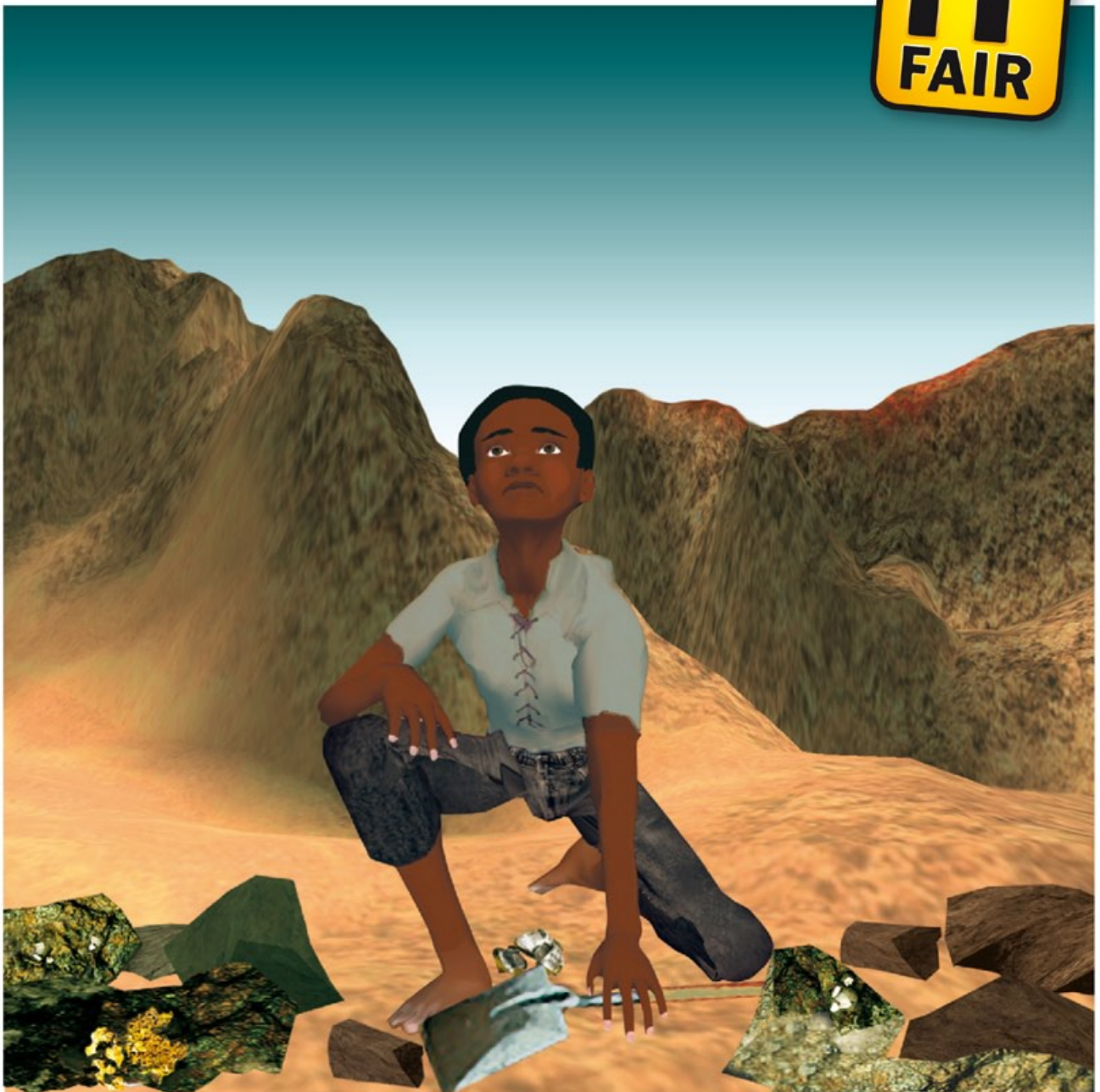


POWERING THE MOBILE WORLD

Cobalt production for batteries in the DR Congo and Zambia

SwedWatch
November 2007



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This report is published as part of the makeITfair campaign, a European wide project on consumer electronics. makeITfair aims to inform young consumers about human rights, social and environmental issues along the supply chain. It also addresses consumer electronics companies that can contribute to change.



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MAKEITFAIR

makeITfair is a European wide project on consumer electronics, aiming to inform young consumers about human rights, social and environmental issues along the supply chain. The work is co-ordinated by the Dutch organisation SOMO. Project partners are IRENE in the Netherlands, SwedWatch, Fair Trade Center, Church of Sweden Aid from Sweden, FinnWatch and Finnish Association for Nature Conservation from Finland; Germanwatch and Verbraucher Initiative from Germany, KARAT from CEE; ACIDH from the DR Congo, CIVIDEP from India and Labour Action China from China. Website: www.makeitfair.org



SWEDWATCH

SwedWatch is a non-governmental organisation whose task is to critically examine Swedish business relations with developing countries focusing on environmental and social concerns. SwedWatch consists of five member organisations: The Swedish Society for Nature Conservation, Church of Sweden, UBV/Latin America, Friends of the Earth Sweden and Fair Trade Center. SwedWatch is financed by the Swedish Development Aid Agency, Sida. Website: www.swedwatch.org

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Church of Sweden works for a just world without hunger, poverty or oppression. Church of Sweden works to exert an influence on public opinion in Sweden and with development co-operation and emergency relief together with local partners in about 40 countries. Website: www.svenskakyrkan.se

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FAIR TRADE CENTER

Fair Trade Center is a Swedish non-governmental organisation (NGO). We have been promoting fair trade with developing countries since 1996. Our intention is to increase consumer and company awareness of social and environmental responsibility. Website: www.fairtradecenter.se

FOREWORD

This report is part of the 'makeITfair' project to raise awareness about development issues in the production chain of the consumer electronics industry, with a special focus on products for young consumers, such as mobile phones, MP3 players, game consoles and laptops.

The focus of the project is on the consumer electronics industry, as this industry is growing rapidly and is facing many social and environmental problems throughout the world. The industry has only recently been the focus of public campaigns, and there is still limited awareness with the wider public. As the production chain of consumer electronic products is a truly global one, the sector is a particularly good example to discuss issues of globalisation with young consumers.

The three-year programme of 'makeITfair' concentrates on young consumers because they can play a decisive role in moving the industry towards more equitable and sustainable production methods. At the same time, dialogues will be initiated with electronic brand companies to encourage them to take responsibility for issues throughout their entire supply chain.

In the first year the research reports picture the conditions under which the raw materials for electronics are extracted. The production, retailing and eventually the discarding of products in the last phase of the product lifecycle will be researched in the second and third year of the project. Furthermore, the research investigates the situation in Europe itself: the first year the focus is on production in Poland, in the second and third year the consumer electronics industry in Czech Republic and Hungary will be addressed.

The dissemination of the research entails the development of Consumer Guides, educational material, toolkits for campaigning organisations and web based tools. Other activities in this project include capacity building sessions in Eastern Europe and the organising of an annual international Round Table to bring together electronics companies, NGOs and trade unions to discuss the various responsibilities for the environmental, human rights and labour conditions down the supply chain of consumer electronics.

This EU-funded programme is led by a consortium of NGOs from Europe that includes Germanwatch, Verbraucher Initiative, SwedWatch, Church of Sweden, Fair Trade Center, FinnWatch/ Finnish Association for Nature Conservation, Karat, SOMO and IRENE, as well as NGOs in developing countries in Asia and Africa including SACOM for China, CIVIDEP for India and ACIDH for the Democratic Republic of Congo.

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EXECUTIVE SUMMARY

Portable electronics have become an inevitable part of modern life. In order to run your PC, your mobile phone or your MP3 player, you will need rechargeable batteries containing cobalt. The electronic industry currently accounts for around a quarter of the world's consumption of cobalt. Besides batteries, the metal is used in magnets, headphones and media coatings for hard disk drives.

ZAMBIA AND THE DRC: THE CENTRE FOR COBALT PRODUCTION

The Copperbelt of Zambia and the Democratic Republic of Congo (the DRC) are the lifeblood of cobalt production. These two areas supply more than half of the world's cobalt. China is one of their biggest clients, with a reported 90 percent of China's cobalt imports coming from Africa, almost exclusively from the Copperbelt. More than half of it is destined for China's growing battery industry. This report shows that a significant part of the cobalt that is used in batteries powering our portable electronics can be linked directly to mining companies in both Zambia and the DRC, where working conditions are often unacceptable and the environment is damaged by ongoing operations that governments neither have the resources nor the will to control.

APPALLING WORKING CONDITIONS

Despite the fact that metal prices are hitting record levels, field interviews show that some miners, especially those employed on external and temporary contracts cannot provide enough food for their families. There are significant differences between mining companies, but in many cases salaries do not cover the basic needs. In the Zambian mining industry almost half of the workforce is employed via external contractors. On average these workers earn only half as much as permanent workers hired directly by mining companies.

Health and safety aspects are often neglected. In the Katanga province of the DRC artisanal miners work without protective clothing. Children and adolescents aged between seven and eighteen are risking their lives in the mineshafts. They are exposed to mineral dust that irritates their eyes and damages their lungs. Poverty often forces such children into mining. Whilst some of these children only work during school holidays, others do so because their parents cannot afford to send them to school. Some 50 000 of the 100 000–140 000 people that are involved in mining in Katanga are estimated to be under eighteen and thereby classified as children by the United Nations.

In both Zambia and the DRC workers are suffering accidents and occupational diseases that could be avoided. In Zambia privatisation has created job opportunities and new investments. However, the privatisation has also resulted in more accidents and deaths in the plants and the mines according to the Mines Safety Department in the mining capital of Kitwe with 80 deaths in the mines of the country during 2005. Union representatives state that temporary labourers are not trained adequately in safety procedures and that they are not offered the health check-ups that permanent workers get.

THE ASIAN EMPLOYERS AND UNION RIGHTS

Brand companies of electronics have outsourced much of their production to Asia. As a direct consequence Asian mining companies and traders have turned to the Copperbelt to secure metals for manufacturing. In both Zambia and the DRC Asian employers – often the Chinese – are regarded as the worst group of employers. The salaries they offer are among the lowest and even if unions exist, they are often not allowed to operate properly.

In general, unions in Katanga are often weak and in no position to bring about real change. By contrast, unions in Zambia have had some success in increasing the number of directly employed workers and wage levels.

ENVIRONMENTAL AND HEALTH PROBLEMS

All mining activities result in environmental damage to some extent. This is also evident in the Copperbelt where substantial areas are covered by abandoned mines; old and new tailing dams and waste material from previous and current mining operations. Studies financed by the World Bank show that some of the cobalt producing companies channel discharge directly into rivers. However, these effects are being naturally mitigated somewhat thanks to dense vegetation, little erosion, and buffering country rock that is rich in carbonate.

Nevertheless, farmers complain about lost livelihoods and polluted waters. Air pollution damages the health of both workers and local communities. A recent study indicates that there is a link between the emissions from smelters and elevated levels of lead in children's blood in Zambia. In Katanga many workers interviewed are worried about eventual effects of radioactivity from the uranium that the copper and cobalt ore sometimes contains. SwedWatch concludes that there is an urgent need for information and health monitoring in the mining districts of both Zambia and the DRC.

WHAT SHOULD COMPANIES DO?

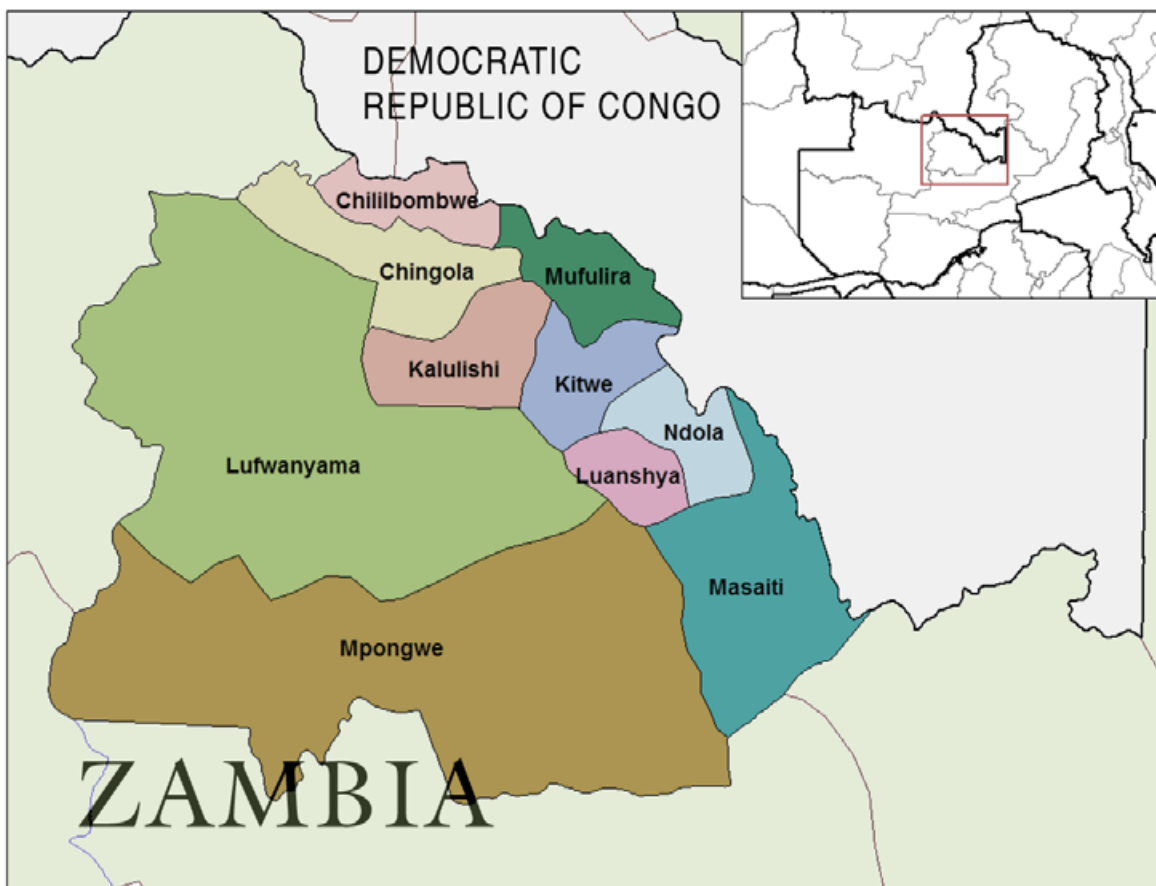
Consumer electronics companies such as Sony Ericsson, Nintendo, Nokia, Apple and Dell, could promote improvements by including the extractive industry level in their supply chain management. They often argue that it is difficult to trace metals and that they cannot influence the extractive industry since they, as individual companies, only use limited amounts of metals in their products. However, as this report shows, as a whole their industry uses a quarter of the world's cobalt. There is a direct link between their products and mining in Zambia and the DRC.

SwedWatch would like to stress that it is not suggesting that companies stop trading with African metal suppliers just because the risks in these countries are very high. Instead they should engage in cooperation in order to influence their suppliers. The OECD Guidelines for Multinational Enterprises states that multinational companies should encourage suppliers to respect human rights and protect the environment. The United Nation's ethical initiative, The Global Compact, states that companies are obliged to be fully aware of human rights issues in their supply chains, both upstream and downstream. Consumer electronics companies targeted by this project do not live up to these standards. This report shows, however, that it would be possible for them to push for change were they to choose suppliers with best practice operations.

THE ROLE OF CONSUMERS

Whilst consumers in Europe can buy cheaper and cheaper electronic goods, several miners in the Copperbelt are unable to buy enough food and medicine for their families. While our children delight in the latest editions of games and ringtones in new electronic products, African children are getting injured and sometimes killed in the mines of Katanga. What role do consumers play? SwedWatch and eight other European organisations urge consumers to demand more responsibly produced electronics and to communicate to brand companies that they are willing to pay for products that have been sustainably and ethically produced.

MAPS OF THE COPPERBELT OF THE DRC AND THE ZAMBIA



1. INTRODUCTION

1.1 THE CONSUMER ELECTRONICS SECTOR

The global market for consumer electronics is growing at an astonishing rate with brand name companies competing against each other for bigger market shares. Consumers are eager to get their hands on the latest gadgets for communication and entertainment. They want to be able to work on the go, play the latest video games and be reachable at all times.

The global mobile phone market reached a milestone in 2006 with more than one billion units being shipped worldwide over the year.¹ The market for MP3 players in Western Europe increased by 125 percent in 2005², though it should be noted that mobile phones with music functions are encroaching on this part of the market. Annual webcam sales grew by an average of 44 percent, from 2.9 million units in 1999 to 18 million units in 2004.³ Industry analyst Gartner predicts that PC sales will increase by more than 12 percent during 2007.⁴

Brand companies have been profiting from the consumer electronics boom for years. At present they are both investing in new technologies for more appealing and exclusive products, as well as offering increasingly cheaper models to increase sales. Nowadays consumers only pay half as much for a Nokia phone as they did in 2002 and the average price of a Sony Ericsson phone has fallen by 20 percent during the last twelve months.⁵ To cut costs consumer electronics companies have outsourced either parts or all of their production to low-cost countries, mainly in Asia, Latin America and Eastern Europe, which has resulted in complicated supply chains that are difficult to monitor.⁶

Right at the bottom of the chain metals are being extracted to be used in products that form an essential part of our everyday lives. In fact, this extractive industry could be described as the “forgotten level” of the supply chain. So far, brand companies such as Apple, Motorola, Nokia, Philips, Sony, Acer and Nintendo, have not included the extractive industry in their supply chain management. Instead they have focused their CSR work on first and sometimes second tier suppliers. The global market leaders do not even know where the metals that are used in their products are mined. Yet, as seen during research conducted for this project, the consumer electronics industry utilises a significant proportion of the global supply of several metals that are an essential part of their products.

1.2 METALS USED IN OUR EVERYDAY PRODUCTS

There are numerous ways in which metals such as platinum, tin and cobalt end up in consumer electronics. Some trade is done via commodity exchanges and trade houses or agents, mostly in the developed world, in countries like the UK and the US. In other cases, the metals are exported

1 Svenska Dagbladet, Expansion krymper Motorolas vinst, 20 January 2007.

2 IDC, MP3 Western Europe Portable Compressed Audio Player Forecast and Analysis, 2005-2010.

3 IT Facts, \$1.2 bln of Webcams to be sold in 2005, 23 March 2005.

4 IDG News, Global Chip Sales Remain Hot, 2 October 2007.

5 Svenska Dagbladet, Nokia utklassar i telekomkampen, 18 October 2007 and Svenska Dagbladet, Prisras på mobiler slår hårt mot Sony Ericsson, 12 October 2007.

6 ILO, The Production of Electronic Components for the IT Industries: Changing Labour Force Requirements in a Global Economy, Geneva, 2007.

directly by mining or processing companies to chemical companies that supply manufacturers of electronics components.

Products such as laptops, mobile phones, games, MP3 players and webcams contain a number of different metals. The main ones in terms of volume are aluminium, iron, copper, nickel and zinc. However, though only used in very small amounts, beryllium, indium, tantalum and platinum-group metals to name just a few, are also essential for today's consumer electronics goods.⁷

It has been estimated that metals constitute 25 percent of a mobile phone's weight, not including batteries and battery chargers.⁸ The largest variety of metals is found in the circuit board. About one third of the circuit board is likely to be metallic, another third is made of glass and ceramic materials, and the remaining third is plastic.⁹

This research study shows that the electronic industry is a significant consumer of some of these metals. In recent years, the global demand for metals has risen sharply and in many cases the consumer electronics sector has been the driving force behind the growth.

Beryllium: As mobile phones and other electronics goods are getting increasingly smaller, stronger materials are required such as beryllium/copper alloys that are able to cope with higher temperatures. The US consumes 50 percent of the world's beryllium of which 45 percent is used in computer and telecommunications products. It is widely expected that these sectors will have the fastest increases in demand for beryllium alloys and oxides the coming years.¹⁰

Cobalt: In 2006, rechargeable batteries used in portable products such as mobile phones, MP3 players, laptops, digital cameras, camcorders and game products accounted for a quarter of the world's total cobalt consumption and demand is expected to increase.¹¹ Last years' increased demand for cobalt has largely been driven by the consumer electronics sector. Cobalt is also needed in the production of magnets, speakers, headphones and media coatings for hard disc drives.¹²

Gallium: The behaviour of gallium prices has largely tracked the mobile phone market during the last years, since mobile phones constitute the largest market for gallium/arsenic devices. In a mobile phone, the metal is used to make power amplifiers, keypad backlighting and camera flashes. It is estimated that more than 80 percent of all handsets will include a camera by 2011.¹³

Indium: World consumption of indium is growing significantly because of strong demand for consumer electronics such as laptop computers, flat-screen televisions, and other devices

7 Behrendt, S. et al. (2007) Rare metals. Federal Environmental Agency (Umweltbundesamt) pub. 23/07, p. 8-9

8 U.S. Geological Survey, Recycled Cell Phones - A Treasure Trove of Valuable Metals, Fact Sheet 2006-3097, July 2006.

9 Earthworks et al (2004) Dirty Metals- Mining, Communities and the Environment, p. 28.

10 Roskill Mineral Services, Beryllium and U.S. Geological Survey, Mineral Commodity Summaries on beryllium, January 2007.

11 Avicenne Développement, The Rechargeable Battery Market 2006-2015, 16th Edition, September 2007.

12 Cobalt Development Institute, www.cdi.com and information from brand companies.

13 U.S. Geological Survey, Mineral Commodity Summary on gallium, January 2007.

containing flat panel displays, such as mobile phones.¹⁴ Indium is also used in high efficiency transistors, which are fundamental building blocks of the circuitry in many modern electronic devices.¹⁵

Palladium: In 2006, the electronics industry accounted for 15 percent of the world's palladium consumption¹⁶ with mobile phone producers accounting for roughly half of this.¹⁷ Most of it was used in so called multilayer ceramic capacitors. Palladium can also replace other more expensive or environmentally hazardous metals such as gold, lead and platinum.¹⁸ Smaller amounts of palladium are used for plating connectors and lead frames.¹⁹

Platinum: In 2006, the global consumption of platinum for electronics increased by 18 percent to 6 percent of the world total, owing to increases in hard drive manufacturing.²⁰ The metal is also needed to produce flat screens and liquid crystal display glass used to make laptops and some types of flat screen televisions, for example.²¹

Ruthenium: In 2006, global consumption of ruthenium increased by 45 percent, owing to a 78 percent growth of the electronics industry. A new type of computer hard drive contributed significantly to this. Within the electronics industry, ruthenium is also used in chip resistors and flat screen displays.²²

Rare earths: Rare earths are a group of 17 elements. Demand for rare-earth products has become strong within the display, magnetics and electronics industries.²³ Miniaturisation of consumer electronic devices is one global trend that is strongly influencing the demand of rare-earths. Neodymium and lanthanum, for example, are used in multilayer ceramic capacitors found in cell phones, laptop computers, cameras and automobile electronic controls, which also depend on high-intensity rare-earth magnets.²⁴

Tantalum: Tantalum is used in the manufacturing of capacitors mainly used in mobile phones, computers, digital cameras, hearing aids, cardiac pacemakers and automotive electronics. Half of the world's tantalum production goes to capacitors.²⁵ The trend towards miniaturisation significantly contributes to the increased demand for tantalum.²⁶

Tin: Tin is used for solders in printed circuit boards and in other components. It has become a hot commodity after new European environmental regulations came into force, which require

14 U.S. Geological Survey, 2005 Minerals Yearbook – Indium.

15 Behrendt, S. et al. (2007) Rare metals. Federal Environmental Agency (Umweltbundesamt) pub. 23/07, p. 57 and <http://en.wikipedia.org/wiki/Transistor>

16 U.S. Geological Survey, 2006 Minerals Yearbook - Platinum Group Metals.

17 Estimation based on figures in U.S. Geological Survey, Recycled Cell Phones - A Treasure Trove of Valuable Metals, Fact Sheet 2006-3097, July 2006.

18 U.S. Geological Survey, 2006 Minerals Yearbook - Platinum Group Metals.

19 Platinum Today, www.platinum.matthey.com

20 U.S. Geological Survey, 2006 Minerals Yearbook - Platinum Group Metals.

21 Platinum Today, Platinum, 2007 and U.S. Geological Survey, 2006 Minerals Yearbook - Platinum Group Metals.

22 Ibid.

23 Micon International Ltd, Rare Earths.

24 Ibid.

25 Mining Journal Review (2006), Annual Commodity Report on tantalum, p 2.

26 Behrendt, S. et al. (2007) Rare metals. Federal Environmental Agency (Umweltbundesamt) pub. 23/07, p. 22.

the electronics industry to use tin instead of lead. Traditional solder is an amalgam of around 60 percent tin and 40 percent lead, but lead-free solder is almost 95 percent tin. This trend has significantly contributed to a rise in global tin prices seen during the last few years.²⁷ At present the global solder market accounts for almost half of global tin consumption. In 2005, 65 percent of China's solder sales went to the electronics industry.²⁸

1.3 METALS EXTRACTED IN HIGH-RISK COUNTRIES

Metals are extracted all over the world, though often in high-risk countries such as China, Russia as well as various African states. The so called ‘resource curse’ describes the paradox that many countries rich in natural resources tend to have less economic growth than countries without this natural wealth. This phenomenon can have several causes. Countries largely dependent on income from their mining sectors are in a vulnerable position due to fluctuating world prices. Many of them have failed to diversify their economies and large flows of revenue tend to fuel political corruption.

MAJOR PRODUCING COUNTRIES OF SELECTED METALS

METAL	MAJOR PRODUCERS LISTED IN DESCENDING ORDER
Beryllium	US, China
Cobalt	DRC, Zambia, Australia, Canada, Russia, Cuba
Gallium	China, Germany, Japan, Ukraine
Palladium	Russia, South Africa, Canada, US
Platinum	South Africa, Russia, Canada, US
Ruthenium	South Africa, Russia, Canada, Zimbabwe
Tantalum	Australia, Brazil, Mozambique, Canada, Ethiopia, Rwanda, DRC
Tin	China, Indonesia, Peru, Bolivia, Brazil /.../ DRC

Source: US Geological Survey.

Specific problems connected to the extractive industries in developing countries include violations of labour and human rights, as well as destructive environmental practices. Mining operations in these countries are often owned by foreign corporations that create jobs and bring in much needed investments and know-how. In some places, however, these activities contribute to ongoing tensions and conflicts. The income from extraction and processing of minerals and metals may also fuel war, as is currently the case in eastern parts of the Democratic Republic of Congo.

Moreover, poor communities often complain that mining companies do not contribute sufficiently to the welfare of the population. Several governments have granted certain tax benefits to these companies, which tend to attract foreign investments, but reduce state revenue that could be spent on much needed development programmes. Salaries, especially those of temporary subcontracted workers, often do not cover basic needs. Health and safety problems are common.

27 AlterNet.org, War, Murder, Rape... All for your Cell Phone, 14 September, 2006.

28 ITRI, New ITRI Statistics Demonstrate Strength of Tin Demand, 2 Feb 2006 and The Star, Strong Appetite for Tin in China, 14 May 2007.

According to Communities and Small-Scale Mining, a network of donors headquartered at the World Bank's Mining Department, small scale, often illegal mining of minerals takes place in 50 countries around the world. The typical artisanal and small-scale miner is poor, has limited rights, and is exposed to harsh working and living conditions. Nonetheless, involvement in this activity continues to expand. Moreover, between 1- 1.5 million children are estimated to be working in the mining industry at present, largely a result of economic hardship.²⁹

1.4 RESPONSIBILITY AND ETHICAL GUIDELINES

Electronics companies are increasingly participating in branch initiatives. They subscribe to ethical guidelines and most of them have adopted individual codes of conduct. Most of these codes and guidelines address responsibility for the whole chain of production, yet the reality is rather different. As mentioned above, brand companies of consumer electronics only address problems related to the top of the supply chain. So far the industry has not taken any measures³⁰ to integrate mining of metals into their social or environmental responsibility efforts.

During the last few years a wide range of initiatives has been developed within and around the mining sector. The Extractive Industries Transparency Initiative (EITI) is one example. It is a voluntary initiative trying to increase transparency within the sector. The initiative aims to ensure that revenue from extractive industries contribute to sustainable development and poverty reduction.³¹ The International Council on Mining and Metals (ICMM) is another example, an industry initiative for mining and metals companies that comprises ten principles including a requirement to engage in independently verified reporting about human rights and environmental conduct.³²

However, the realities facing mine workers and communities in developing countries show that there is much left to be done. This report takes a detailed look at the cobalt sector and the repercussions that mining operations have on workers and the environment in Zambia and the DRC. As mentioned previously, cobalt is a metal widely used in rechargeable batteries (lithium ion and lithium polymer batteries) that are an integral part of portable consumer electronic devices. More than half of the world's cobalt originates from the Copperbelt of Zambia and the Democratic Republic of Congo (the DRC)³³, which constitute the geographical delimitation of this report.

SwedWatch concludes that there is a strong tie between the mining sector of the Copperbelt and cobalt used in consumer electronics. In recent years, the global cobalt market has been greatly affected by the increase in demand for consumer electronics. Batteries used in portable PCs, mobile phones, camcorders, games, MP3 players, digital cameras, and so on, used a quarter of

29 CASM referred to in Svenska Dagbladet, Guldrusch, 21 October 2007.

30 Just before the publication of this report, Hewlett-Packard informed SwedWatch that, after having received questions about the extractive level from the research organisations of makeITfair, the company had conducted a survey of their notebook suppliers on extractives. When this report was being finalised it was unclear how the company will proceed with the results. In November 2007, branch initiative EICC/GeSI also informed SwedWatch that it had commissioned a study to further investigate how metals are extracted, purchased and used within the electronics industry.

31 For more information about EITI see www.eitransparency.org

32 The tenth principle on ICMM's website, www.icmm.com

33 U.S. Geological Survey, Mineral Commodity Summary on cobalt, Jan 2007.

the world's supply of cobalt in 2006.³⁴ China, a significant battery producing country, imports almost all of its cobalt from the Copperbelt and more than half of China's cobalt consumption goes to the production of batteries.

34 Avicenne Développement, The Rechargeable Battery Market 2006-2015, 16th Edition, September 2007.

2. THE GLOBAL COBALT MARKET

Unlike many other metals, cobalt is not traded as a commodity on the London Metal Exchange or the New York based COMEX. On the international level, the number of trading houses and agents dealing with cobalt has diminished over the years. Currently most cobalt trade is dealt with using long term contracts between producers and consumers.³⁵ However, within countries such as the DRC there are many middlemen involved in the supply chains, especially for ore mined by artisanal or small-scale miners, thus complicating traceability.

In the Copperbelt cobalt is found in sedimentary copper deposits and the mines of Zambia and the DRC are the lifeblood of the global cobalt market. These two countries accounted for 54 percent of total world mine cobalt production in 2005. However, much of the refining also takes place outside Africa.³⁶

WORLD MINING PRODUCTION IN 2006 (EST. METRIC TONNES)

DRC	22 000
Zambia	8 600
Australia	6 000
Canada	5 600
Russia	5 100
Cuba	4 000
Total	57 500

Source: US Geological Survey, Mineral Commodity Summaries, Jan 2007.

Whilst the Copperbelt is the heart of cobalt mining, China has become the centre of cobalt refining, accounting for almost a quarter of the total world production. The increased demand for rechargeable batteries used in consumer electronics has been the main driving force behind the rapid expansion of cobalt-refineries in the country.³⁷ In 2004, 57 percent of China's cobalt consumption went to the production of batteries.³⁸

Statistics indicate that around 90 percent of China's imports of cobalt concentrates originate from Africa, almost exclusively from Zambia and the DRC.³⁹ In 2006, between 58 to 87 percent of the cobalt from the DRC and 45 percent of that from Zambia was exported to China.⁴⁰ In addition to direct imports, Chinese companies have also started investing in Zambian and Congolese mining projects and processing plants during recent years in order to secure copper and cobalt for its massive manufacturing industry. They bring much needed investments to Africa, but they have a poor reputation as employers in the Copperbelt.

Cobalt is used for a variety of end products, ranging from super alloys in jet engines to

35 Email from David Weight, President of the Cobalt Development Institute, 7 November 2007.

36 The Cobalt Development Institute, Cobalt News, October 2005.

37 U. S. Geological Survey, 2005 Minerals Yearbook on China.

38 The Cobalt Development Institute, Cobalt News, Jan 2005.

39 Figures from China Customs referred to in Cobalt Development Institute, Cobalt News, January 2005, p 5 and Zambian and Congolese statistics.

40 Zambian official export statistics on cobalt. Concerning the DRC, different sources present different figures. See for example the estimations of CAMEC, The Democratic Republic of the Congo – The Renaissance and Global Witness (2006), Digging in Corruption, p 49-50.

radiotherapy for cancer treatments. During recent years, however, rechargeable batteries have become the largest single use of cobalt. The most common type of rechargeable batteries are so called lithium ion or lithium polymer batteries, used in products like mobile phones, MP3 players, laptops, digital cameras, camcorders and game products.⁴¹ According to market analyst Avicenne Développement, which has good insight into the cobalt and battery industries, batteries for these products accounted for a quarter of the world's total cobalt consumption in 2006 and the demand is expected to rise.⁴²

Other consumer electronics parts such as magnets, speakers, headphones and media coatings for hard disk drives also contain cobalt. Researchers are also looking into the future possibility of using cobalt in data storage. So called nanodot drives would have at least one hundred times the capacity of today's hard disk drives.

Apart from the electronic industry the aero industry also uses large amounts of cobalt, as for example in super alloys for gas turbine aircraft engines. Demand from the automobile industry is also expected to increase in coming years, due to the use of cobalt in portable energy solutions for hybrid vehicles.⁴³ Analysts predict, however, that the current high cobalt prices may lead to a partial substitution of cobalt in batteries and other products.

Most of today's battery production takes place in Asia (China, Japan and South Korea) and over the coming years, these countries are expecting to specialise even further on production of battery materials, whilst there is a potential growth for demand in Europe and the US for the production of super alloys and gas-to-liquid catalysts.⁴⁴

41 The typical lithium ion cells use carbon for its anode and lithium cobalt dioxide or lithium manganese compound as the cathode. Other combinations are also being tried. The other types of rechargeable batteries are Ni-Cd and NiMH batteries, which also contain cobalt but to a lesser extent. Ni-Cd rechargeable batteries are often used for tools, medical devices, household products, etc. Ni-MH batteries are for example used in hybrid gas-electric vehicles, toys, household products, RC cars and cordless phones.

42 Avicenne Développement, *The Rechargeable Battery Market 2006-2015*, 16th Edition, September 2007. Different figures are presented in different sources. One plausible explanation for these differences might be that some analysts collect information from cobalt producers and some from battery producers. According to the Cobalt Development Institute (CDI) battery applications accounted for 22 percent of worldwide cobalt demand in 2006.

43 CIEN Magazine, *Demand for Batteries in the US to Approach 15 billion USD in 2011*, the 5th of June 2007.

44 The Cobalt Development Institute, *Cobalt News*, Jan 2006, p 13.

3. FROM AFRICAN MINES TO NEW ELECTRONICS

The exact journey that cobalt takes from a mine to the battery in your mobile phone or MP3 player is often much more difficult for outsiders to track. End-producers of consumer electronics, such as Sony Ericsson, Acer, HP, Lenovo, Nintendo, and so on, state that they do not know from which mines or even which countries the metals used in their products come from. Procurement of these metals takes place further down their supply chains and end-producers have not requested this kind of information. So far, such companies have mainly focused on first and second tier suppliers as regards CSR (corporate social responsibility).⁴⁵

Eight major battery suppliers used by the big brands have been contacted by SwedWatch. Most of them have either refrained from answering or regarded information about traceability and suppliers to be confidential. Two suppliers responded stating that they are not aware of the origin of the metals included in the batteries that they produce.⁴⁶

However, more information can be found when looking at the trade flows from the other end of the supply chain. Every day vast quantities of cobalt are crossing the Congolese and Zambian borders and SwedWatch's research shows that a significant proportion of this ends up in batteries powering consumer electronics that form such an integral part of our daily lives.

3.1 PRODUCERS OF COBALT MATERIALS FOR BATTERIES

OMG: OMG holds around 20 percent of the total refined cobalt market share. The group's headquarters are located in the US, but the refining takes place in Finland where cobalt chemicals for a wide range of products, including rechargeable batteries for consumer electronics, are being produced. The company's smelting facility in Katanga in the DRC enables OMG to produce thousands of metric tons of cobalt and copper each year.⁴⁷ According to Hiroki Oda, global market manager for battery products at OMG, the market for rechargeable batteries as a whole is growing at 15 to 20 percent per year in terms of volume.

"The biggest application is of course laptops, PCs and the mobile phones. Besides that, today's increasing demand for rechargeable batteries is for gaming equipment, power tools and other small electronic goods such as blue tooth devices and the like. You need batteries to run them, small rechargeable batteries, and we supply cobalt chemicals for this purpose", says Hiroki Oda.

OMG purchases cobalt raw material from countries such as the DRC, Russia, Finland, Australia and to a lesser extent Zambia.⁴⁸ It sells cobalt and cobalt-based materials to customers who make precursors and cathode materials that are then sold to battery manufacturers. Due to contractual obligations, OMG is not able to disclose any further information about its clients.

45 Responses to questionnaire sent by SOMO, SwedWatch and FinnWatch to 22 global brand companies in 2007.

46 SwedWatch has contacted BYD (China), Saehan Enertech Inc (Korea), Sanyo (Japan), Sony Energytec Inc (Japan), LG Chemicals (Korea), Samsung SDI (Korea), Hitachi Maxell Ltd (Japan), Matsushita Batteries Industrial Company Ltd (Japan). Only Hitachi Maxell and Samsung SDI responded to some of our questions.

47 OMG's website, www.omgj.com

48 Heikki Pihlaja, in charge of purchasing of raw materials at OMG's Kokkola refinery. Response via email dated 23 April 2007. The company also gets cobalt from recycled cobalt around the world.



The Big Hill is the landmark of the provincial capital of Lubumbashi in Katanga in the DRC. It is a huge slag pile containing minerals that the company STL processes before they are exported to OMG in Finland. The cobalt finally ends up in batteries powering portable consumer electronics. Photo: Global Witness.

The Congolese cobalt used in OMG's products mainly comes from the Big Hill slag pile⁴⁹ and the Luiswishi mine in Katanga. The company also spot purchases smaller quantities via global trading companies. The mine source is generally reported, but OMG considers both the name of the trading companies and the mines to be proprietary information.⁵⁰

Umicore: The Belgian company Umicore produces cobalt for products like batteries, electronics, glass, pigments, cars and chemicals, and it holds 20 to 25 percent of the global cobalt specialty materials segment. The company purchases cobalt-bearing raw materials from Katanga on a regular basis.⁵¹

The cobalt from Katanga is then transported to either Belgium or China, where Umicore has cobalt processing and transforming facilities that are supplying a multitude of companies, including its own production plant in South-Korea, which produces cathode materials for rechargeable batteries. Umicore describes its Korean plant as the company's "flagship" that is serving the Asian lithium ion battery manufacturers.⁵² One of the customers is Samsung SDI that manufactures rechargeable batteries for Samsung Electronics, Nokia, Motorola, Hewlett Packard and Dell (mobile phones, portable PCs and MP3 players).⁵³

49 The Big Hill Smelter is run by GTL/STL, a joint venture owned by OMG (55%), Gécamines (20%) and Group George Forrest (25%). Annually it produces around 5 000 MT cobalt and it uses material from a big slag pile as feed. According to OMG, all of the output is exported to the OMG Kokkola refinery in Finland where it is refined, converted into specialty products and then sold to OMG's customers.

50 Heikki Pihlaja, in charge of purchasing of raw materials at OMG's Kokkola refinery, email responses 23 April, 2 May and 12 September 2007.

51 Umicore's website and email responses 1 and 3 May 2007.

52 Umicore's website, <http://soc.umicore.com/WorldwidePresence/productionPlants/UMK/>

53 Email response from Samsung SDI, 17 May and 8 June 2007.

Umicore is buying metals from both mining and trading companies. It claims to know which mines most of the cobalt it purchases comes from, but the company has chosen not to disclose either the names of their suppliers or which mines the cobalt they buy originates from.

* * *

Looking at the labels on rechargeable batteries, one often sees “Made in China” or another Asian country, such as South Korea or Japan. Historically most of the batteries were produced in Japan, but in recent years Japanese manufacturers have been losing market share to their Chinese and South Korean counterparts, which are advancing strongly.⁵⁴

Nanjing Hanrui Cobalt and the Jinchuan Group: Two of the biggest cobalt refineries in China are Umicore’s factory mentioned above and the Jinchuan Group Ltd.⁵⁵ Nanjing Hanrui Cobalt Company is yet another example. SwedWatch has contacted both Jinchuan Group and Nanjing Hanrui Cobalt Company with questions on traceability. Jinchuan Group has refrained from answering these questions. Nanjing Hanrui Cobalt states that it purchases its cobalt from different mining and trading companies in the DRC, but that it does not want to give out the names of its suppliers. According to the company, it holds 40 percent of the Chinese market for cobalt materials at the moment. Just over half of the cobalt material imported by Nanjing Hanrui is used in rechargeable batteries for laptops, mobile phones and the like, but the company does not want to name its customers⁵⁶, which reportedly include Samsung, LG, Hitachi and Toshiba.⁵⁷

The company does not have a code of conduct and is not placing any ethical demands on its suppliers.

“We only trade with them”, says Mr Liu who is in charge of purchasing.

Like many other Chinese companies Nanjing Hanrui Cobalt and the Jinchuan Group have invested in Congolese mining projects during recent years in order to secure metals.⁵⁸ The Jinchuan Group’s recent investments also include the Munali project in Zambia, which sources nickel, platinum, copper and cobalt.⁵⁹

Capital Resource Funding: Capital Resource Funding, that soon will change its name China Sun Group High-Tech Co., is another producer of cobalt materials for rechargeable batteries that have realised the importance of buying their own mines in the Copperbelt. During the last few years the company has bought African cobalt from Chinese traders, but in 2007 it set up its own factory in Katanga to process ore from a mine that it recently acquired.⁶⁰ Its Chinese subsidiary

54 Information from Christophe Pillot, Battery Survey Manager at the consultancy company Avicenne.

55 U.S. Geological Minerals Yearbook 2005, Cobalt.

56 Interview with Mr Liu, in charge of purchasing at Nanjing Hanrui Cobalt Co Ltd, May 2007.

57 Chan-Fishel Michelle, 2007. Environmental Impact – More of the same?

58 SinoCast, Nanjing Hanrui Cobalt Purchases 3 Overseas Copper-Cobalt Mines, 17 April 2006 and The China Analyst, The Rising Tide of Chinese Investment in SADC Mining & Metals, issue 3, March 2007.

59 SinoCast, Jinchuan Joined in Munali Nickel Project in Zambia, 10 April 2007.

60 Earthtimes.org, Capital Resource Funding Enters into Letter of Intent to Acquire the Rights to a Cobalt Ore Mine in the African Congo, 6 June 2007.

STATISTICS

China, Japan and South Korea are presently the world's leading manufacturers of rechargeable batteries for consumer electronics.

China: Almost all cobalt consumed in China comes from imported materials. In 2006, at least 69 percent of China's imports of ores and concentrates, 57 percent of imported commercial cobalt oxides and at least 25 percent of imported cobalt intermediates originated from the DRC.¹ 19 percent of imported cobalt intermediates and 36 percent of imported wrought cobalt and articles of cobalt came from Zambia. One fifth of the imports of commercial cobalt oxides came from Belgium (probably Umicore). Russia and Cuba were countries of importance though to a much lesser extent. As mentioned previously, more than half of China's cobalt consumption goes to the production of batteries.

Japan: Neither Japan nor South Korea has any cobalt assets of their own. In 2005, Japan was one of the world's top importers and consumers of cobalt.² The US accounted for 45 percent of the imports of commercial cobalt oxides in 2006. Other important sources were Belgium (probably Umicore) and China. 34 percent of the imported cobalt intermediate products came from Finland (probably OMG). Imports from Australia, Canada and Zambia were also significant.

South Korea: In 2006, 84 percent of South Korea's imported commercial cobalt and 29 percent of the imported cobalt intermediate products came from Belgium (probably Umicore). China was also an important source. A fifth of South Korea's imported intermediates and around 7 percent of the commercial cobalt oxides came from China.

Source: UN's Commodity Trade Statistics Database.

1 The Republic of Congo (Congo/Brazzaville) is China's second largest source of ores and concentrates and biggest source of intermediate cobalt products. Given the fact that Congo/Brazzaville is not known to be a producer of cobalt, SwedWatch concludes that these amounts might originate from the DRC. If this is correct, 86 percent of the cobalt ores and concentrates and more than 60 percent of the intermediate cobalt come from the DRC.

2 U. S. Geological Survey, 2005 Minerals Yearbook – Japan.

is China's biggest producer of cobalt oxide for products like consumer electronics, battery-driven cars and boats, holding 40 percent of the market at present.⁶¹ The output is bought by virtually all the Chinese producers of lithium ion batteries. Japanese Honyo Chemical (producing lithium cobalt oxide for mobile phones, personal computers and cars) and the Chinese Shanshan Technology Group (which counts Sony, LG and Samsung as partners) are two of the company's clients.⁶²

When asked whether the company is placing any ethical demands on its suppliers and if the company has a code of conduct, the Deputy Managing Director of the producing subsidiary told SwedWatch that its policy is "to engage less in words and to do more in order to develop the company".

Galico: Another major Chinese player is Zhejiang Galico Cobalt and Nickel Material Co, producing cobalt materials for different industrial applications, including materials for rechargeable batteries used in consumer electronics. Galico is owned by Camec and also gets some of its metals from this organisation, which is one of the major cobalt mining and processing companies of Katanga.⁶³

Nichia Corporation: Japanese Nichia Corporation produces cobalt materials for battery producers like Sony and Sanyo.⁶⁴ Laptop makers Toshiba and Lenovo are among Sony's and Sanyo's clients.⁶⁵ SwedWatch has contacted Nichia, Sanyo and Sony with questions about traceability, but they have all refrained from answering.

For an overview of the trade flows, please refer to Annex 1 & 2 at the end of the report.

3.2 THE CHINESE INVESTORS: SAVIOURS OR NEW COLONISERS?

Consumer electronics brand companies have outsourced much of their production to Asia. As a direct consequence Asian mining companies and traders have turned to the Copperbelt in order to secure minerals for manufacturing in China. Some greet them as heroes and economic messiahs. Others perceive them as neo-colonialists, scrambling for natural resources like so many others have done in the past. The country's interest in Africa is part of a thorough strategy directed from Beijing, where leaders are well aware of the fact that African minerals are needed to be able to fuel China's dramatic economic transformation.

China's overall trade with the continent has quadrupled in the past six years. The country has written off around 1.5 billion USD of debt and will continue to write off a similar amount in the near future.⁶⁶ In 2007 China announced that it would lend the DRC 5 billion USD to

61 Interview with Mr Hu, Deputy Managing Director of Dalian Xinyang High-Tech Development Co. Ltd, 1 August 2007.

62 Interview with Mr Hu, Deputy Managing Director of Dalian Xinyang High-Tech Development Co. Ltd, 1 August 2007 together with information from <http://new.marketwire.com>, Capital Resource Funding Signs Purchasing Contract With Japanese Company, 8 June 2007 and Honyo Chemical's and Shanshan's homepages.

63 International Mining, CAMEC Acquires Major Chinese Cobalt Plant, 8 March 2007.

64 Information from Christophe Pillot, Battery Survey Manager at the consultancy company Avicenne.

65 Times Online, Nokia Warning over 46 Million Overheating Mobile Phone Batteries, 14 August 2007.

66 The Economist, The Host with the Most, the 19 May 2007, Reaching for a Renaissance, 31 March 2007 and BBC News, China Defends its Role in Africa, the 16 May 2007.

modernise the poor country's infrastructure and mining sector, build hospitals, health centres and universities. China has proposed that the loan should be repaid with mining concessions and toll revenue deals for Chinese companies.⁶⁷ In Zambia, Chinese companies are investing 900 million USD in a new export processing zone, designed to attract Chinese companies engaged in copper and cobalt mining, agriculture and manufacturing. The investment is expected to generate 60 000 jobs. In return, the firms will not pay import and value added taxes.⁶⁸

The Chinese entrepreneurs are well-known for getting things done. However, local organisations criticise the government for not offering similar incentives to Zambian investors and for warning people against criticising Chinese businesses. The relationship between Chinese investors and local communities and workers is very tense. Chinese employers are accused of providing the worst and often illegal working practices. In 2006, this led to deadly clashes between Zambian workers and Chinese managers (see Chapter 6.3.2).

In Africa there is a general understanding that trading with China means fewer complications. While some European and American trading partners are “nagging” about corruption and the need for accountability, Chinese companies seldom, if ever at all, ask any questions. Domestically characterised by poor labour conditions and gigantic environmental footprints, China pays little attention to human rights and sustainability abroad. Even if China is not the biggest foreign player in Africa, China is certainly the most dynamic one at present. As a result the Asian superpower plays a key role in shaping Africa's future.

In the following chapters SwedWatch aims to describe the reality facing Zambian and Congolese miners that are supplying the world market with copper and cobalt, metals which constitute integral parts of products that play such a central role in our modern lifestyles, such as laptops, mobile phones and MP3 players.

67 Reuters, China to Lend DRC \$5bn in Latest Africa Foray, 18 September 2007.

68 Reuters, China Boosts Zambia Mining Investments to 900M dollars, 23 May 2007.

4. METHODOLOGY

On behalf of SwedWatch, a Katangese human rights organisation and a Swedish journalist based in Lusaka have conducted field research in the Copperbelt from April to July 2007.

The Congolese organisation Action Contre l'Impunité pour les Droits Humains (ACIDH) has conducted the field interviews in Katanga. A broad spectre of actors has been interviewed. The research has focused on mines and plants that are supplying the battery market with cobalt. This included the following: the STL plant and CMSK/the Luiswishi mine delivering cobalt to OMG, Boss Mining/Camec delivering to the Galico refinery in China, Asian mining companies supplying the Asian market as a whole, and artisanal miners selling their ore to the major trading houses of Katanga.

In Zambia the field study was conducted by Petter Bolme, a journalist working for the Swedish media and consultancy firm Global Reporting in Zambia. Several actors within the mining industry have been interviewed: workers, company and union representatives, authorities and other people in the local communities. The field research focused on Chambishi Metals and Mopani Copper Mines, Zambia's two running cobalt refining companies. NFC Africa was also included, since it is about to start mining cobalt, as was Konkola Copper Mines, which stopped mining cobalt in 2004, but was a significant exporter during the years when demand from the rechargeable battery industry grew.

Information from both field studies has been compared to and used in conjunction with a large amount of existing local and international written material that is referred to in the report.

The report does not present full investigations of any single mining company. Instead, the views and descriptions of workers and local communities should be seen as indicators of what problems need to be addressed as a whole within the Copperbelt. Mining companies mentioned in the report were given the opportunity to comment on the findings.

More research is needed both on individual companies and the mining sectors as a whole, to learn more about the impact that multinational companies are having on the human right to development in this region.

5. THE DEMOCRATIC REPUBLIC OF CONGO (THE DRC)

5.1 CONGO'S WEALTH – A BLESSING OR A CURSE?

The DRC is a country in which people are starving and suffering. Yet at the same time it can be regarded as a land of plenty. Plundered during the colonial era and ravaged by several wars since independence in 1960, the majority of the Congolese people have never really benefited from the country's abundance of mineral resources. What could have been the foundation of welfare and development has so far been much more of a curse. The mineral resources of the DRC have almost always played a central role during conflicts, though of course not the sole reason. The colonial heritage (1885–1960), the destructive ruling of Mobutu Sese Seko (1965–1997), power balances within the region, corruption and the polarisations along ethnic and linguistic lines are other factors that have created this breeding ground for conflict.

Several researchers, as well as the UN's Panel of Experts on the Illegal Exploitation of Natural Resources and Other Forms of Wealth in the DRC, have described the intricate relationship between conflict, mineral resources, and the convergence of domestic and international economic interests, most recently focusing on "Africa's world war" (1998–2003), which involved seven countries in the region. So called elite networks that consisted of political and military elites, as well as business persons, rebel leaders and administrators, looted the DRC's natural resources, especially in the east of the country that was most affected by the conflict.⁶⁹ Around four million people are estimated to have died as a result of violence, war-related disease and hunger, which make it the most devastating conflict in terms of casualties since World War II.⁷⁰

DRC FACTS: MISERY IN THE LAND OF PLENTY

- * 80 percent of the population earns less than one dollar per day.
- * Average life expectancy is 44 years.
- * Every fifth child dies before the age of five.
- * A large part of the population is suffering from malnutrition.
- * There is a chronic lack of drugs and medical equipment.
- * 40 percent of the population is illiterate.
- * Only 24 percent of the children start school.

"Africa's world war" took place at a time when the world's consumption of cobalt increased substantially, largely due to the rapid increase in production of rechargeable batteries for consumer electronics.⁷¹ No one seems to know whether or not Congolese cobalt ended up in consumer electronics during these years. The media highlighted the fact that Congolese

69 The concept of elite networks was developed by the UN Panel of Experts, for more information see the report dated 16 October 2002, S/2002/1146, Chapter II.

70 International Rescue Committee, referred to on Reuters Alertnet Congo (DR) conflict – At a glance.

71 The use of cobalt in rechargeable batteries grew from 700 tonnes/annum in 1995 to nearly 5 000 tonnes/annum in 2000. The worldwide economic recession resulted in a massive drop in the telecommunication industry in 2001 to be followed of yet another period of growth from 2002 and onwards. The Cobalt Development Institute (2006), Cobalt Facts – Electronics. The exports of cobalt from the DRC was at a lower level than today but increased during the war, US Geological Survey, Mineral Commodity Summaries for Cobalt, 1999-2005.



Despite its vast natural wealth, the DRC is one of the world's poorest countries. The so called 'resource curse' describes the paradox that countries rich of natural resources tend to have less economic growth than countries without this natural wealth. The image shows a miners' camp near the Kawama mine in Katanga. Photo: Global Witness.

coltan was used in mobile phones, but cobalt was also included in the UN Panel of Expert's fact findings. The Panel described how the elite network benefited from the instability in Katanga where the cobalt and copper mines are located. Ownership of the country's most valuable mineral assets was transferred to joint ventures controlled by the elite network's private companies. The state mining company's revenues did not primarily come from actual cobalt and copper production, but from the granting of concessions. Social and environmental aspects were not taken into consideration when the assets were sold off.⁷²

The Panel pointed out businessmen like the Belgian national George Forrest (Group George Forrest) and Billy Rautenbach (Ridgepoint International and Camec) as being part of the elite networks. During years of conflict, these companies gained beneficial contracts involving lucrative cobalt assets.⁷³ OMG, a producer of cobalt for rechargeable batteries, was found to be among the group of companies that were listed as having violated the OECD Guidelines for Multinational Enterprises.⁷⁴ The Panel applied a standard of proof based on "reasonableness" and "sufficient cause".⁷⁵ All the companies mentioned here denied having acted unlawfully or unethically.⁷⁶

72 UN Panel of Experts, report dated the 16th of October 2002 (S/2002/1146), Chapter III and the Panel's report dated 13 November 2001 (S/2001/1072), paragraph 30-35 about copper and cobalt.

73 UN Panel of Experts, report dated the 16th of October 2002 (S/2002/1146), Chapter III and Annex I and II.

74 Ibid, Annex III.

75 The UN Panel Report dated 23 October 2003 (S/2003/1027), point 15.

76 For more information about how the companies argued, see UN Panel's Report dated 20 June 2003, (S/2002/1146/Add.1), reaction number 7, 12, 24 and 25.

THE ALLEGATIONS OF THE UN PANEL OF EXPERTS

Group George Forrest: George Forrest was accused of “flagrant conflict of interest” while having negotiated contracts for his private companies when he was chairman of the state-owned mining company Gécamines. The Panel wrote: “Among the businessmen in the elite network, a Belgian national, George Forrest, pioneered the exploitative joint venture agreements between private companies and Gécamines.”¹ Later the Belgian Senate investigated one of the agreements, the terms regarding the Luiswishi mine in Katanga, which delivers cobalt ore to OMG. It concluded that Forrest’s double positions were not appropriate, but did not classify the agreement as plunder. In 2005 the Belgian National Contact Point, which investigates whether company actions are in breach of the OECD Guidelines for Multinational Enterprises, concluded that the Forrest Group had, as far as possible, respected the guidelines.²

OMG: Together with Gécamines, George Forrest and OMG take part in a joint venture running the so called Big Hill project. According to the Panel the joint venture agreement expressly excluded Gécamines of revenues from the processing of germanium, a valuable metal that is for example added to silicon chips used in mobile phones to make them run faster and use less power. The Belgian Senate later found the arrangements “neither inequitable nor illegal”, but described the unfavourable terms as a result of an absent state in the DRC. In the end OMG committed to retroactively apply royalty payments to Gécamines.³

1 UN Panel’s report dated the 20 June 2003, paragraph 30.

2 RAID (2004), Unanswered Questions, p 56-59. and The Belgian National Contact Point, 5 November 2005.

3 RAID (2004), Unanswered Questions, p 59-62.

The Panel’s listings prompted strong reactions among the companies and individuals named. After the publication of its 2002 report, the Panel engaged in dialogue with the accused entities. By the time the Panel published its next report in October 2003, many of the cases, including the ones mentioned above, were described as being resolved or provisionally resolved. The Panel stressed that this did not invalidate the Panel’s earlier findings, but it refrained from publishing records of how each case had been decided.⁷⁷ The odd mixture of disclosures and secrecy added confusion to the discussions. Several international NGOs have stressed that many serious questions about corporate behaviour still remain.⁷⁸

One of the accomplishments of the reports was that the Panel highlighted the responsibility of companies active in conflict-ridden countries such as the DRC. Supply chain management in relation to raw materials, specifically coltan, was discussed and according to the Panel companies started to realise that their responsibilities extended further than they had previously acknowledged.

77 The UN Panel’s report dated 23 October 2003 (S/2003/1027), point 23-28.

78 See for example RAID (2004) Unanswered Questions.

5.2 THE MINING SECTOR OF KATANGA

Katanga, the south-eastern province of the DRC, is home to one of the largest concentrations of high-grade copper and cobalt in the world. The concentration of copper is at least twice as high as in Katanga's Chilean counterpart and the reserves lie close to the surface making the exploitation easier and more profitable.

Katanga's mining sector is divided into two parts; the formal and the informal one. The formal sector is dominated by multinational companies using industrial methods. Within the informal sector small-scale so called artisanal mine workers use their bare hands to gather heterogenite, a mineral rich in copper and cobalt, and malachite, a kind of copper ore. It is important, however, to stress that the two sectors interact. Some of the output from artisanal mining ends up in the formal sector before being exported around the world. The mining sector as a whole is largely characterised by widespread corruption and impunity.⁷⁹

Katanga has a history of unrest but during the last war the southern parts of Katanga, where most of the country's copper and cobalt reserves are located, remained relatively untouched. The economic situation in the province is desperate. When the state-owned mining company Gécamines folded in the late 1980s the Congolese mining sector changed dramatically. Gécamines used to be the pillar of the Congolese economy, employing more than 33 000 people and providing healthcare, education and housing to its employees and their families. When the company went into insolvency Katanga's economy entered an even deeper depression, which still affects the everyday life of the miners. The state has as yet not intervened in order to fill up the gaps.⁸⁰ After the country's first democratic elections, which took place in June 2006, people have started to hope that reforms will be possible and that they finally will start benefiting from the province's resource wealth.

5.2.1 THE INFORMAL SECTOR

When Gécamines collapsed many unemployed people started to make a living by gathering cobalt and copper ore, so called heterogenite, on Gécamines' concessions.⁸¹ This is still believed to be a survival strategy for thousands of artisanal miners and their families in Katanga. The artisanal miners often do not earn more than 2-3 USD per day whilst risking their lives in the copper and cobalt mines of the province. Artisanal miners watch their fellow workers die in collapsing mineshafts. They suffer from diseases that could be prevented if only workers had been provided with protective clothing. According to Global Witness, an organisation investigating the connection between natural resources and conflict, qualified lawyers, doctors and engineers have also been seen working as artisanal miners, since there are few alternative sources of income.

Artisanal miners either sell their output directly to trading companies or via middlemen. Most of the miners work independently; others are employed by the trading companies as day workers yet deprived of both written contracts and rights. The last years a substantial Chinese community

79 Global Witness (2006), *Digging in Corruption*.

80 International Crisis Group (2006), *Katanga: The Congo's Forgotten Crisis*, p 5 and 8. Global Witness (2006), *Digging in Corruption*, p 9-10 and 35-36.

81 This chapter is mainly based on Global Witness' research published in 2006 (*Digging in Corruption*) and confirmed by field interviews conducted in June 2007.

has been noted in relation to this sector, trading and semi-processing artisanally mined ore.⁸²

The artisanal miners constitute the backbone of much of the cobalt export, but no one takes responsibility for their appalling working conditions; neither the trading companies that depend on the ore that they mine, nor the authorities that are collecting the taxes.⁸³ There are no trade unions in the informal sector. Corruption and extortion are prevalent at every stage of the process. Artisanal miners interviewed in June 2007 also complained about unfair pricing systems used by the trading companies. Miners are paid in relation to how much cobalt and copper the ore contains, but they claim that the trading companies usually offer them prices corresponding to lower percentages.⁸⁴ The miners are obliged to sell to the companies that own the concessions they work on, but some miners smuggle the ore out in order to sell it to traders offering higher prices. Although illegal, one interviewed artisanal miner refused to admit that this practice constitutes theft.

“It is the trading houses that are stealing from us. They cut the price and the content as if it was for free. That is why people have started smuggling out their products. The police and the security guards of the company are everywhere. If they catch you with your products you give them some money and then you can pass. In other cases they take your products away”, says a miner who works close to the Luilu plant that belongs to Gécamines in Kolwezi.

According to the Mining Code, which constitutes the legal framework of the Congolese mining industry, zones for artisanal mining should be demarcated, but this has largely been ignored. Consequently, the miners work wherever they can. Many of them also do not have the official card that they are required to have so as to be allowed to work legally as artisanal miners.⁸⁵

5.2.1.1 CHILD LABOUR

Children are also involved in the artisanal mining of Katanga. Many of them work for Asian middlemen. Information collected by Global Witness in late 2005 suggests that although the number of children involved in such work has decreased in recent years, it is still a significant problem. The Belgian organisation Groupe One, which cooperates with ILO and UNICEF towards the eradication of child labour in Katanga, estimates that some 50 000 of the 100 000 - 140 000 people working with mining in Katanga are children or adolescents. Some of them are as young as seven. Minors often carry out tasks such as washing and sifting, but they are also involved in the digging since their size makes it easier for them to crawl into narrow holes. Some of them only work during holidays. Others drop out of school since families cannot afford to pay the fees. A Global Witness interview with a provincial ministry official suggests that mortality rates are highest among young workers aged between fifteen and twenty. Illnesses observed vary from eye irritations to cancer.⁸⁶

82 The Africa Report, no 5, Jan 2007, p 82.

83 SAESSCAM, located within the Ministry of Mines, has been created in order to improve the working conditions of artisanal miners. The department was set up in 1999, but the effects of its work are still unclear.

84 ACIDH (2007), Rapport d'enquete.

85 Ibid.

86 Global Witness (2007), Digging in Corruption, p 32 and Groupe One (2006), Lutte contre le travail des enfants dans les mines artisanales du sud Katanga, Rapport d'activités.



Children and adolescents under the age of 18 are working in the quarries of Katanga due to economic hardship. They are being exploited by traders and companies that buy ore from them without taking any responsibility for their security or welfare. Photo: Palani Mohan.

In the quarry of Kateketa, near the mining village of Luisha, artisanal mining is flourishing. Children aged between ten and sixteen are gathering heterogenite by hand and then selling it to traders. One of the children is Jean.⁸⁷ He is thirteen years old, five feet tall and seems distracted whilst answering the questions. Jean used to go to school, but started gathering heterogenite in order to become a breadwinner for his family.

“I am very annoyed with the destiny carved for my village by these foreigners who are plundering our country. I am working under these conditions for the survival of myself and my family. My village, Luisha, is surrounded by these enterprises. And we are lacking so much. We do not have an ambulance, no morgue, no electricity, and no drinking water. The health centre is poorly equipped. Our mothers are giving birth under difficult circumstances, in a small room adjacent to the room where the sick people are. After giving birth they have to leave the room to make room for others. The mining and trading companies are enriching themselves in front of our eyes. Those people are neither generous, nor compassionate.”

According to the Congolese Labour Code the legal age of employment is eighteen. Employment of children aged fifteen and above is allowed if permission is given by the Inspector of Work and

87 Jean is not his real name.

the child's parents. The writings of the law are, however, of limited use since most children in the mining sector are not employed and instead work independently.⁸⁸

The traders and the trading houses that are buying ore from artisanal miners are often of Chinese, Indian or Lebanese origin. In mid-2007 the largest players were Somika, Bazano and Chemaf.⁸⁹ Both Umicore and OMG, which are producing cobalt materials for batteries for consumer electronics, claim that they do not purchase ore mined by artisanal miners or children. The fact that they refrain from providing SwedWatch with the names of the mines and the trading companies that they buy from makes it impossible to verify their statements.

Heikki Pihlaja, who is in charge of purchasing at OMG's Kokkola refinery in Finland, states that OMG relies both on information obtained from its suppliers and observations during site visits.

"It is both in our interests as well as that of our customers, that child labour and artisanal mining is not part of our supply chain. We are confident that neither child labour nor artisanal mining is involved and that other basic ILO principles are observed in our cobalt supply chain. Nevertheless we are actively strengthening our controls over these matters", says Heikki Pihlaja.

Umicore states that the company only works with suppliers that have clear policies against child labour. On two occasions relationships with suppliers have been terminated due to an inability to guarantee the absence of child labor in their own supply chain. According to Umicore, one of them has since remedied the situation and might be reconsidered as a supplier.

"By not purchasing from the unorganised artisanal mining sector, and also making this clear within the DRC (via informal contacts with local entrepreneurs) Umicore has been setting an example," writes Christophe Zyde who is manager at Umicore's supply and refining department.

5.2.2 THE FORMAL SECTOR

The DRC is in desperate need of investments by responsible companies that are able to create jobs and help build up a functional economy and infrastructure. However, the perception that the mining contracts that have been granted to foreign companies are unbalanced - in combination with the impunity and the lack of monitoring - continue to create tensions and limit the possibilities of the Congolese people to benefit from its vast mineral wealth.⁹⁰

One of the UN Panel's recommendations was that all mining concessions and contracts signed during both wars should be reviewed. This was done by the Lutundula Commission, a parliamentary committee partly funded by the World Bank. The Commission submitted its report in 2005 with the recommendation that some contracts should be annulled and some renegotiated or amended.⁹¹

88 Code du Travail (2002), Exposé des Motifs and article 133 referred to in Global Witness (2006), Digging in Corruption, p 32.

89 ACIDH (2007), Rapport d'enquete.

90 Different analyses have concluded that many of the contracts are unbalanced to the disadvantage for Gécamines and the DRC as a whole. See for example The Lutundula report (2005), Kalala Budimbwa (2006) and RAID (2007).

91 The Lutundula report (2005), Assemblée Nationale Comissoin Spéciale chargée de l'examen de la validité des conventions à caractère économique et financier : conclues pendant les guerres de 1996-1997 et de 1998.

In the beginning of 2007 the government decided to review all the mining contracts again. The deputy mining minister, Victor Kasongo, stated that up to 50 percent of all the mining contracts signed in the DRC may be unfair on the state and would thus need to be renegotiated.⁹² When this report was being finalised the result of the review had not yet been made public.

Many Katangeses perceive that Katanga's wealth has simply been given away and that foreign mining companies are continuing to pillage in a predatory manner. The foreign companies argue that they have taken great risks by entering the projects, and they gesture towards the social projects that they finance. The DRC will certainly benefit from taxes and royalties that will spur the Congolese economy, they say; jobs will be created, much needed infrastructure will be built and technical skills will be transferred to the advantage of Katanga.

The following chapters look further into the labour relations and environmental practices of some of the joint ventures that are dealing with cobalt in Katanga. Artisanal miners delivering ore to trading companies and employees working for big companies were interviewed in June 2007. The idea that responsible multinational companies could help to improve labour and environmental standards within the mining sector has served as a starting point for the following chapters.

5.2.2.1 WAGES, HEALTH AND SAFETY STANDARDS

Both the formal and informal mining sectors of Katanga are marked by a wide range of violations of human rights at work and breaches of the Congolese working code. The complaints collected during field interviews in Katanga in June 2007 concerned health and safety hazards, low wages, discrimination between Congolese and foreign workers, and violation of trade union rights.⁹³ However, it is important to stress that there are big differences between companies. At present the Asian employers have the worst reputation, many of them exporting their output to China, where much of the production of rechargeable batteries takes place. Local organisations and communities are appealing to the authorities to stop mining companies from violating their human rights. In a memorandum addressed to the minister of human affairs in March 2007 local organisations in Kolwezi warned that bad business practice adds tension to a province that is already in a tense state.⁹⁴

Wage levels and benefits within the mining sector vary greatly. Tenke Fungurume Mining, a US-Swedish company, which will start selling copper and cobalt in 2009, is creating an image of a sustainable mining company offering salaries that workers at many Asian-owned companies could only dream of (250 USD per month).⁹⁵ Day workers at foreign-owned companies often do not earn more than 3-4 USD per day, the equivalent of 70 - 100 USD per month.

The current, "inhuman" minimum wage lies at just 0.70 USD per day. It is up to the president to

92 Mining.mx.com, Half of Congo Licences May not Comply, 3 April 2007.

93 When not noted otherwise, the following chapter is based on field work of local human rights organisation ACIDH in June 2007, submitted to SwedWatch in August 2007. ACIDH (2007), Rapport d'enquete.

94 Association des Biens être Communautaire and others, Memorandum des ONGs DH/Kolwezi-LUALABA, 15 March 2007.

95 Le Potentiel, Mines et contrats léonins au Katanga: Des maffieux gagnent des millions d'euros, 4 June 2007.

change this, but so far he has refrained from doing so. The Governor of Katanga has, however, verbally proclaimed that the minimum wage should be 100 USD per month within his jurisdiction.

Many workers describe how difficult it is to support their families with such low wage levels. Artisanal miners also stress that the wages offered are often far from sustainable. Many such workers prefer not to look for employment in the formal sector since they earn more in the informal one.

“I have many friends that work for the big companies and they are poorly paid. Some of them earn around 58 USD per month and sometimes the employer is late with the payment. I earn at least 29 USD a day [around 700 USD per month], so I am much better off”, says one artisanal miner working in the quarry of Luilu in Kolwezi.

One worker, who has been employed by Boss Mining (Camec) since 2004, used to earn 115 USD per month. After a strike in February 2007 his salary was raised to 150 USD, but he still finds it difficult to live on. He states that workers’ nationality, not their performance, settles the wage level.

“I have performed different tasks at Boss Mining, but we are facing many difficulties. The salary is low in relation to the work that we do and the Zambians that are doing the same things as the Congolese workers earn more /.../ Every child has the right to 1.60 USD a month for school attendance, but it is very little. It costs 3.80 USD to send a child to pre-school”, says the worker who is trying to support a family of eight.

Camec is producing cobalt in concentrate and metal form for exports. As mentioned before, it is supplying its processing plant in China, Galico, which produces cobalt materials for rechargeable batteries used in consumer electronics.

A worker at STL, supplying cobalt for batteries to OMG, earns much more than Camec’s employees - 270 USD per month - but he still thinks that his salary is ridiculously low considering the high world metal prices. He is concerned that the workers are not sufficiently protected against health risks and thinks that they should be compensated for this.

“Through this chimney, mineral particles are let out into the air. I think our lives are in danger and therefore I think we should be paid more so that we can ensure that our children survive if we die.”

After receiving local complaints World Bank consultants asked George Forrest International, one of STL’s owners, to send them its emissions report in 2003, but they did not receive any data.⁹⁶ In written responses to SwedWatch George Forrest International gives no explanation for this. The company claims that STL does not pollute the environment and that workers are provided with

⁹⁶ SNC Lavalin International (2003), République Démocratique du Congo : Étude sur la restauration des mines de cuivre et de cobalt, p 61-63 and 183 and email contact Yves Comtois, Project Director at SNC-Lavalin Environnement Inc, 14 June 2007.

CAMEC

Camec (Central African Mining & Exploration Company) is an African mining company listed on the London Stock Exchange. The company is largely focused on copper and cobalt production in the DRC where it holds the rights to concessions where over 40 mines have been identified. Two of them, Kakanda and Taratara, are already fuelling the Luita plant with copper and cobalt ore. In 2007 Camec acquired a processing plant in China, Galico, which is feeding the battery industry with cobalt materials for consumer electronics.

In 2007 one of Camec's major shareholders, Billy Rautenbach, was declared 'persona non grata' in the DRC and deported to Zimbabwe. Rautenbach is wanted in South Africa on more than 300 charges, including corruption and fraud. He was described by the UN Panel of Experts as one of the men of the "elite network" that profited from the anarchy during the war of 1998-2003. Camec claims that Rautenbach is no longer involved in the company's operational management.

In August 2007 the DRC revoked some of Camec's mining licences because of "serious irregularities" when the licences were issued during the war of 1998-2003 and the mining rights were given to Rautenbach. At the time of writing the case was still pending.

Source: Camec's website www.camec-plc.com and news reports

suitable protective gear, adding that they use this most of the time.⁹⁷

Concerns about health and safety hazards are expressed by most workers interviewed. Employees at Boss Mining's Luita plant complain that there is no drinking water available for the workers in the factory and that health facilities are insufficient.

"There is no hospital for the company here. There is only a container where they give primary care. If you get seriously wounded you are asked to go to Likasi [around 45 km/28 miles away], where the company is affiliated to the Dako hospital. There they might or might not treat you", says one worker who has experience of injured colleagues not receiving treatment in time.

Field interviews also indicate that some workers do not wear protective clothing and that equipment is not suitable for the work that they perform. An interview with one employee of Boss Mining describes that workers engaged in the transformation process suffer from nosebleeds and burn injuries.

A lack of protective clothing has also been noted among workers at Somika, one of the largest and most visible trading companies in Katanga. Somika processes heterogenite extracted from artisanal miners working at a large number of sites, including Gécamines' concessions.⁹⁸

⁹⁷ Letter from Henry de Harenne, spokesperson at George Forrest International Afrique, 12 November 2007.

⁹⁸ The Lutundula report (2005), Assemblée Nationale Comissoin Spéciale chargée de l'examen de la validité des conventions à caractère économique et financier : conclues pendant les guerres de 1996-1997 et de 1998, p 122.

The company employs around 550 permanent workers and 1 500 day labourers.⁹⁹ Interviews conducted by local NGOs indicate that Congolese employees are paid up to 10 to 20 times less than expatriates, even though they perform the same tasks. In addition to the monthly salary each permanent worker receives one 50 kilo bag of flour, lunch and a rental allowance as benefits in kind. Payments in kind are very common given the province's high poverty rate. However, workers at Somika complain that they have difficulties providing enough food for their families.¹⁰⁰

Reportedly, the day labourers working for Somika often earn around 4 USD per day (equivalent to roughly 100 USD per month) and they do not enjoy most of the benefits that permanent workers do. Contractors are in charge of the hiring of the day labourers, which makes it possible for Somika to evade the law that otherwise stipulates that a person who is hired for more than 22 days per month must become a permanent worker.¹⁰¹

5.2.2.2 TRADE UNION RIGHTS

The DRC has ratified the core ILO conventions concerning union rights, but due to the economic decay and scarcity of resources needed to uphold the law, these rights are often not acknowledged in practice.¹⁰²

Field investigations show that union representatives can be found at almost all of the foreign-owned companies visited in Katanga, with Asian companies, such as copper and cobalt producing Washin, Corenco and MTCC being the exception. When unions exist they are, however, often weak and in no position of bringing about real change. In some cases the unions are totally controlled by employers, influencing the election of representatives in order to use them for their own purposes. According to workers at Boss Mining (Camec), membership of the union is compulsory. Every month the employer deducts one dollar from the salary of each worker as a union fee.

“There is only one union. We have elected representatives, but they too have sometimes been threatened by the Managing Director when they have wanted to speak to him about our demands. Finally we went on strike, because the representatives didn't succeed. When they came back to us they said that they would not lose their jobs because of us and that we could try ourselves /.../ We accept to work under these conditions because there is no alternative when you have children”, says one of the workers.

He wishes that the employer would treat the workers as human beings, raise their salaries, improve the working conditions and stop delaying the distribution of flour.

Difficulties have also been noted by NGOs interviewing workers at Somika in 2005 and 2006. Workers' representatives are chosen by the employer, who justifies the system citing the political instability of the country.¹⁰³ SwedWatch concludes that this might constitute so called “acts of

99 SOMIKA's website, www.somika.com

100 Rights & Democracy (2007), Human Rights Impact Assessments for Foreign Investment Projects, p 90-91.

101 Ibid.

102 ICFTU (2006), Democratic Republic of Congo : Annual Survey of Violations of Trade Union Rights.

103 Rights & Democracy (2007), Human Rights Impact Assessments for Foreign Investment Projects, p 92.

interference”, prohibited in one of ILO’s core conventions.¹⁰⁴

Several workers interviewed have complained about the fact that the authorities do not intervene despite the fact that workers’ rights are being violated. A worker at STL, who is supplying cobalt materials for rechargeable batteries of consumer electronics, thinks that this is a result of weak resources and strong connections between mining companies and the political and administrative elite. STL is owned by George Forrest, OMG and parastatal Gécamines.

“Three unions exist at our company but in front of our employer, George Forrest, they accomplish nothing. Everybody is afraid of losing their jobs if they go on strike. But the real problem lies within our country. Our authorities are getting mixed up with companies that are violating our laws instead of making sure that the laws are followed.”

George Forrest International replies that the company respects the Congolese law, including union rights of workers.

“We do respect union rights. We never threatened or even intended to fire an employee because he was member of a union”, writes Henry de Harenne, spokesperson at George Forrest International Afrique.¹⁰⁵

5.2.2.3 CHILD LABOUR

Within the formal sector, many of the bigger companies, such as Tenke Fungurume Mining and Boss Mining (Camec), are explicitly forbidding children to work on their concessions. Others continue to buy ore from minors or even hire children for tasks that are considered to be of lighter character, such as crushing work using hammers.

In June 2007 children were observed on the concessions of Somika and Luiswishi/CMSK.¹⁰⁶ The latter is delivering ore to OMG. CMSK’s owner, George Forrest International, confirms that artisanal miners have been present on CMSK’s concessions and that some of them might have been children. According to the company these miners were illegally there and originated from another company’s concessions from which they had been evicted. The miners were, however, also evicted by the military and the authorities from Luiswishi later that year. The company stresses that it has never used child labour in their own mining activities.¹⁰⁷ Somika claims that children were seen on a concession that the company had stopped exploiting. The company’s director general does not make any comments on the fact that the ore Somika buys from middlemen might have been extracted by children.¹⁰⁸

5.2.2.4 MULTINATIONALS’ CONTRIBUTIONS TO SOCIO-ECONOMIC DEVELOPMENT

It is difficult to measure the mining companies’ impact on the human right to development. The Mining Code and Regulations state that mining companies are obliged to contribute to the development of the surrounding communities with socio-economic activities that are not

104 ILO Convention no 98, article 2:1 and 2:2.

105 Letter from Henry de Harenne, spokesperson at George Forrest International, 12 November 2007.

106 ACIDH (2007), Rapport d’enquete.

107 Letter from George Forrest International 13 September 2007.

108 Letter from Gérard Ntambwe, director general of Somika, 13 November 2007.

directly related to mining.¹⁰⁹ They might contribute to the construction of schools, hospitals, roads and other types of infrastructure, for example. Consequently companies are asked to take on responsibilities that are obligations of the state in many other countries. The size of the investments made so far - and sometimes their total absence - has been criticised by local organisations and is one of the issues that will be investigated during the current review of mining contracts.

While the Governor of Katanga, Moïse Katumbi, claims that mining companies in general are enjoying too much of the profits,¹¹⁰ mining companies like George Forrest's CMSK publishes overviews of social expenditures totalling 516 000 USD for the first eight months of 2007. The Forrest Group also states that it is at present contributing to the state mining company Gécamines' budget more than any other company, around 74 million USD of cash revenues during the first six months of 2007.¹¹¹

Quentin Antoine, at Belgian organisation Groupe One that is present in Katanga, stresses that he is optimistic about the future. Many mining companies in Katanga have adopted social and environmental policies. For example, at some of the foreign companies, health and safety standards are much better and sometimes even of very high standard he says.

“These are companies that are listed on stock markets around the world, so they just have to deal with the risks [of negative publicity]. When the BBC recently published a negative report about Ruashi Mining for example, the stock dropped immediately. I think the situation will improve a lot over the coming years, and buyers like Umicore and OMG will have better companies to choose from as their suppliers.”

The law stipulates that mining companies must “establish good relationships with each community directly affected by the project” and that they must inform local populations about positive and negative impacts of the operations.¹¹² As noted above, many of the interviews conducted in Katanga in June 2007 reflect all but good relationships with the employers as well as serious concerns over health and environmental aspects of the operations. The lack of basic infrastructure and information about environmental effects was, for example, reflected in an interview with a woman who has lived in the area close to the STL plant for ten years.

“I don't have a high level of education so I don't know if the plant is polluting the environment or not. I would like the company to buy transformers so that we have electricity regularly. I would like them to asphalt our streets and to keep them in acceptable conditions.”

George Forrest International finds it unwarranted to blame private companies for the lack of infrastructure, which also affects the mining industry. SwedWatch notes that the division of responsibility between companies and the state seems to be somewhat unclear.

109 Le Code Minier (2002) article 69G.

110 Reuters, Chinese Firms Face New Reality in Congo Mining, 13 May 2007.

111 Letters and overview submitted to SwedWatch 13 September and 12 November 2007.

112 Règlement Minier, article 451.



During 2007 artisanal miners have been forced to leave several concessions to make room for industrial mining. The state has so far failed to provide these people with alternative areas for legal work or alternative sources of income. Photo: Global Witness.

“Everybody is concerned about this [the lack of basic infrastructure] and I hope the Government and [the national electricity company] SNEL are seriously working on it. As far as we are concerned we keep on doing the best we can even if it is definitely not our core business”, writes Henry de Harenne, spokesperson at George Forrest International Afrique.

The company estimates that it can cost as much as 1 million USD to build one kilometre of new road in the province, due to the rain seasons, material shortages and the enclosed geographical location of the province. As regards electricity, the company has worked with SNEL to supply local households in Kasumbalesa, a city at the Zambian border.

“/W/hen our mining and cement industries are located in remote areas we do our best for the basic convenience of the local populations. In bigger cities, as Lubumbashi, there is nothing we can do. It is up to SNEL to plan for new development programs./.../ Let’s hope things will change quite fast”, writes Henry de Harenne.

The foreign firms that are coming to Katanga as a consequence of the privatisation process are creating new jobs. Some companies have also promised to implement training programs to allow larger numbers to become qualified for employment. At the same time the re-industrialisation of the sector is threatening the income sources of farmers and artisanal miners. Artisanal miners

who occupied Gécamines' former concessions have been forced to move as private firms have been granted concessions. This has created severe tensions between local communities/artisanal miners and foreign mining companies, noted during field research in June 2007.

The formal sector is expected to employ one third of the artisanal miners over the coming years.¹¹³ Several artisanal miners perceive that the new jobs that the foreign companies are creating are not for them.

“They [the foreign companies] employ just a few. You need to bribe the managers or be related to them to get a job. Sometimes you have to work the first month without pay”, says an artisanal miner in the Kapata quarry of Kolwezi.

Some miners dream of getting employed at one of the big foreign-owned mining companies one day whilst others do not think that the working conditions are good enough yet.

“I also need to work for a trading or a mining company, but the work is not well organised yet. Some companies do not even give you flour. If I would need to wait until the end of the month in order to receive a small salary I would need to incur debts to ensure my survival and that of my children,” says an artisanal miner who is doing some farming on the side in order to support a family of four.

Another phenomenon, related to companies run by Asian nationals, has recently been noted by the authorities. Despite the high unemployment rates in Katanga, Asian labour is being imported illegally to work in the province's mining sector. Cobalt and copper producers like Kota Mining and Congo Loyal Will Mining are two examples of companies that have employed immigrants lacking legal papers.¹¹⁴ The authorities have recently acknowledged the problems and during 2007 hundreds of Chinese, Lebanese and Indian workers were deported.¹¹⁵

5.3 THE LARGE ECOLOGICAL FOOTPRINT OF MINING IN KATANGA

Katanga is marked by a long history of environmental damage caused by mining activities. The vast damage has even given rise to a special term – the Katanga Syndrome – which describes how problematic resource extraction can be, especially in developing countries with weak environmental legislation and high dependency on the exportation of raw materials. Mining activities in Katanga have often been carried out on ground level and the exploitation has led to irreparable destruction of the ecosystems.

In 2002 and 2003, World Bank consultants at SNC Lavalin International conducted field studies at 32 mining sites in the south of Katanga where the copper and cobalt mines and factories are situated.¹¹⁶ The team found unacceptable and old fashioned tailing arrangements. In many places untreated waste water was flowed out directly into surrounding areas.

113 Quentin Antoine, coordinator for the Congo programme at Groupe One, interviewed 13 September 2007.

114 Television and radio channel Mwangaza referred to in ACIDH (2007), Rapport d'enquete.

115 Reuters, Foreign Diggers Deported in Congo Mining Clampdown, 27 June 2007.

116 SNC Lavalin International, République Démocratique du Congo : Étude sur la restauration des mines de cuivre et de cobalt, 2003.

RECYCLING OF COBALT

When metal prices have been hitting record levels and environmental concerns have increased, recycling of cobalt has started to show signs of profitability and growth. According to the Cobalt Development Institute, batteries have a much lesser recycling rate than super alloys, but nonetheless there is a growing trend here. Recycling of electronics in general is also expected to increase, due to stricter legislation in Europe and Japan. According to Umicore, recycling recovery of mobile phones was only one percent of its potential in 2006.¹

¹ For more information about recycling of electronics, see Ethical Corporation, *Used Mobile Phones: Hello Green Moto*, October 2006.

In the Congolese mining sector it is common practice to deposit so called tailings¹¹⁷ in dams of river valleys. The practice is very old fashioned, but could be acceptable if water from the deposit dams did not come into contact with surrounding waters. However, the SNC Lavalin team found several tailing dams that had burst, which affected the water and local inhabitants downstream.

Among other sites, the team visited a newly built concentrator in Kipushi, owned by George Forrest International (50%) and Gécamines (50%), which handles copper and cobalt originating from the Luiswishi mine. The Luiswishi mine is supplying OMG with cobalt. The team found that some of the waste was discharged into the Kafubu River and surrounding fields.¹¹⁸ A waste sample showed high levels of arsenic, cadmium, copper, lead and zinc that can cause damage to humans and the river fauna.¹¹⁹ George Forrest International claims that the pollution was caused by earlier activities, conducted by Gécamines. The company also states that the current activities are carefully monitored and that environmental plans, approved by the state, are followed.¹²⁰

The factory of STL, which supplies OMG with cobalt for batteries and other products, was described as an ultramodern facility. According to the team, the emissions and discharges had little or no negative impact on the environment. As mentioned before, the consultancy team received local complaints about the plant's gas emissions, but unfortunately the company never shared its emission report with the consultants although requested.¹²¹ As mentioned before, George Forrest International states that the installations conform to European standards, but it gives no explanation as to why the company did not share its data with the SNC Lavalin team. However, the company informs SwedWatch that it is open for new visits and sample-takings.¹²²

¹¹⁷ Tailings are the materials left over after the process of separating the valuable fraction from the worthless fraction of an ore.

¹¹⁸ SNC Lavalin International, République Démocratique du Congo : Étude sur la restauration des mines de cuivre et de cobalt, p 49-50 and 182.

¹¹⁹ The sample has been commented by Håkan Tarras-Wahlberg, Technical Director at mining consultancy Swedish Geological 14 June 2007.

¹²⁰ Letter from George Forrest International to SwedWatch 13 September 2007.

¹²¹ SNC Lavalin International (2003), République Démocratique du Congo : Étude sur la restauration des mines de cuivre et de cobalt, p 61-63 and 183 and email contact Yves Comtois, Project Director at SNC-Lavalin Environnement Inc, 14 June 2007.

¹²² Letter from George Forrest International to SwedWatch 13 September and 12 November 2007.

Gécamines' foundry that is supplying feed from the slag pile to the STL factory was subject to much critique. The team found that it contributed to the air and water pollution in Lubumbashi.¹²³

In 2006, several organisations and one union released a report about the performance of Somika.¹²⁴ The report reveals worrying information about Somika's environmental practices. Heterogenite products were seen to be stored in open air. The company is accused of polluting the Kimilolo River, which provides drinking water to 70 percent of Lubumbashi's population. In 2006 the Lutundula Commission recommended that the plant ought to be relocated. The facilities are built in a so called non-construction area created to protect the ground water. According to the Urbanism and Habitat Division the site should be reserved for tree planting, not industrial activities, but the company has chosen to stay, claiming that its operations are safe. Local communities as well as the company are awaiting the results of a European commission appointed to investigate the effluents.

ACIDH, a local NGO, gives reports about air pollution caused by mining activities in the mining districts of Katanga. According to a doctor interviewed in a local radio programme, the rising numbers of tuberculosis cases noted in Kolwezi are caused by mineral dust that comes from poorly managed mining operations and trucks transporting minerals without covering them. The same problems are noted in the Kankotwe quarter of Likasi where local communities complain of dust inside their homes. The inhabitants have protested by blocking the main road and since then the authorities have started to place demands on companies to wash the roads each day.¹²⁵

Apart from copper and cobalt, the ore of the mines and the slag dumps sometimes also contains radioactive uranium. If not managed properly, and if workers do not follow proper personal safety precautions, this can pose serious health hazards to people exposed to such ores and waste materials with high concentrations of uranium. Uranium and radium dust may end up being ingested due to poor hand hygiene. Inhaled mineral dust containing uranium and high levels of radon can for example lead to lung cancer. Large releases of uranium and radium into water may affect the nearby ecosystem of a mine. If mineral dust is spread out into the environment it might contaminate animals and waters.¹²⁶ These risks have not been thoroughly investigated in the Copperbelt. According to one prominent consultancy firm, monitoring projects have been discussed but never realised, probably due to the economic implications that the findings might have.

5.3.1 PROBLEMS OF IMPLEMENTING THE LAW

The Mining Code of 2002 and the additional regulations from 2003 constitute the legal framework for environmental practices of mining companies in the DRC. Before it came into force the environmental dimension was as all but ignored in Congolese mining legislation. The main problem today is not the legislation itself but the lack of control, implementation

123 SNC Lavalin International (2003), République Démocratique du Congo : Étude sur la restauration des mines de cuivre et de cobalt, p 43-46 and 182.

124 Rights & Democracy (2007), Human Rights Impact Assessments for Foreign Investment Projects, p 91 and 94-96.

125 ACIDH (2007), Rapport d'enquete.

126 Interview with uranium expert Gustav Åkerblom, 28 August 2007.

and transparency. The Mining Code requires, for example, that mining companies present environmental impact assessments and plans on how they will protect the environment, but these documents are not made public. Moreover, according to the Environmental Division of Kolwezi, Tenke Fungurume Mining is the only company in the mining district so far that have presented its assessment.¹²⁷

The DRC government lacks the resources needed at provincial and local level to control the mining sector. The Bank Information Center is a Washington-based NGO working to make financial institutions promote social and economic justice and environmental sustainability. During its field trip to Katanga in 2006 it found that the provincial office of the Mining Ministry is far from able to assess the environmental effects of mining companies independently. At the time of the investigation, officials in charge only had one vehicle at their disposal and they often relied on companies for transportation to mining sites. The provincial ministry also lacked its own independent laboratory to evaluate environmental samples and data provided by mining companies.¹²⁸

5.3.2 WHO WILL PAY?

It is not easy to distinguish between the effects of earlier mining, artisanal mining and the activities of new mining companies. For new investors it is important not to be held responsible or be blamed for the environmental debt that state mining companies and former regimes have created in Katanga. The Mining Code states that responsibility for damages caused by a former owner should be shared between the old and the new owner of the concession. This has worried many investors, but it is highly uncertain whether this piece of legislation will ever be applied.¹²⁹ The Environmental Protection Division of Kolwezi had in mid-2007 not received any financial security from any of the thirty-plus mining companies that are present within its jurisdiction, despite the fact that this is required by law.¹³⁰ Furthermore, the cash-strapped state already owes around 10 billion USD and debts will reportedly consume more than half of the 2007 budget.¹³¹

There is, however, a great possibility that new investors could improve the environmental conduct in the province by introducing modern techniques and the same practices as are used in developed countries where legislation is more strictly enforced. However, if not managed properly, the environmental effects will just lead to further tension in the future in a province already characterised by instability.

5.4 THE CONSEQUENCES OF A WEAK STATE

The mismanagement of the country and the widespread corruption among the political elite has been described by many. Mobutu used Gécamines as his personal cash cow, and income from mineral resources has helped successors in power to finance wars and hold on to power. There are high hopes for the newly elected government. On the one hand, the same political elite that

127 Director of the Environmental Division of Kolwezi, 27 June 2007 interviewed in ACIDH (2007), Rapport d'enquête. The requirements are stipulated in article 204 (Code Minier) and 404 (Règlement Minier).

128 Bank Information Center and Environmental Defense, Visit to the Democratic Republic of Congo (DRC), trip report, April 2006.

129 Le Code Minier (2002), article 280 referred to in Mazalto Marie, La réforme de législations minières en Afrique et le rôle des institutions financières internationales : La République Démocratique du Congo, p 19.

130 Director of the Environmental Division of Kolwezi, the 27th of June 2007 interviewed in ACIDH (2007).

131 Reuters, DRC Copper & Cobalt Production Set to Increase Rapidly – IMF, 8 June 2007.

rushed to sell off most of Katanga's cobalt and copper assets during the transition period are continuing to rule from Kinshasa after the elections. On the other hand, the politicians have promised to clean up the industry after decades of decay. The deportation of Camec's major shareholder, Billy Rautenbach, in 2007 is one example. Rautenbach is wanted in South Africa charged on charges of corruption and fraud. As mentioned before, the output of Camec ends up in rechargeable batteries for consumer electronics.

The culture of corruption and the quasi-absence of a functioning state apparatus limit the possibilities for sustainable business practices. Provincial officers complain that government officials in Kinshasa hush up their critical evaluations of mining companies, a feature also noted by the Lutundula Commission in 2005.¹³²

If the DRC is to gain fully from its natural resources it needs to control its borders and add more value at home. The Mining Code only permits the exportation of unprocessed ore if it cannot be processed locally and exporters are required to obtain approval from the authorities.¹³³ However, for years the borders have been guarded by corrupt customs officials. Huge quantities of ore have been crossing the Zambian border underdeclared, with false documents and no value added.¹³⁴ Whilst some has most certainly been processed in Zambia, some has been transported to Dar es Salaam or Durban to then be shipped on to other parts of the world such as China for processing. The illegal trade is estimated to cost the DRC 1.5 billion USD per year.¹³⁵

On 3 March 2007, without prior notice, the Governor of the Katanga province in the DRC issued a decree effectively closing the border to Zambia. Hundreds of trucks with mainly Zambian drivers were stuck with their cargo of copper and cobalt concentrates and ore. By closing the border the Governor of Katanga said he wanted to improve the local industry while Zambians claim that the action came in retaliation to an anti-corruption investigation in Zambia to which the Governor had been summoned.

The closure of the border prompted loud protests from companies based in Zambia, which export processed cobalt to the rest of the world. A few weeks later the trucks were allowed to cross the border again. The Governor's action seems to have had the desired effect since foreign importers and mining companies are now looking into the possibilities of setting up their own processing facilities within the DRC to secure minerals and metals for the future.¹³⁶

The border dispute made one thing very clear; some of the cobalt that is being processed and exported from Zambia originates from the neighbouring DRC, and a significant portion of the trade has been conducted illegally for years. Given the widespread corruption at the border and in the sector as a whole it will probably be a difficult pattern to break. In August 2007 the interior minister of Katanga stated that the DRC's revenue had tripled following the ban and the

132 The Lutundula report (2005), Assemblée Nationale Commission Spéciale chargée de l'examen de la validité des conventions à caractère économique et financier : conclues pendant les guerres de 1996-1997 et de 1998, p 86.

133 Code Minier (2002), article 85.

134 Global Witness (2006), Digging in Corruption, p. 17-18.

135 Bloomberg, Congo Reopens Border for Export of Copper, Cobalt Ore to Zambia, 22 March 2007.

136 ACIDH (2007), Rapport d'enquête.

imposition of stricter border controls. However, smuggling does still occur.¹³⁷

137 The Post of Zambia, DRC's Revenue Triples after Ban on Copper Concentrate, 28 August 2007.

6. ZAMBIA

6.1 ZAMBIA'S MINING INDUSTRY

As in Katanga, cobalt in Zambia is extracted together with copper. Although copper is the main commodity from the Zambian mines, cobalt has been, and continues to be, an important by-product, especially at times when copper prices are low. In 2005 Zambia was the second largest producer of cobalt worldwide.¹³⁸

The two largest producers of cobalt in Zambia are Chambishi Metals Ltd and Mopani Copper Mines. According to the Cobalt Development Institute these two mining companies are, together with Morocco's CTT, the only known producers of high grade refined cobalt in Africa.¹³⁹

Zambia's largest mine, Konkola Copper Mines (KCM), extracted cobalt until 2004. Coming cobalt projects concern the Chinese company NFC Africa Mining Plc and the Australian and Canadian owned Equinox. NFC Africa will start producing cobalt when it opens a new part of its mine in Chambishi (Chambishi is the name of the town where both Chambishi Metals Ltd and NFC operate).¹⁴⁰ Equinox is opening a large mine in Zambian North West Province, where copper, cobalt and other metals will be extracted from 2008.¹⁴¹

6.1.1 TRACEABILITY

Both Chambishi Metals Plc and Mopani Copper Mines have not provided SwedWatch with information about which countries and clients they sell their cobalt to. However, a business guide from 2007 sponsored by Chambishi Metals states that the company is "producing by-products of copper and cobalt for the phone and battery industry".¹⁴² According to the information service of the online commodity market Metal-Pages, Zambian cobalt in general is mainly used for producing batteries and super alloys for the aero industry.¹⁴³

In terms of value Switzerland, Japan, the Netherlands, China, the US, Belgium and Taiwan are among the major export destinations.¹⁴⁴ However, the statistics give a distorted picture of the Zambian exports. Switzerland is the biggest importer in terms of value. Yet SwedWatch's research shows that only a fraction of the cobalt noted actually enters Switzerland. Instead it goes to other, unknown destinations. China is only the fourth biggest importer in terms of value but the biggest importer in terms of weight, since much of the cobalt is imported as ores and concentrates that are heavier but of less value than refined products.

6.1.2 ILLEGAL TRADING

As mentioned before Congolese ore has been illegally imported to Zambia for a long time. There are of course no figures on this, but the reactions to the closing of the border in March

138 U.S. Geological Survey, Mineral Commodity Summary on Cobalt, Jan 2007.

139 Email reply from David Weight, President of the Cobalt Development Institute, 30 May and the 7 November 2007.

140 Interview with Xu Ruan, in charge of public information at NFC Africa Mining, 25 April 2007.

141 Equinox's website, www.equinoxminerals.com/development/lumwana-project

142 eBuzguides.com, Luanshya Copper Mines/Chambishi Metals.

143 Metal-Pages, Zambia Increases Cobalt Production, 11 June 2007.

144 Central Statistical Office of Zambia. Statistics compiled and sent upon request on 23 May 2007.

ZAMBIA'S COBALT PRODUCERS

Chambishi Metals Ltd: Chambishi Metals, which has produced cobalt in Zambia since 1978, is the largest producer of refined cobalt in Africa. Between 2003 and 2006 the company produced on average 3 800 tonnes of pure metal cobalt and the production will increase the coming years.¹ The company mainly extracts copper and cobalt from the Black Mountain, a huge slag dump located in Kitwe, the mining capital of Zambia, not far from the Congolese border. Another source of ore is the Baluba mine, which is part of Luanshya Copper Mines. Chambishi Metals is controlled by diamond tycoon Beny Steinmetz and International Mineral Resources.² The latter is part of Eurasian Natural Resources Corporation, one of the world's largest private mining and metal companies.³

Mopani Copper Mines: Mopani is Zambia's second largest cobalt producer. The company operates two mines, the Nkana mine in Kitwe and the Mufulira mine in Mufulira and it also treats copper and cobalt, using material from different local sources.⁴ Since 2001 Mopani has averaged a production rate of 1 800 tonnes per year.⁵ Mopani Copper Mines is owned by Glencore International, one of the world's largest suppliers of commodities and raw materials.

NFC Africa Mining Plc: NFC Africa runs the Chambishi copper mine, which was the first Chinese overseas investment in non-ferrous metal mining ever. The mine is a joint venture between Chinese state-owned China's Nonferrous Metals Mining and Construction Company (85%) and the Zambian government (15%). NFC Africa has so far focused on copper production, but will start producing cobalt in the near future.

Konkola Copper Mines Plc (KCM): KCM is the largest mining and metals company in Zambia with an annual capacity of 200,000 metric tonnes of copper. KCM extracted cobalt when the demand from the electronic industry was booming, but stopped doing so in 2004. The company is a subsidiary of Vedanta Resources Plc. Vedanta also has operations in India and Australia.

1 Cobalt Development Institute, Cobalt News, April 2007 and Reuters, Zambia Mine to Raise Cobalt Output to 5 000t/y, 28 September 2007.

2 Information from Steve Brown, Comit Resources, who handles marketing and sales for Chambishi Metals, 16 October 2007.

3 Wikipedia, October 2007, http://en.wikipedia.org/wiki/Alferon_Management

4 Email reply from David Weight, President of the Cobalt Development Institute

5 Cobalt Development Institute, Cobalt News, April 2007.



Small-scale miners are often risking their lives by illegally working in hazardous old mines without any safety measures. Photo: Petter Bolme.

2007 showed that stricter border controls had an economic impact on the Zambian mining industry. Hundreds of trucks were stopped and mining companies both in Zambia and the DRC protested because they were losing money.

Illegal practices also take place within Zambia's borders. With such high copper and cobalt prices an informal and illegal business is blooming on both sides of the border. In some cases ore is simply stolen from areas belonging to the big mines. Train wagons and trucks have disappeared from the Copperbelt and dealers have been killed.¹⁴⁵ In other cases ore is illegally dug out from old mines in Zambia by small scale miners without permission.

The disused mines and open pits lack sufficient safety measures meaning that workers often risk their lives during mining operations. Since these mines or open pits often belong to someone else, digging in them is regarded as theft, but high rates of poverty and unemployment combined with high commodity prices draw people in to these illegal activities.

"Small scale mining worries a lot of people. With small-scale mining it is hard to know where the ore or the concentrate has come from", says Frederick Bantubonse, Director of the Chamber of Mines in Zambia.

145 Times of Zambia, Two More Nabbed over Death of Chinese National, 8 June 2004.

According to Frederick Bantubonse, yet another problem is that the Ministry of Mines has given out a lot of licenses to mine on property that actually belongs to someone else.

”With a licence to mine it is possible to sell to large smelters. If the material is in concentrated form no one will ask where you got the concentrate from as long as you have a license,” says Frederick Bantubonse.

He says that large smelters and refineries in Zambia, like Chambishi Metals and Mopani, buy ore which contains cobalt from small-scale miners. The ore is also bought by the growing number of small scale smelters based in Kitwe and Ndola, which are often run by Chinese nationals.¹⁴⁶

6.2 HISTORICAL BACKGROUND – FROM PRIVATE TO STATE BACK TO PRIVATE OWNERSHIP

Mining in Zambia can be roughly divided into three periods:

1923-1969: The mines were run by private corporations.

1969-1998/2000: The mines were controlled and run by parastatal companies. During the first years the profits from the mining sector were part of national revenue used to finance a wide variety of programmes ranging from education and health to infrastructure, sports and culture. The situation then deteriorated rapidly, due to political mismanagement and corruption.

1998/2000 up to present: The mines are entirely run by international corporations, but the Zambian Government has shares in all of the companies, often around 10 to 20 percent, via the state-owned holding company ZCCM Investment Holdings Plc. Although the mining companies are making enormous profits from the record high metal prices, several studies and reports show that the Zambian people are actually benefiting very little from the mining industry.

6.2.1 THE ROUTE FROM MIDDLE TO LOW INCOME COUNTRY

Zambia’s Copperbelt, where all the major mines are located, has been mined since the beginning of the twentieth century. Copper was the backbone of the colonial economy and after independence from the United Kingdom in 1964, mining continued to be the major contributor to the economy.

In 1969, Zambia was classified as a middle-income country with one of the highest GDPs per capita in Africa, largely because of the gains from the copper industry. The mines employed more than 60 000 people at its peak and subsidised health care and housing for the workers and their families. The mining companies built towns, townships and hospitals and ran clubs and handed out food rations to the employees.¹⁴⁷ After independence there was great optimism in Zambia. The mining sector contributed between 50 to 70 percent of government revenue in the

146 Interview with Professor John Lungu, Copperbelt University, Kitwe, Zambia, 25 April 2007.

147 Fraser Alastair and Lungu John (2006), *For Whom the Windfalls*.

early 1970s, but between 1974 and 1994 the per capita income declined by 50 percent.¹⁴⁸ Today Zambia is one of the poorest countries in the world, ranked number 165 out of 178 countries. Three out of four Zambians live on less than one dollar a day. Life expectancy for a Zambian is below 38 years.¹⁴⁹

One of the reasons for this drastic fall from a middle-income to a low-income country is Zambia's dependency on its mining industry and the failure to diversify the economy. The dependency on mining soon made Zambia extremely vulnerable to fluctuating world market prices for copper and cobalt.

Another reason for the fall was the enormous external debt burden that Zambia accumulated to be able to nationalise the mines and later cover increased social costs. Like most of the other newly independent nations in Africa, Zambia chose a socialist road and nationalised industries and land ownership. To fund the buy-out the government began accumulating a foreign debt that would later make Zambia one of the most indebted countries.

A third reason for the degeneration of the economy was the political mismanagement of the mines. Professor John Lungu at the Department of Business Administration at the Copperbelt University in Kitwe has extensively studied and written about the mining industry in Zambia. President Kaunda claimed he nationalised the mines because the private companies were not investing, but from 1969 to 1991, when the mines were controlled by the Zambian state, there were no real investments in the mining sector, says professor Lungu.

“During Kaunda hardly any exploration or drilling for new ores was done and there was a constant lack of spare parts for equipment. At the same time one had to go deeper and deeper underground to find the ore, making extraction more and more costly every year. The mining companies soon found it difficult to compete on an international level.”

It was soon evident that the mining industry could no longer sustain the Zambian economy. Zambia looked overseas to borrow money to cover basic social needs, but the economic situation went from bad to worse. From the late 1970s until today, Zambia has been heavily dependent on new loans to cover old ones and international aid to support the lack of funds in the budget. In 2007's budget roughly a third of the total revenue comes from foreign aid.¹⁵⁰

By 1989 the Zambian economy had worsened to the point where shortages of food, goods and other services became a normal way of life.¹⁵¹ As a result of the worsening economy and the strict adjustment programmes required to receive more foreign aid, the one-party state was being questioned. The Movement for Multiparty Democracy, a coalition of forces led by trade unions, non-governmental organisations, private business and churches, challenged the Kenneth Kaunda's party and won the first multiparty elections in 1991. The international community who had shunned Kaunda's one-party state, in part for its failure to deal with economic reforms,

148 Olav Lundstøl (2007), Mining companies' contribution to the Government Treasury.

149 UNDP (2006), Human Development Report (HDR).

150 Central Statistical Office of Zambia, Yellow Book, Ministry of Finance.

151 Chamber of Mines (2005), Survey of the Zambian Mining Industry 1995 to 2004.

now watched on at the inauguration of a pro-privatisation president, the former trade union leader, Frederick Chiluba (President of Zambia 1991-2001).

6.2.2 THE PRIVATISATION PROCESS

Since 1983 the international donor community, led by the World Bank and IMF, has set up conditions for aid in form of a rigid structural adjustment programme (SAP). The aim of the SAP was to overcome the budget deficits and an increasing debt burden. Privatising the mines was a condition for handing out international aid to the government and later on a condition for debt relief.¹⁵²

From the mid 1990s the state mining company, ZCCM, started to lose money and the government had needed to inject funds in order to keep it operating. During the worst year about 6 to 8 percent of Zambia's GDP was used to cover the deficit of ZCCM-IH who had to let workers go.¹⁵³ This had a huge impact on the entire nation, especially the Copperbelt. It was obvious to many that Zambia could not afford to run the mines, and especially not inject necessary capital to make the mines more efficient. In March 1996 it was stated that ZCCM needed \$2 billion to avoid a complete collapse.¹⁵⁴ The privatisation process began.

There is no doubt that the privatisation has had a positive effect on the mining sector in Zambia, but it is not so certain that it has had positive effects on the country as a whole. Between 1998 and 2007 about \$2 billion in foreign direct investment has been invested in the mining sector. This has led to the opening of new mines and rehabilitation of old ones as well as constructions of new smelters and refineries.¹⁵⁵ The investments in Zambia are visible on the roads travelling north where heavy trucks carrying machinery to the Copperbelt come up from South Africa. New mines are opening for the first time in many years and extensive drilling and exploration for new prospects are taking place. The privatisation of the mines has also created new jobs within the industry. Direct employment in the mining industry in March 2007 amounted to 50,000 employees, as compared with 32,000 employees in 1998.¹⁵⁶

Even though the privatisation and the foreign investments were necessary for Zambia, the process itself has prompted major concerns in the country. To prepare for privatisation the state first laid off almost half of the labour force with a reduction from 60 000 to only 31 000. After two years of privatisation the workforce had dropped to 22 500.¹⁵⁷ At the same time the mining industry subcontracted labour to companies that employed casual labour. The casual workers are paid much less than those directly employed by the mines.

Since the 1990s the entire social fabric in the Copperbelt has changed. As mentioned, the parastatal ZCCM used to provide a social infrastructure for local communities. However, the international investors have not wanted to take on the same role, often leaving communities

152 Kaunda Francis (2002), *Selling the Family Silver*. Francis Kaunda was responsible for the selling off process and contributed largely to the negative implications that rose from the fact that this process was prolonged.

153 Lundstøl Olav (2007), *Mining companies' contribution to the Government Treasury*.

154 Kaunda Francis (2002), *Selling the Family Silver*.

155 Chamber of Mines, *Survey of the Zambian Mining Industry 1995 to 2009*. Presentation to members of parliament, the 14th of March 2007.

156 Mwansa, Minister of Mines, *Debate at the Parliament*, 27 February, 2007.

157 Chamber of Mines (2005), *Survey of the Zambian Mining Industry 1995 to 2004*.

without health care and other social benefits that they used to enjoy during times of state ownership. According to the Mines Safety Department in Kitwe, accidents in the mines increased after privatisation. Miners complain of harassments and difficulties in forming unions at various mines. There are also growing environmental concerns in the Zambian part of the Copperbelt.

The following chapters will take a closer look at some of the main areas of concern. Both workers and civil society at large worry that the Zambian government, or to be more specific the political power at State House (the President of Zambia's residence), is putting the interests of the multinational companies before those of the Zambian people.

According to several officials both at the Mines Safety Department and the Environmental Council of Zambia, the political powers in Zambia have intervened when government departments have tried to close down mining operations due to malpractice. Mines have been able to operate even though workers, communities, as well as officials in charge of safety and environment have voiced concerns.

The government has shown a very low interest, if any, in increasing the revenue from the mining companies at a moment when the industry is making record profits. From 2005 to 2006, more than 3 billion USD worth of copper and cobalt was exported from Zambia, the equivalent of 35-40 percent of GDP and 90 percent of Zambia's total exports.¹⁵⁸ However, during the same period the mining sector provided a mere 3.3 percent of the total GDP in Zambia.¹⁵⁹ Moreover, the OECD states that Zambia's "copper mines benefit from substantial tax holidays and generate few spill-overs to the rest of the economy".¹⁶⁰ When this report was being finalised, negotiations had started to try to secure more revenue and improve working conditions – demands that have been pushed by civil society and the political opposition together with international donor agencies.

6.3 LABOUR PRACTICES

6.3.1. LAYOFFS, INSECURITY AND THE CASUALISATION OF LABOUR

During the 1970s and 1980s ZCCM employed up to 65 000 workers.¹⁶¹ After 1991 the government cut down the labour force paving the way for privatisation. In April 2007 more than 50 000 workers were employed in the sector, though many of them under short-term casual contracts or via contracting companies.¹⁶²

According to union representatives interviewed by SwedWatch, casual labourers are not given adequate training as regards safety measures nor are they given health check-ups as is required for miners. Moreover, their salary is on average not more than half that of a similar worker on a permanent contract. Casual workers are also obstructed by the external contractors from organising themselves and forming unions in Zambia. To form a union in Zambia one first needs to establish an informal committee of workers, but workers are reportedly either laid off or do

158 Lundstøl Olav (2007), Mining companies' contribution to the Government Treasury.

159 OECD, Economic Outlook, 2007.

160 Ibid.

161 Ibid

162 Ministry of Mines.

THE DESTINY OF TWO MINE WORKERS IN THE COPPERBELT

George Kanyemba used to work for one of the Copperbelt's external contractors. Suffering from severe malaria he died in 2007 sitting in the truck that he operated underground for Chambishi Mine, owned by the Chinese company NFC Africa.

Gilla Mubanga, the branch Director for the union NUMAWU at NFC, says that casual workers are paid as little as 0.25 USD an hour. Consequently, they would need to work almost ten hours a day, 30 days a month in order to earn the minimum wage of 72 USD per month. However, the minimum wage in Zambia does not even cover half of the average food basket needed to support a typical Zambian family of six. Working on a casual basis, George had great difficulties providing for himself, his wife and his eight children.

Just three days before his death, George Kanyemba had been given a permanent contract with NFC Africa. NFC mines copper, but is planning to open a new shaft where they will extract cobalt. Getting a permanent contract at NFC was a big opportunity for him and his family. It meant security and a pension. George's widow and eight children are now left alone without any source of income. They will probably have to leave the house they rent since it is unlikely that George's widow will be able afford to pay the rent, according to a friend of the family. That said, friends and family will help out for a while and they will hopefully receive some money from NFC Africa.

One of the men who attended George's funeral works for Zambia's second largest cobalt producer, Mopani Copper Mines. We can call him John, because he wants to remain anonymous, since he is afraid of losing his job. John is 45 years old. As the only breadwinner in his family he supports his four children and his two younger sisters. His salary is 500 USD a month and after tax he is left with around 400 USD. John's salary is by far above what is considered to be the minimum to cover food and other basic needs for a family of six.¹ He is one of the lucky few in Zambia. Not more than 500 000 out of a population of 11.5 million enjoy formal employment and even fewer earn as much as John does.

1 The food basket as of April 2007 was K710 031 (165 USD) for a family of six. The same family on average was expected to live on K 1 166 858 (271 USD) for all their food & basic needs. Central Statistical Office, Zambia, www.zamstats.gov.zm

not have their contracts renewed if they do so.¹⁶³

According to an investigation conducted in October 2006 that was commissioned by the Civil Society Trade Network of Zambia and the Catholic Church for Justice, miners working for external contractors make up 41 percent of the workforce.¹⁶⁴ In 2006 around half of the workforce at Mopani, Luanshya Mining and NFC Africa were employed via external contractors. Around one quarter of all workers at Chambishi Metals and Konkola Copper Mines had

163 Fraser Alastair and Lungu John (2006), *For Whom the Windfalls*.

164 *Ibid.*



NFC Africa is one of many significant, but also much criticised Chinese investments in Africa. Beijing claims the Chinese presence is a “win-win” situation. Many Zambians have their doubts, especially those in the Copperbelt. Photo: Petter Bolme, Global Reporting.

external contracts.¹⁶⁵

The two major external contracting firms are Mpelembe Drilling, a Zambian company, and the South African subcontractor Pro-Sec. Their workers are the highest paid among those who do contract work at the mines, but still these workers make less than half of what a permanent paid miner gets for the same job.¹⁶⁶

Consequently, there are significant differences between the temporary and subcontracted workers on the one hand and the permanent workers on the other hand, which are employed directly by mining companies and also more often unionised. When metal prices have risen substantially Zambian unions have organised strikes to push for higher wages. In March 2007 the union at Luanshya Copper Mines, which delivers ore to Chambishi Metals, agreed to a 22 percent pay rise offered by the management. The agreement ended tensions that caused a six day long strike that led to significant losses for the company. Workers at Mopani are also expecting higher wages after organising a strike during the same month. In 2006, the President of Zambia accused Mopani that the wages it was offering its Zambian employees were too low in comparison to those given to expatriates.¹⁶⁷

165 Ibid.

166 Ibid.

167 Reuters, Zambia's Luanshya Copper Mine Workers Agree Pay Rise, 14 March 2007.

Following a strike in July 2007, workers at Chambishi Metals received an 18 percent pay rise. The workers had requested a 170 percent pay rise, but the union later accepted the offer from the management, who stated that a higher rise was not possible if the company was to be able to reinvest profits into expansions, and so on. Before the rise, the lowest paid directly employed miner at Chambishi Metals was receiving 450 USD per month, leaving him with around 370 USD after tax.¹⁶⁸ In the Zambian context this is a good salary. The food basket as of April 2007 was 165 USD for a typical family of six. The same family was expected to live on 271 USD for all their food and basic needs.¹⁶⁹

Reportedly NFC Africa, which is about to start mining cobalt, presently pays the lowest wages of all the mining companies, and only employs a tiny share of its workforce on permanent, pensionable contracts. The salaries of the highest paid unionised workers at NFC Africa did cover basic needs in 2006 whilst the lowest paid workers earned just above the price of a food basket, a figure that covers food items alone.¹⁷⁰ By contrast, casual workers were paid as little as 0.25 USD an hour.

6.3.2 THE CHINESE DISCONNECTION

At the end of the China-Africa summit, held in Beijing in November 2006, the Chinese President Hu Jintao announced an eight-point implementation plan for 2007- 2009. One of the points included the establishment of three to five trade and economic cooperation zones in Africa. The first economic zone in Africa will be in Chambishi, Zambia. According to the first official statement, the total expected investment in Zambia through this cooperation is valued at 800 million USD.¹⁷¹

At the same time Chinese owned companies, led by NFC Africa in Chambishi, are accused of bad labour practices. The strong anti-Chinese sentiments that exist in Zambia began with the explosion of the BGRIMM Explosives Ltd, a manufacturer of cheap explosives for the region's mining industry. The explosion that occurred in April 2005 killed 46 workers and destroyed the entire factory. This incident was followed by the shooting of five protesting miners working for NFC Africa in July 2006. During the elections in October 2006 the opposition party Patriotic Front used the anti-Chinese sentiments and won all parliament seats in the Copperbelt, Lusaka, and in many other urban areas.

Gilla Mubanga works as an engineer at the Chambishi mine, which is owned by the Chinese company NFC Africa. He is currently the branch chairman for the union NUMAWU. When he joined NFC in 2002 he was first given a six month contract, which was followed by a one year contract. His monthly salary, when on time-limited contracts, ranged between 65 to 75 USD. As mentioned before, the Zambian minimum wage is 72 USD.

“We worked for two years without a pay rise so we started to make calls for a union”, says Gilla

168 Reuters, Zambia Chambishi Metals Miners Win 18% Pay Rise, 12 September 2007.

169 Central Statistical Office, Zambia, www.zamstats.gov.zm

170 Fraser Alastair and Lungu John (2006), For Whom the Windfalls.

171 Zambia Daily Mail, Zambia: Economic zone to be established, 6 February, 2007.

Mubanga.

Setting up a union was not an easy task. First they formed a workers' representative committee where they could begin to discuss the labour conditions with the management.

"We started with ten of us in a workers' representative committee. Three of us were fired by not having our contracts renewed. I was personally told by my Chinese supervisor that if my contract had been finishing today he wouldn't have renewed it", he says.

Gilla Mubanga continued working because his contract was not due to expire in the near future. This happened at the time of the explosion at BGRIMM at the Chambishi mine. NFC Africa holds 40 percent of the shares in BGRIMM. The explosion created a lot of anger in Zambia as well as attracting a lot of media attention, and soon after NFC Africa was forced to approve and recognise the union.

According to Gilla Mubanga, the problems with the Chinese management did not end. In July 2006 the union won a back pay for six months on wage salary increases. However, the management calculated the amount owed to the workers at a much lower rate than the workers and the union. Some of the members were very angry and gathered outside the mine.

"We as union representatives asked them to disperse, but some refused and instead went into the plant and beat up a Chinese national. One worker was shot in the leg. The man who shot the first bullet was a Chinese worker who disappeared shortly after the shootings. The angry workers then rushed to the Chinese compound where four more were shot. Fortunately no one died during the shootings. The police say the investigation into the shooting is still ongoing, but so far no one has been charged. On the other end all the workers who were shot at have been dismissed and accused of riotous behaviour," says Gilla Mubanga.

Nonetheless, Gilla Mubanga believes that the union has been successful to date. In April 2007 the union at NFC had 1750 members. Less people were on temporary contracts, as most of them were employed permanently in the aftermath of the elections, says Gilla Mubanga.

TRADE UNION RIGHTS IN ZAMBIA

Zambian laws limit trade union rights. 100 members are required to form a union. The right to strike is subject to so many procedural requirements that it is nearly impossible for workers to hold legal strikes. As a result, no legal strikes have been held in Zambia since 1994. The casualisation of labour within the mining sector also limits the possibilities of organising the workforce.

Source: ICFTU, 2006.

6.3.3 FRUSTRATED SAFETY OFFICERS

According to both the Ministry of Mines and the Chamber of Mines in Zambia, which represents the mining companies, the number of accidents has decreased since the privatisation of the mines. This contradicts the information SwedWatch has received from workers and the Mines Safety Department in Kitwe, the mining capital of Zambia.

“Before the privatisation of mines the safety conditions were acceptable. ZCCM (the parastatal) had very good safety structures and it invested a lot in safety, but after privatisation it became worse”, says Chief Inspector Mooya Lumamba from behind the big desk at the Mines Safety Department in Kitwe.

He is worried about the safety situation in the mines but is hopeful that the situation will improve. Recently his office received funds for three more vehicles and 25 new staff members in order to improve inspections on site.

“In 2005, 80 miners died in the mines in Zambia. Before that the average was about 20 per year. Because of the many accidents we had to reorganise ourselves. We only had three safety inspectors before and we didn’t have the capacity to do any on-site visits. We could only sit behind our desks and report back to Lusaka the accidents that the mining companies reported to us.”

According to Mooya Lumamba, the Ministry of Mines in Lusaka has been well informed about the situation in the past, but it did not react until after the explosion at BGRIMM.

“They had other priorities”, says Safety Inspector Mooya Lumamba.

According to Mooya Lumamba decreased safety in the mines has been a direct result of the privatisation of the sector. Most of the private companies came from countries where safety procedures are less rigid than those in Zambia.

“When the Chinese came they didn’t know anything about our laws and safety rules. They were even drilling in trousers [although protective clothing is needed]. One Chinese machine operator was electrocuted when he took his rubber boots off,” he says.

The safety department had to hold a series of meetings, charge the Chinese company in question and dismiss managers.

“It has been tough dealing with them but we have managed to change things. Things are becoming more normal.”



Chambishi Metals' COSAC plant. The company used to enjoy a good standing among Zambians, but several accidents have occurred during 2007, seriously wounding workers. Photo: Petter Bolme, Global Reporting.

To some extent mining in Zambia differs from mining in other countries. There is, for example, much more water in the shafts than in most other mining areas, explains Mooya Lumamba. He claims that the fact that private companies retrenched many of the Zambian managers who knew how to operate the mines also worsened the situation.

“Instead they brought in their own management from all over the world with little knowledge of Zambian laws, regulations or procedures. They almost failed to run the mines because of safety issues,” says Mooya Lumamba.

According to the Inspector the use of external contractors was also a hazard to the operation of the mines. The contractors brought in workers who did not have sufficient experience and know-how. Many of them had previously only worked with small-scale mining.

The department is trying to put pressure on the companies. Inspector Lumamba says that Mopani Copper Mines (MCM), Zambia's second largest cobalt producer, was the worst as regards safety in 2005. Since then the department, together with the ministry, has put pressure on the company. If the situation had not improved the license would have been revoked. This resulted in MCM performing much better the following year.

6.3.4 DANGER AT A COBALT FURNACE

When SwedWatch met Inspector Lumamba he had returned from a meeting with a colleague who had just been to Chambishi Metals' cobalt plant, COSAC. The plant had been closed by the Mines Safety Department for three days after a plasma torch¹⁷² exploded, seriously injuring three workers. In July 2007, one of them was still in intensive care at a hospital in South Africa. The explosion at the cobalt plant on 22 April 2007 was the third serious incident at Chambishi Metals that year.

Before the incidents Chambishi Metals, the largest cobalt plant in Africa, had enjoyed a good standing among government officials, union representatives and civil society. Reportedly the workers at the plant receive the highest salaries in the Zambian mining sector. Wages of the lowest paid unionised workers cover the basic needs.¹⁷³ In parliament, the minister of mines commended the plant and its management for the safety measures after an explosion in January 2007.

“I must stress from the outset that there were no injuries and no fatalities recorded by the mine following this unfortunate incident. The workers at the smelter were quickly evacuated to safe places within the area. This demonstrates the high standard of safety at Chambishi Metals Plc and I would like to take this opportunity to commend the mine's management.”

Interviews with workers and press articles give another picture. A few months after ENYA Holdings took over Chambishi Metals there was an explosion at the cobalt plant. Three workers died. One of them was found on a roof of an adjacent building. In January 2007 a furnace exploded. Luckily enough the explosion occurred on a Sunday and nobody were seriously injured. In April 2007 two plasma torches exploded in two separate incidents. After the last explosion Mines Safety Department closed the plant for three days.

Chanda Mulenga¹⁷⁴, 39 years old, used to operate the plasma torch. He has just returned to work after being seriously injured in the explosion on 2 April 2007. The accident was the second one that he had experienced and now he no longer wants to be close to the torch. The management agreed on transferring him to the IT department. The explosion, which happened when he was in the control room, was severe. According to Chanda Mulenga and a union official who wishes to remain anonymous, buildings a hundred meters away from the torch were affected.

“I remember that I covered my face and started to run down the stairs, away from the metal. The next thing I remember I was at the clinic, but I can't remember how I got to the hospital,” says Chanda Mulenga.

SwedWatch first talked to him from an open window at the ward where he was treated, because the staff at the company-owned hospital in Luanshya did not allow us to talk to workers at the

172 A plasma torch is like a small crane that can go up and down and sideways. It is supplied with nitrogen gas to which a current is carried to the metal alloy. It is used to heat up the metal in order to separate it into cobalt metal.

173 Fraser Alastair and Lungu John (2006), *For Whom the Windfalls*.

174 The worker has been given anonymity.

CHAMBISHI METALS: AVOIDING TRANSPARENCY

Chambishi Metals is part of the Dutch-based Cunico Resources N.V. Group, which is controlled by Bein Stein Group Resources and International Mineral Resources (IMR).¹ IMR is part of the Eurasian Natural Resources Corporation, one of the world's largest private mining and metals group (ENRC).² Alexander Mashkevich, Patokh Chodiev and Alijan Ibragimov, all three members of the Forbes' list of billionaires for 2006, are the largest shareholders of ENRC. According to news service Bloomberg the so called Trio also owns 50 percent in Cunico Resources N.V.³

The fortunes of Mashkevich, Chodiev and Ibragimov, all brought up in the former Soviet Union republics of Kyrgyzstan and Uzbekistan, came from trading in metals during the fall of the Soviet Union and later through businesses in Kazakhstan where they are closely linked to its president Nazarbayev. The Director of the Nixon Center is quoted in a profile for the Forbes' Magazine The World Billionaires:

"People have questions about how they became so rich. They didn't do business in a way that is competitive or transparent. It's mainly based on relationships."⁴

It is not known how close their ties are with the Zambian government, but workers at Chambishi Metals tell SwedWatch that when they complained to the director he told them that he dined with the president. There is no public information, such as annual reports or websites, neither on Chambishi Metals nor Cunico Resources. Steve Brown at Comit Resources, who handles marketing and sales for Chambishi Metals as well as other companies within the group, informs SwedWatch that the company does not disclose any information regarding how much they sell or to whom.

The mining industry as a whole is characterised by a lack of transparency. The Extractive Industries Transparency Initiative (EITI) is a voluntary initiative trying to increase transparency within the sector. It aims to ensure that revenues from extractive industries contribute to sustainable development and poverty reduction.⁵ As a country, Zambia is considering to join. However, if companies do not support the initiative it will be very inefficient. Steve Brown has informed SwedWatch that Chambishi Metals has no intention of participating in the EITI.

1 Information from Steve Brown, Comit Resources, who handles marketing and sales for Chambishi Metals, 16 October 2007.

2 Wikipedia, October 2007, http://en.wikipedia.org/wiki/Alferon_Management

3 Bloomberg, Kazakhmys May Say First-Half Net Rose 25% on Copper, Gold Price, 3 September 2007.

4 World's Billionaires, Emerging Market Gold, 27 March 2006.

5 For more information about EITI see www.eitransparency.org

clinic. He was later interviewed by phone.

The Mines Safety Department told SwedWatch that they had been informed by the management of Chambishi Metals that the operators had failed to control the torch and they had accidentally dipped the torch into the burning metal. The same explanation has been given to SwedWatch by CEO Derek Webbstock.¹⁷⁵ Chanda Mulenga thinks this is impossible since there is a lock preventing them from dipping the torch too low. He does, however, believe that the torch is too advanced for the operations at Chambishi Metals.

Another worker at Chambishi Metals told SwedWatch that, prior to the accident, workers had called for the removal of the plant manager. They believe the accidents could have been prevented if the plant manager had been more perceptive.

“[The plant manager] never listened to his subordinates and he used vulgar language. When he was confronted by angry workers he replied; I cannot be removed from this position because I dine with the president”.

According to the same source the assistants together with the electricians had told the plant manager that the safety measures concerning the torch were not up to standard and that they were also not as had been recommended by the manufacturer of the torch. This was, however, ignored. After the explosion, which seriously wounded three people, angry workers gathered outside the offices of the management where they demanded the removal of the plant manager, who finally was removed from his position.

In November 2007 Chambishi Metals' CEO informed SwedWatch that the company had stopped using the plasma torches and that no accidents had occurred since then.

6.4 LICENCE TO DESTROY THE ENVIRONMENT?

All mining activities damage the environment to some extent. This is also the case in the Zambian Copperbelt. After almost hundred years of mining, substantial parts of the area are dotted with disused mines, old and new tailing dams, and other waste material from mining operations. In the towns, especially in Kitwe, smoke from smelters causes air pollution, and the rivers and streams that flow through the mining areas are also polluted. Some worry that when the mining companies have extracted all the metal worth extracting they will leave behind nothing but big holes in the ground and a negative stamp on the environment.

According to the Development Agreements, signed between the mining companies and the Government of Zambia, all mining companies should take measures to safeguard the environment as well as clean up before they leave. If they in any way harm the environment they are legally obliged to restore it.¹⁷⁶

These agreements are, however, not always adhered to. In 2005 a comprehensive study, funded by

175 Two separate phone interviews were held with Derek Webbstock, 25 May and 25 June 2007.

176 The Development Agreements can be downloaded on www.minewatchzambia.com



The population of the Copperbelt is exposed to air pollution on a daily basis. Researchers have noted elevated levels of lead in the blood of children, probably a result of the emission from smelters.

Photo: Petter Bolme, Global Reporting.

the World Bank and the Nordic Development Fund, revealed that significant damage had been caused by the mining industry in the Zambian Copperbelt. Both past and present activities were assessed and the research team concluded that the most significant contamination was being caused by ongoing mining, processing and smelting operations, something that underlines how important it is to control the industry today.¹⁷⁷ The field research was conducted in 2004 and 2005, when cobalt demand from the electronic industry was booming.

“It is no use spending money on cleaning up after old mining operations when ongoing operations are continuing to damage the environment. However, these effects are being naturally mitigated thanks to dense vegetation, little erosion, and buffering country rock rich in carbonate”, says Håkan Tarras-Wahlberg, Technical Director at Swedish Geological and coordinator of the project.

According to the report, it would cost several tens of millions USD to handle the most urgent

¹⁷⁷ ZCCM-IH (2005), Preparation of Phase 2 of a Consolidated Environmental Management Plan: Project Summary Report, Executive Summary and interviews with Håkan Tarras-Wahlberg at Swedish Geological that conducted the study, 28 May and 13 August 2007.

problems caused by past mining (before privatisation). The costs of environmental damage caused by mining and smelting after privatisation are also substantial, says Håkan Tarras-Wahlberg.

The team carried out a special assessment of the Kafue River that runs through the Zambian Copperbelt and further downstream sustains one of the world's greatest wildlife environments. The assessment showed that mining activities deteriorate the water quality downstream, which in turn has a negative impact on the aquatic ecosystem. The pollution comes from the copper producing Konkola Mine, as well as the Nchanga and Kitwe mining areas¹⁷⁸ in which Mopani's Nkana Mine and Chambishi Metals' Black Mountain slag dumps are located.

6.4.1 LOSS OF LIVELIHOOD

In November 2006, inhabitants around the town of Chingola complained about poor drinking water. The water and sewage company in Chingola, Mulonga and Nkana suspended the water supply to about 75 000 people. The Environmental Council of Zambia, an autonomous statutory body with the mandate to protect the environment and control pollution in Zambia, reports that the water had been contaminated by a tailings pipeline failure bringing slurry from the Konkola Copper Mines (KCM).¹⁷⁹

The pollution flowed into the streams of Chingola and Mushishima as well as the Kafue River. People who live along the streams drank this water. Some suffered from diarrhoea and vomiting afterwards and were admitted to a health clinic. The spill came from a tailings leach plant process on the edge of the Chingola stream. Lime rock and quick lime is used to neutralise the concentrated sulphuric acid. Processing the copper ore is highly acid. Before final disposal the waste material needs to be neutralised. This failed in November 2006.

Simultaneously, the Environmental Council of Zambia received reports from the residents at Hippo Pool Village that the water colour in the Kafue River, along which they lived, "had to their amazement changed to a bluish greenish colour."¹⁸⁰ The autonomous Environmental Council of Zambia draws the conclusion that "it is evident that Konkola Copper Mines significantly polluted the Chingola and Mushishima streams as well as the Kafue River causing serious effects on human life and the environment. The investigation has shown that KCM management was grossly negligent in that operations of the TLP [tailings leach plant] were allowed to go on even when the plant had run out of lime for over two weeks."¹⁸¹

The team then issued ten recommendations, among them that Konkola Copper Mines must be prosecuted for polluting the environment. When contacted by SwedWatch in May 2007, officials at the Environmental Council of Zambia said that KCM had not yet been prosecuted.

"It's in the hands of the government. We only give recommendations to the Ministry of

178 ZCCM-IH (2005), Topic report on Surface Water Resources and Water Quality in the Upper Kafue River, Executive Summary.

179 The incident is described in Environmental Council of Zambia, Report on the investigation of the Pollution of Kafue River, November 2006

180 Ibid.

181 Ibid.



Michael Banda, a 75 year-old farmer in Chingola: "We suffer here. My farm was very successful before, but since 2001 the bananas, sugar cane and maize fields have been under water. We must have some compensation from Konkola Copper Mines. They can't just send the money to India when we are not even able to farm our fields anymore." Photo: Petter Bolme. Global Reporting.

Environment. It is up to them to prosecute", said one of ECZ's officials, who wished to remain anonymous.

When asked why KCM had not yet been prosecuted the inspector replied as follows:

"It is a very sensitive issue because KCM is one of the main contributors to the national treasury."

According to the communities around Chingola and Peter Sinkamba, founder of the NGO Citizens for a Better Environment, this is not an isolated incident. The villagers at Chiwempala Village, located just outside Chingola, have been issuing complaints to KCM since 2001 when water started to rise up to their gardens. According to Peter Sinkamba silt and slurry from the Pollution Control Dam had been released into the stream and eventually ended up blocking the flow of the river. When SwedWatch visited the area in April 2007 the slurry and silt covered the entire stream making it possible to drive across what used to be a stream. Judith Kapumba is one of the farmers affected by the pollution.

"At the time of the pollution we did not have funds reserved. We have run out of money. Our children are not going to school any more. We are starving. Children are dying and we cannot

breastfeed because we mothers have not eaten. I have not eaten for three days now.”

Sinkala Watton is 64 years old and used to work in the mines before becoming a farmer. He says the water has risen more than 1.8 meters after the natural way was blocked by silt and slurry from the Pollution Control Dam.

“I was the biggest local producer of cabbage and tomatoes producing about 40 tonnes of tomatoes and 50 000 heads of cabbage a year. At the moment I’m stuck; even my pump is submerged under water. We have had seven meetings with KCM but they still refuse to pay us compensation.”

6.4.2 MOPANI’S ENVIRONMENTAL RECORD

Local communities also accuse Zambia’s second largest cobalt producer, Mopani Copper Mines, of damaging the environment. The allegations concern the Luanshimbo stream outside Mufulira. According to Citizens for a Better Environment the stream was heavily choked with slurry and there were no signs of aquatic life in the stream when they visited the area in June 2007. Crops cultivated along the stream banks had dried up and the inhabitants could no longer use the water for drinking or gardening.¹⁸² The water sample results are in line with the ones the World Bank/Nordic Development Fund consultants collected in 2004 and 2005. They concluded that Mopani’s Nkana Mine was, together with KCM’s operations, the main contributor to pollution of rivers and streams in the area. The team found that they discharged waste directly into local rivers without appropriate monitoring, control or treatment.¹⁸³

In a reply to SwedWatch, Mopani claims that the pollution of the Luanshimbo stream has been caused by illegal panning rather than Mopani’s activities. Concerning the findings of the World Bank/Nordic Development Fund consultants, Mopani writes that the Nkana and Mufulira mines were routinely operating outside the parameters of environmental legislation when Mopani took over the mines in 2000. Since then the company has set up an environmental management plan, which has been accepted by the government, and is working towards bringing the operations into compliance with existing laws.¹⁸⁴

6.4.3 URGENT NEED FOR HEALTH MONITORING

The need for health monitoring in the mining districts of Zambia is huge. The study funded by the World Bank and the Nordic Development Fund indicates a correlation between lead levels in children and the location of schools in relation to the Nkana and Mufulira smelters. A strong correlation was also found between lead and cobalt in the blood of children living in Mufulira and Kitwe, which suggests that the lead comes from the smelter emissions.¹⁸⁵ Elevated levels of lead in the body might damage different brain functions, the nervous system and blood production.¹⁸⁶

182 Citizens for a Better Environment, Report on the Pollution of Luanshimbo Stream by Mopani Copper Mines PlcK, June 2007.

183 ZCCM-IH (2005), Preparation of Phase 2 of a Consolidated Environmental Management Plan: Project Summary Report, Executive Summary, p ii and interview with Technical Director Håkan Tarras-Wahlberg 13 August 2007.

184 Email response from David Pienaar, Manager of HSE and mine training at Mopani Copper Mines, 28 August 2007.

185 ZCCM-IH (2005), Preparation of Phase 2 of a Consolidated Environmental Management Plan: Project Summary Report, p 85-87.

186 Swedish Work Environment Authority, 3 September 2007.

SUSPICIONS OF CORRUPTION

Glencore International is the majority shareholder in Mopani Copper Mines, the second largest producer of refined high grade copper and cobalt in Zambia and Africa at large. The company also controls Xstrata, the second largest producer of cobalt in the world, making the company a major player on the global cobalt market. Based in the tax haven of Zug, Switzerland, the commodity trading company has assets all over the world.¹ In a survey of the largest European corporations Glencore came sixth among European companies with revenue of €76 billion.²

Glencore was created in 1974 by the American businessman Marc Rich. For many years Marc Rich appeared on FBI's list of most wanted criminals on 51 different charges ranging from trading with states embargoed by the international community, tax evasion, racketeering and arms sales. President Bill Clinton pardoned Marc Rich on his last day in office.³

In the early 1990's Marc Rich sold Glencore International to the management whom he had trained in the art of international metal trading. After Marc Rich left Glencore the company has been accused of illegal dealings with Iraq under Saddam Hussein, to name just one example.⁴

Between April 1998 and December 1999 the parastatal ZCCM, which at the time controlled all mining activities in Zambia, sold large quantities of cobalt metal and concentrates at prices lower than those on the international market. The sale led to accumulated losses for the Zambian government of more than 100 million USD and suspicion of corruption.⁵ According to the minister of finance, Glencore International was one of the companies involved. In 2006 two top government officials at ZCCM were cautioned by the Zambian Task Force on Corruption, but so far no company has been charged for any wrongdoing.⁶ Glencore International has refrained from commenting on the allegations.

1 Web pages of Glencore International and Xstrata.

2 SwissInfo, Six Swiss Companies Make Top 100, 18 October, 2006.

3 Most of the information used in this report on Glencore International, formerly known as Marc Rich and Co AG, comes from the Australian Broadcasting Corporation, AM - Swiss link undermines Xstrata's bid for WMC, Stephen Long, 11 February, 2005.

4 Ibid

5 Kasonde E. G., Minister of Finance and National Planning, Ministerial Statement on the Cobalt Sales Audit Report, the 5th of November 2002.

6 Times of Zambia, Shamutete Warned, Cautioned, 13 December, 2006.

7. SUPPLY CHAIN MANAGEMENT OF BRAND CONSUMER ELECTRONICS COMPANIES

Several voluntary initiatives state the responsibility of companies to manage their supply chain so that their business partners respect human rights and protect the environment. The OECD Guidelines for Multinational Enterprises, the United Nation's Global Compact and The Electronic Industry Code of Conduct (EICC) are some examples.

7.1 ETHICAL GUIDELINES ON SUPPLY CHAIN RESPONSIBILITY

OECD Guidelines for Multinational Enterprises are recommendations jointly addressed by governments to multinational companies. They are voluntary in nature and provide standards of responsible business conduct. The guidelines state that companies should, when possible, encourage their suppliers and subcontractors to apply principles of good corporate conduct.¹⁸⁷

The UN's voluntary initiative, The Global Compact, asks companies to embrace, support and enact, within their so called sphere of influence, principles on human rights, labour standards, the environment and anti-corruption. Brand companies like Microsoft, Hewlett Packard, Philips, Fujitsu Siemens, Toshiba and Nokia have joined the initiative. In a subtext to its principle on human rights, Global Compact states that companies need to be fully aware of potential human rights issues both up and down the supply chain, which consequently makes it possible for companies to select responsible business partners.¹⁸⁸

The Electronic Industry Code of Conduct is a set of voluntary standards aimed at ensuring that human rights are respected, that the working environment is safe and healthy and that manufacturing processes are environmentally responsible. Companies such as Dell, Apple, HP, IBM, Intel, Lenovo, Microsoft, Philips and Sony have adopted the code. It states that “/p/articipants should regard the code as a total supply chain initiative” so that the code can be successful. “At a minimum, participants shall require its next tier suppliers to acknowledge and implement the Code”.¹⁸⁹

In 2007, SwedWatch, FinnWatch and SOMO sent out a questionnaire to the world's largest brand companies producing PCs, mobile phones, MP3 players, webcams and game consoles.¹⁹⁰ The questions aimed to find out if the companies knew where the metals included in their products came from (traceability), if they or their suppliers attached social and environmental criteria to their procurement of metals, and whether or not they thought that they, as market leading brands of consumer electronics, could contribute to the enhancement of labour and environmental standards within the extractive sector (sphere of influence).

Twelve of twenty-two companies responded to the questionnaire. The organisations also received a joint industry response from the Electronic Industry Code of Conduct (EICC) and the Global

187 OECD Guidelines for Multinational Enterprises, article 2:11.

188 Global Compact, subtext to the first principle.

189 EICC's Code of Conduct. This initiative aims to facilitate the CSR-work of suppliers that only have to align to one set of standards in stead of different ones. The EICC is also developing tools to assist member firms in code implementation.

190 Apple, Microsoft, Sony Ericsson, Sony, Nintendo, Creative, Hewlett Packard, Samsung, LGE, IBM, Lenovo, Dell, Acer, Philips, Fujitsu Siemens, Nokia, Motorola, RIM, Palm Europe, Toshiba, Logitech and Packard Bell received the questionnaire.

E-Sustainability Initiative (GeSI) ¹⁹¹.

7.2 TRACEABILITY

Companies that responded to the questionnaire do not purchase metals by themselves and they are often not aware of what countries the metals included in their products originate from. However, the Taiwanese computer company Acer states that it is considering including more traceability in the company's CSR work. A few years ago, Sony Ericsson investigated where the tantalum (coltan) used in their mobile phones originates from. However, no similar investigations have been carried out by the company concerning other metals. The Singaporean MP3 brand company Creative, thinks that information about the origin of the metals used in their products is "business sensitive" and therefore secret.

Just before the publication of this report Hewlett-Packard informed SwedWatch that, after having received questions about the extractive level from SwedWatch, SOMO and FinnWatch, the company had conducted a survey of their notebook suppliers on extractives to get information about the origin of the metals included in their products. In some cases Hewlett-Packard was able to obtain names of their metal suppliers. When this report was being finalised it was unclear how the company will proceed with the results.

7.3 SPHERE OF INFLUENCE

The industry response expressed concern about social and environmental conditions associated with the mining industry. It stressed that brand companies are often small consumers of metals and that they are many steps removed from the extraction, refining and trading of minerals and metals.

"As an industry we feel that our ability to make improvements to these areas is most effective when we engage with the supply chain that is more directly within our sphere of influence", the industry initiative wrote in its response.¹⁹²

The views expressed in individual answers differ somewhat. In general, companies consider their responsibility to be indirect, and they view their ability to influence as small or non-existent. The MP3 brand company Creative states that the extraction of metals lies within the company's sphere of influence since the use of metals can be reduced and recycling encouraged. Hewlett-Packard states that the company does not use coltan/tantalum originating from the DRC in its products. Motorola requires all suppliers to verify in writing that materials they sell to Motorola do not contain tantalum derived from illegally mined Congolese ore. Laptop producer Dell is trying not to use tantalum that has been illegally extracted or extracted in regions where either the environment or wildlife is threatened. These examples suggest that the companies in question acknowledge some sort of responsibility in relation to the extractive level.

After having received the questionnaire from SwedWatch, SOMO and FinnWatch, the EICC

¹⁹¹ The Global E-Sustainability Initiative was launched in 2001 by a number of major ICT companies with the support of United Nations Environment Programme and International Telecommunications Union. The initiative works for sustainable development through cooperation between companies and other stakeholders. GeSI has formed a working group dealing with cooperation for better supply chain management.

¹⁹² Response received the 7th of April 2007.

and GeSI announced that they had decided to commission a study of their own “to help understand how metals are mined, extracted, recycled, purchased and used within the electronics sector.” The study will concentrate on copper, tin, gold, aluminium, palladium, and cobalt. The outcome will be presented in April 2008.¹⁹³

7.4 SOCIAL AND ENVIRONMENTAL PURCHASING CRITERIA

In most cases suppliers further down the chain take care of the procurement of metals used in consumer electronics. Brand companies hope that these suppliers attach social and environmental criteria to this process, but most of the time no one seems to know if these demands ever reach the extractive industry.

Microsoft writes that the company expects its suppliers to share the same values as Microsoft supports. Working conditions should be fair and safe, and the environment should be protected. Only first and certain critical second tier suppliers are monitored, and Microsoft expects them to conduct audits of suppliers further down. However, only some of them actually do so.

“We find that some suppliers lack the tools and processes to accomplish this, and industry practices are often inconsistent”, writes Joan Krajewski, Environmental Director at Microsoft.

For this reason, both Microsoft and Hewlett Packard have started to offer suppliers tools and training. They also cooperate with other companies within the industry initiative mentioned above, EICC/GeSI, in order to harmonise the demands.

Hewlett Packard writes that metals are purchased three to six tiers up their supply chain. Dell writes that metal suppliers are typically among the company’s third or fourth tier suppliers. According to Mats Pellbäck-Scharp, environmental manager at Sony Ericsson, the supply chain of the electronic industry is shallower than many other industries. For example, he states that it has fewer levels than the garment sector. Sony Ericsson’s suppliers are trying to reduce the risks by buying from big metal suppliers instead of small ones or the spot market.

“The big producers have better control and they are often scrutinised in the public eye”, says Mats Pellbäck-Scharp to SwedWatch.

7.5 TRANSPARENCY

Very few companies targeted by the questionnaire have submitted information about their suppliers of different components. Nintendo was the only exception as well as to some extent Hewlett Packard, which publishes the names of their battery suppliers. Their cooperation should be acknowledged.

SOMO, SwedWatch and FinnWatch would like to stress the importance of transparency if the CSR work of brand companies is to be trustworthy. Many promises are made on websites, in codes of conduct and in sustainability reports, but without further transparency NGOs, journalists and researchers cannot investigate the reality behind these images. The need for

193 Statement letter submitted to SwedWatch 16 November 2007.

protecting company secrets must be balanced with the public's and consumers' right to know under which conditions consumer electronics are being produced.

For an overview of the company answers, please refer to Annex 3 at the end of the report.

8. CONCLUSION

The environmental and social problems facing the Copperbelt are huge and cooperation between many actors is needed in order to bring about a change. The prime responsibility lies with the governments, but as shown in this report, they depend fully on multinational companies that provide much needed investments and jobs. Their investments may, if combined with good corporate behaviour, help to alleviate poverty and create a more sustainable development. The looting of the DRC's wealth is contrary to such a strategy. The acceptance of high death and injury rates in both Congolese and Zambian mines – also among children – shows that a mine worker's life has little value in the Copperbelt.

If corporate social responsibility becomes more of a competitive advantage along the supply chains, it might enhance the conduct of mining and trading companies in the area. Brand companies of consumer electronics, such as Sony Ericsson, Philips and Apple, could push for change by including the extractive industry in their supply chain management. They often argue that it is difficult to trace metals and that they cannot influence the extractive industry since they, as individual companies, only use limited amounts of metals in their products. However, as this report shows, as an industry they use about a quarter of the world's cobalt. The cobalt included in batteries that are powering portable electronics can be directly linked to specific mining companies in both the DRC and in Zambia.

Many companies contacted by SwedWatch along the supply chain refuse to answer questions concerning the origin of the metals they use. As a starting point, brand companies could use their power as buyers and start demanding this kind of information in order to make risk assessments on the extractive part of their supply chain. This could be a first step towards targeted action towards metal suppliers in Africa for example. Many of the companies that responded to the project's questionnaire have adopted codes of conduct and other guidelines, and they have joined initiatives such as the Global Compact, the GeSI and the EICC. The values expressed in these initiatives would be most needed on the African continent, but so far the brand companies have mainly focused their supply chain management on first and second tier suppliers.

SwedWatch would like to stress that the organisation does not advise companies to stop trading with African metal suppliers just because the risks in these countries are very high. Instead they should engage in cooperation in order to influence their suppliers. The OECD Guidelines for Multinational Enterprises state that multinational companies should encourage suppliers to respect human rights, protect the environment and combat bribery. The UN's ethical initiative, The Global Compact, states that companies must be fully aware of human rights issues both up and down their supply chains. Brand companies targeted by this project do not live up to these writings. This report, however, shows that it would be possible for them to push for change and choose companies with best practice.

Whilst consumers in Europe can buy cheaper and cheaper electronic goods, miners in the Copperbelt are unable to buy enough food and medicine for their families. While our children delight in the latest editions of games, African children are getting injured and sometimes killed

in the mines of Katanga. If brand companies are willing to accept this, what will be the response of the consumers?

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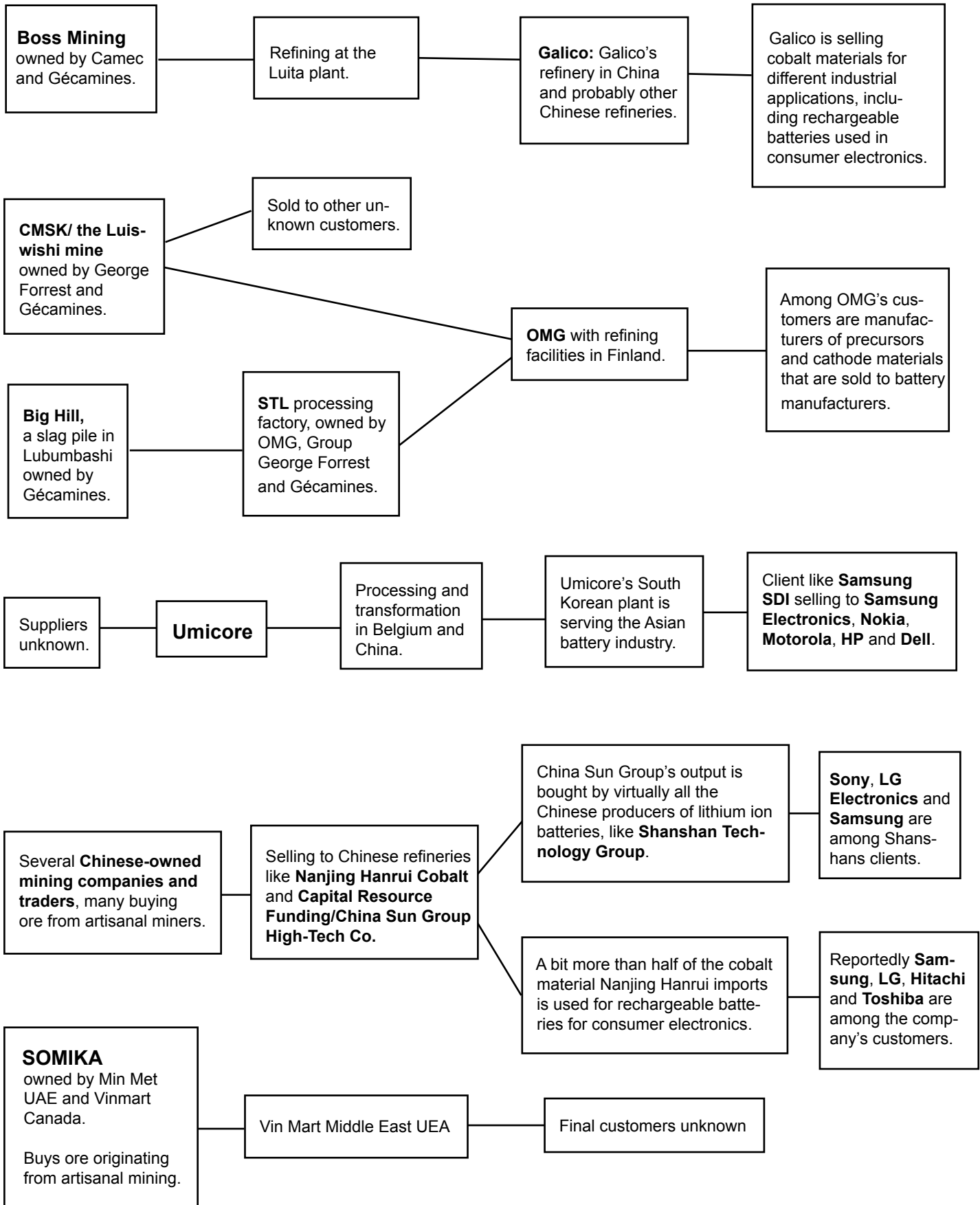
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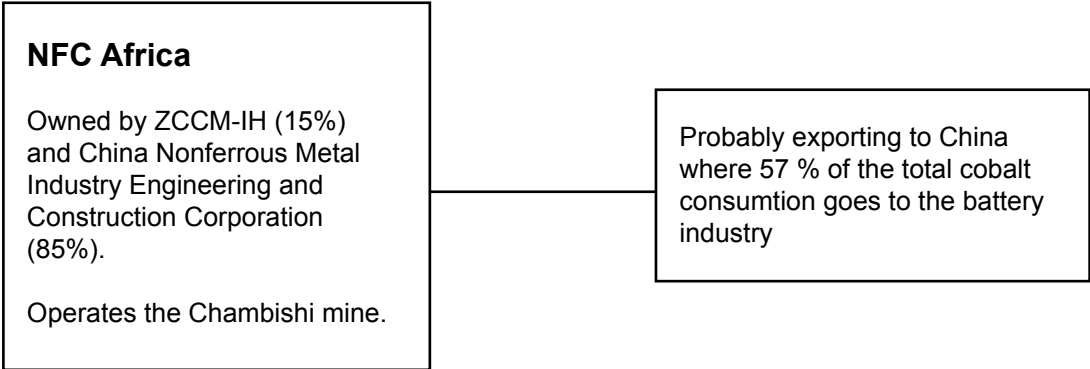
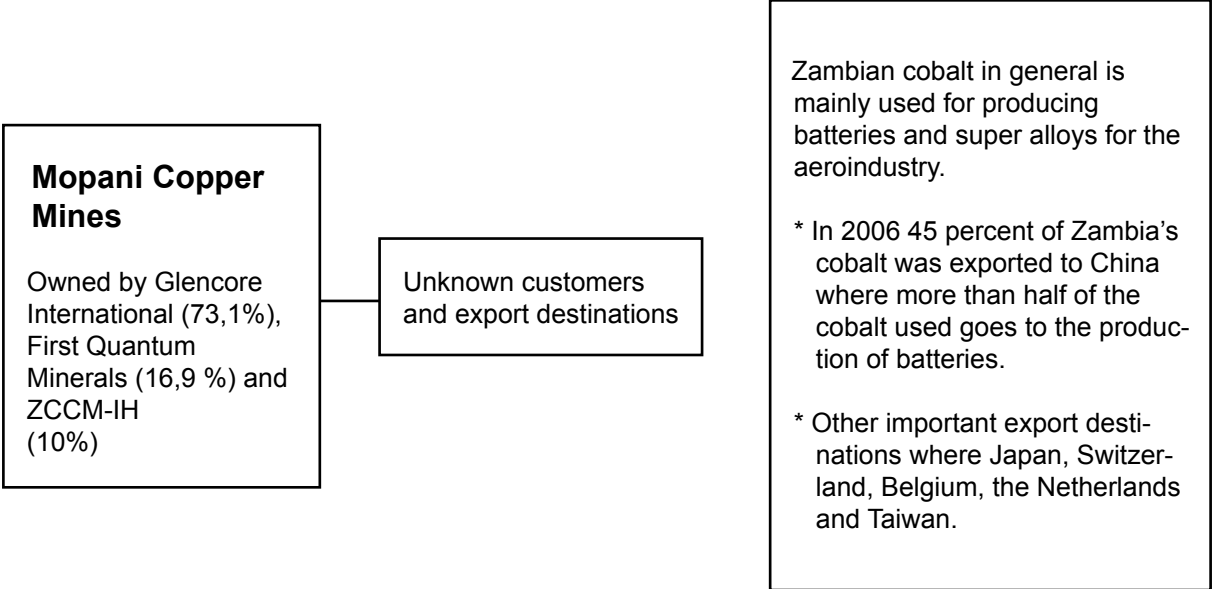
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ANNEX 1: TRADE FLOWS OF SOME COBALT COMPANIES IN KATANGA



ANNEX 2: TRADE FLOWS OF COBALT COMPANIES IN ZAMBIA



ANNEX 3: THE OUTCOME OF THE QUESTIONNAIRE SENT TO MARKET LEADERS OF CONSUMER ELECTRONICS COMPANIES

COMPANY NAME	DID THE COMPANY ANSWER THE QUESTIONNAIRE?	DOES THE COMPANY KNOW WHERE THE METALS INCLUDED IN ITS PRODUCTS HAVE BEEN EXTRACTED?	DOES THE COMPANY THINK THAT THE EXTRACTION OF METALS LIES WITHIN ITS SPHERE OF INFLUENCE?	DID THE COMPANY GIVE OUT NAMES OF THEIR COMPONENT SUPPLIERS?
Nokia	No*		Limited influence*	No
Samsung	No			No
Motorola	Yes*	No	Extremely limited	No
Sony Ericsson	Yes	Only tantalum	Some influence	No
Philips	Yes*	No	No	No
Dell	Yes*	No	Not directly	No
Acer	Yes	No	Very little	No
Apple	No*		Limited influence*	No
LG Electronics	No			No
Toshiba	No			No
IBM***	No*		Limited influence*	No
Lenovo	Yes*	No	No	No
Packard Bell	Yes	No	No	No
Hewlett- Packard	Yes*	No**	To some extent	Only battery suppliers
Fujitsu Siemens	No			No
Creative	Yes	Unclear	Yes, by using recycled materials	No
Sandisk	Not reachable	---	---	---
RIM	No			No
Logitech	No			No
Microsoft	To some questions*	Unclear	Unclear	No
Nintendo	Yes	No	Indirectly	Yes
Sony	Yes*	Unclear	Little or none	No
Palm Europe	No			No

* These companies are members of the EICC and/or the GeSI, which submitted a common reply on behalf of their members. This letter answered some of the questions of the questionnaire.

** Just before the publication of this report Hewlett-Packard informed SwedWatch that, after having received questions about the extractive level from SwedWatch, SOMO and FinnWatch, the company had conducted a survey of their notebook suppliers to get information about the origin of some of the metals the company uses.

*** IBM indicated in November 2007 that the company no longer produces any of the products mentioned in the text. They were, however, represented in the common response of the EICC/GeSI.



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